

Researching livelihoods and
services affected by conflict

Tracking change in livelihoods, service delivery and governance:

Evidence from a
2012-2015 panel survey
in South Kivu, DRC

Working Paper 51

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About us

The Secure Livelihoods Research Consortium (SLRC) aims to generate a stronger evidence base on how people make a living, educate their children, deal with illness and access other basic services in conflict-affected situations. Providing better access to basic services, social protection and support to livelihoods matters for the human welfare of people affected by conflict, the achievement of development targets such as the Sustainable Development Goals and international efforts at peace- and state-building.

At the centre of SLRC's research are three core themes, developed over the course of an intensive one-year inception phase:

- State legitimacy: experiences, perceptions and expectations of the state and local governance in conflict-affected situations
- State capacity: building effective states that deliver services and social protection in conflict-affected situations
- Livelihood trajectories and economic activity under conflict

The Overseas Development Institute (ODI) is the lead organisation. SLRC partners include the Centre for Poverty Analysis (CEPA) in Sri Lanka, Feinstein International Center (FIC, Tufts University), the Afghanistan Research and Evaluation Unit (AREU), the Sustainable Development Policy Institute (SDPI) in Pakistan, Disaster Studies of Wageningen University (WUR) in the Netherlands, the Nepal Centre for Contemporary Research (NCCR), and the Food and Agriculture Organization (FAO).

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SLRC Working Papers present information, analysis and key policy recommendations on issues relating to livelihoods, basic services and social protection in conflict-affected situations.

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Preface

As a multi-year, cross-country research programme, one of the overarching aims of the Secure Livelihoods Research Consortium (SLRC) is to contribute towards a better understanding of what processes of livelihood recovery and state-building look like following periods of conflict and how positive outcomes are achieved. Understanding socioeconomic change of this nature is possible only when appropriate evidence exists. This, in turn, requires the availability of reliable longitudinal data that are able to measure shifts, fluctuations and consistencies in the performance of a given unit of analysis (e.g., an individual, a household, an economy) against a set of outcome indicators between at least two points in time. With a six-year timeframe, SLRC is uniquely placed to contribute to understanding how change happens over time. To this end, the Consortium has conducted original panel surveys in five countries: the Democratic Republic of Congo (DRC), Nepal, Pakistan, Sri Lanka and Uganda. In two other countries, Afghanistan and South Sudan, we are following a slightly different process by tagging on to planned or existing panel surveys.

Two rounds of data collection took place between 2012 and 2015. Despite the difficult circumstances in which the survey teams worked – all of them either fragile or conflict-affected – the research teams in all countries managed to find six out of every seven people they sought to re-interview in 2015. Out of a total of 9,767 respondents interviewed in the cross-country programme in the first round, 8,404 were re-interviewed in the second. The initial sample sizes were inflated to allow for attrition so that, even with some respondents not interviewed, the sample remains representative at a specific administrative or geographical level in each country at the time of the first round and is statistically significant.

All told, the SLRC panel presents an opportunity to go beyond cross-sectional analysis, generating information about changes in the sample over time and the specific trajectories that individuals and their households have followed. More specifically, the surveys are designed to generate information about changes over time in:

- People's livelihoods (income-generating activities, asset portfolios, food security, constraining and enabling factors within the broader institutional and geographical context)
- Their access to and satisfaction with basic services (education, health, water), social protection and livelihoods assistance
- Their relationships with governance processes and actors (participation in public meetings, experience with grievance mechanisms, perceptions of major political actors).

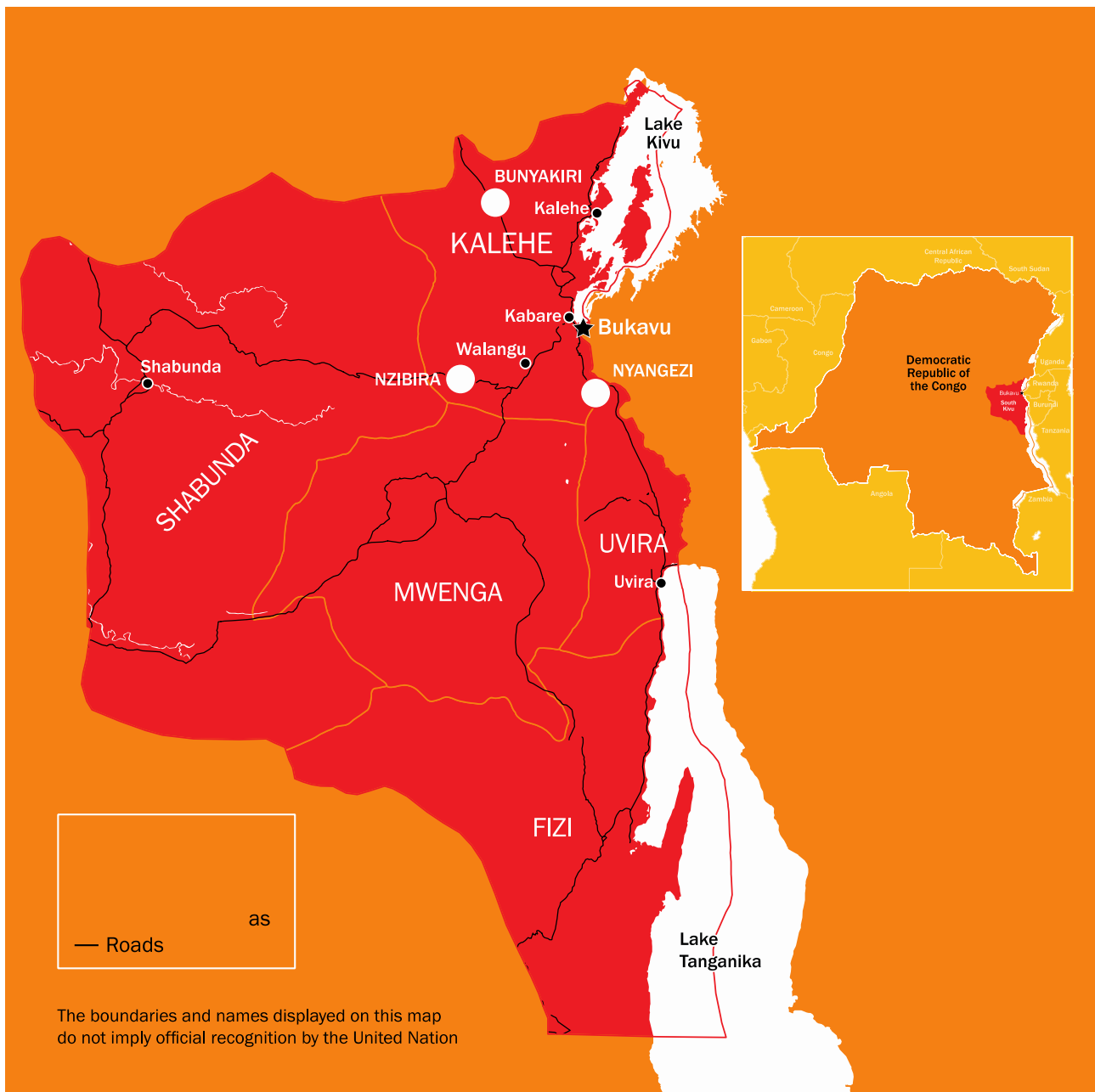
Undertaking a cross-country, comparative panel survey in difficult environments is far from straightforward. For purposes of transparency and clarity, we highlight two major limitations of our research. The first was raised in the original baseline reports – namely, that in producing standardised regression analyses that allow comparisons to be made across countries, we lose flexibility in the country-specific variables we can include. The trade-off between comparative and country analysis is even more pronounced after two waves of data are collected because we require consistency in the choice of model (particularly the choice between Random Effects and Fixed Effects models) across countries. Second, panel analysis requires substantial numbers of respondents who change their responses between rounds (for example, from a negative to a positive view of a particular government actor). In some cases, there has simply not been enough change to run a full analysis on these variables.

These limitations signal the complexities of panel data collection analysis. On the whole, however, the survey makes an analytical contribution to our understanding of how livelihoods and wellbeing, access to and satisfaction with services, and perceptions of government actors change over time in fragile and conflict-affected situations.

Acronyms

APDHUD	Action pour la protection des droits humains et de developpement communautaire
BXM	Banana Xanthomonas Wilt
CBSD	Cassava Brown Streak virus Disease
CEPA	Centre for Poverty Analysis, Sri Lanka
CMD	Cassava Mosaic Disease
CODESA	<i>Comités de Santé</i> (Health Committee)
COPA	<i>Comités de Parents</i> (Parent Committee)
CSI	Coping Strategies Index
DRC	Democratic Republic of Congo
DSCR 2	National Development and Poverty Reduction Strategy 2
FARDC	Armed Forces of the Democratic Republic of Congo
FDLR	Democratic Forces for the Liberation of Rwanda
FE	Fixed Effects
FHH	Female-headed household
GDP	Gross domestic product
GPS	Global positioning system
IDP	Internally displaced person
ISDR	Institut Superior de Developpement, Democratic Republic of Congo
MHH	Male-headed household
MSI	Morris Score Index
MONUSCO	The United Nations Organization Stabilization Mission in the Democratic Republic of the Congo
NGO	Non-governmental organisation
ODI	Overseas Development Institute, UK
OECD	Organisation for Economic Cooperation and Development
RE	Random Effects
SLRC	Secure Livelihoods Research Consortium
UNDESA	United Nations, Department of Economic and Social Affairs, Population Division

Map of South Kivu, DRC showing study areas



Executive summary

In 2012 and 2015, the Sustainable Livelihoods Research Consortium (SLRC) implemented a cross-country panel survey in the conflict-affected province of South Kivu in eastern Democratic Republic of Congo (DRC) – a survey designed to produce information on:

- 1 People's livelihoods (income-generating activities, asset portfolios, food security, constraining and enabling factors within the broader institutional and geographical context)
- 2 Their access to and satisfaction with basic services (education, health, water), social protection and livelihood services
- 3 Their relationships with governance processes and actors (participation in public meetings, experience with grievance mechanisms, perceptions of major political actors).

This paper reports on the findings emerging from statistical analysis of the second-round South Kivu survey data.

The survey sample

Between September and November 2012 we interviewed a sample population of 1,243 households in nine villages in three areas (Nyangezi, Nzibira and Bunyakiri) across South Kivu; 1,045 (83%) of these respondents were re-interviewed between August and December 2015. The sample was based on a combination of purposive and random sampling to achieve representativeness at the village level and to account for attrition between 2012 and 2015. To minimise attrition bias, non-response weighting adjustments were made in the wave-2 analysis. The data analysis includes both descriptive statistical analysis and econometric analysis. For the econometric analyses the Fixed Effects (FE) method was used, except for those variables that are constant over time (i.e. gender) where the Random Effects (RE) model has been used.

Within our sample population, the mean household size was 6.7, and household members had an average age of 20 at the baseline. 34% of respondents had not received any education. 16% of households were female-headed in wave 2, and 27% of households were internally displaced owing to conflict at some point.

Conflict, safety and shocks

While levels of armed conflict and crime went down after 2012, over 40% of respondents still reported armed conflict in 2015 and over 40% assessed their immediate living environment as unsafe or quite dangerous. Women felt slightly less safe than men. Respondents perceived a range of threats, both within and outside their villages, including robbery and mugging, witchcraft, and physical and sexual violence. A closer look at the data suggests that conflict and violence are just some of the many risks faced in South Kivu, however: animal and crop diseases, as well as sudden and long-term health problems, also affect most households in the sample.

Findings on livelihood trajectories

First, households in the sample are extremely poor, possessing minimal assets, living in bad quality housing, and with high levels of food insecurity and poor diets. Between 2012 and 2015, household assets generally increased and housing conditions improved. However, this positive development did not coincide with decreasing food insecurity. The gap between the poorest and the better off strata of the population shrank in recent years, but this research found no explanation for this levelling-off effect.

Second, as expected in a predominantly agricultural society, over 85% of the households are involved in own cultivation or keeping livestock (mainly small or medium holdings). However, household economies diversified between 2012 and 2015, with incomes increasingly generated by the sale of produce and goods, casual labour and business ownership. Public-sector incomes remain very small, with the income of a public servant providing less than 40% of the family income on average.

Third, although agriculture remains of great importance for the majority of respondents, they are often confronted with a high (and in some cases increasing) number of problems in cultivation. These include increasing levels of animal and plant disease, smaller landholdings, decreasing soil fertility and labour shortages. The latter is particularly notable in certain areas, where young people are seen to be adopting a more modern lifestyle and entering into non-agricultural occupations. A substantial 85% of the sample population struggled to pursue agricultural activities in both waves.

Fourth, households did not improve their means of production between 2012 and 2015 – such as better modes of transport, or larger land or livestock holdings. Income from mining – important to 20% of households surveyed – also failed to increase, and actually decreased for some. Households also generally became more indebted. Most debts relate to consumption, household articles and the costs of health and education, and relate less to productive investments. At the same time, however, households appear to have increased production for local markets, which possibly points towards a better functioning of the local markets. However, this might have been at the expense of the production of food crops for household consumption. This potentially accounts for the trend in increased asset ownership yet stagnant food insecurity (and increased debt).

Basic services and livelihood support

Our survey explored households' access to a range of services and transfers, as well as levels of respondent satisfaction with the services they use.

First, access, use and satisfaction with basic services varies across the research areas. Access was measured using journey times, which are generally short¹ and did not change much between waves for education and health. In general, journey times did decrease for water, however. Respondents who changed their health or education provider mentioned distance most often as the reason for change, while costs were hardly mentioned.

Second, services were intensively used. Enrolment figures for education and attendance figures for health services are surprisingly high, despite both the substantial user costs involved and the still-high levels of armed conflict and crime. Net enrolment for primary education is 76%, but actual attendance tends to be lower since schools regularly turn away children whose households have not paid their school fees on time. As for health centres, households made an average of 5.3 visits in 2015 compared to 3.7 in 2012. This increase can be interpreted as either positive (better access and service) or negative (worse health) – we simply cannot tell from the survey data.

Third, despite a total lack of quality control for water, the overwhelming majority of users considered their water source to be clean and safe. Respondents were similarly appreciative of the quality of the health and education services that they accessed. Focusing on the different components of health and education services, respondents were particularly satisfied with the staff (numbers, quality) but, as expected, were largely dissatisfied with the costs of the services. Satisfaction with infrastructure and, in the case of health, the availability of drugs, also appears to be decreasing. When viewed alongside a reported increase in the number of problems experienced with these services, this is potentially quite a worrying trend.

¹ Distance was influenced by the sample selection that excluded very rural villages and 'red zone' areas.

Fourth, the study finds that more educated households live slightly closer to health centres on average, are less positive about water quality, and make slightly less use of health services. We also find a link between increased food insecurity and an increased use of health services. Other household characteristics such as gender, headship and displacement do not show a significant and consistent relationship with distance to, use of and satisfaction with basic services in the regressions.

Finally, livelihood support was concentrated in areas of armed conflict and insecurity. Overall, one in three of the respondents in the sample received some form of livelihood assistance in 2012. This decreased substantially to one in five in 2015, with food aid especially reduced. For female-headed households the decline was much less substantial. Although respondents clearly indicated that the transfer had had a positive impact on their livelihood activities in 2015, they generally reported negatively on the reliability of the delivery process. While the overall reduction of livelihood assistance is surprising considering that overall food insecurity has hardly changed, adjustments to the targeted population can largely be justified by changes in context and food insecurity.

Participation and accountability

The survey demonstrates that many respondents were aware of health, education, water and security meetings, and that participation in the meetings was relatively high. Men were found to participate more than women.

Most health and education services are run by religious organisations, with the government's contribution mainly limited to providing partial funding, implementing a regulatory framework and conducting inspections. Yet, over half of the parents surveyed believed that the government runs their school and health service. Despite the generally positive perception of the quality of service delivery, government performance was judged to be very poor and the majority of respondents took a dim view of its efforts.

Perception of governance actors

The survey measured trust and confidence in a range of governance actors using five perception-based questions. These variables were combined into an index that scores central government, local formal government and customary government actors on a scale. Perceptions were not at all positive in 2015, with customary actors scoring no higher than 39 out of the maximum (most positive) score of 100 in the index, and central state actors scoring as low as 13 out of 100. The average perception of both customary and formal local actors did not change much between waves, but central state actors scored significantly lower in 2015.²

Certain individual characteristics affect the perception of governance actors: women and internally displaced persons (IDPs) were more negative, especially towards customary actors, while the elderly were slightly more positive. Neither education level nor ethnicity had a significant effect.

While changes in armed conflicts do not explain changes in perceptions, the number of crimes experienced (especially threats) had a strong negative impact on how respondents perceive governance actors. This indicates the importance not only of objective indicators like number of armed conflicts or committed crimes, but also of the psychological effects of violence and crime. Environmental and health shocks did not seem to affect people's perceptions, but economic shocks like inflation and employment did; surprisingly, these mainly affected perceptions of customary authorities, which do not have much influence on these factors.

Positive changes in livelihood indicators do not have either a strong or consistent positive association with people's perceptions of governance actors, and neither do changes in food insecurity. Changes in

² Significant at 99% confidence level.

assets have a positive association with perception of the local government. Households involved in own businesses were, on average, significantly more negative about governance actors as a whole – something that may be understood in view of the substantial barriers that exist to businesses.

Satisfaction with the provision of health services shows a positive and strong association with the perception of governance actors. Related to this, respondents who believe that the government does all it can to improve health services also had a significantly more positive perception of all governance actors; experiencing problems with these services had a strong negative effect on respondents' perceptions of governance actors. The data do not show significant effects for changes in the quality of other services, including education.

Finally, respondents who started receiving livelihood support or who became aware of and/or participated in community meetings when they hadn't done so before are not statistically significantly more positive about any actor.

Gender and internal displacement

Female-headed households (FHHs) in the sample are statistically significantly worse off than male-headed households (MHHs) when it comes to asset and land ownership as well as housing quality. FHHs had equal access to basic services, however, and were not more food insecure. FHHs also received food aid more often than MHHs in 2015.

Female respondents were substantially less educated than men, and girls were more often turned away from school (for unpaid fees). Women had a more negative perception of governance actors and were underrepresented in local decision-making; they were less aware of community meetings and participated in them less. In general, women also felt more insecure and more threatened than men, although the data demonstrates a more nuanced trend than is often represented: many men also reported feeling unsafe in the village and even more so outside it. While the levels of perceived threats of sexual violence among women and men were still extremely high, they have dropped drastically between waves. The positive changes in the Bunyakiri area are striking.

Displaced households, although slightly more educated on average, had significantly fewer assets, were less likely to own land or a house, and were substantially more food insecure. Consequently, displaced people were more dependent on working for others for their income and were more involved in casual labour and selling goods. The displaced were not more likely to receive humanitarian assistance: livelihood support among displaced families dropped from 51% in 2012 to 34% in 2015. IDPs were less likely to be invited to (and thus participated less in) health, education and security meetings, and had a more negative perception of government actors. With regard to basic services, displaced households did not have worse access than the non-displaced. However, the data indicate that the relative position of the displaced families improved over time. They are catching up, which might indicate further integration of IDPs in host communities.

Differences between the research areas

There are substantial differences across the three research areas. Developments that have taken place during the survey period deepen our understanding of the relationship between the different factors of this research.

Nyanzezi is in many respects more privileged than other regions: there is no fighting, levels of crime and threats are low, perceived safety is high. Households, on average, own fewer assets and are more insecure than other areas, however. This didn't change much between waves, although levels of food insecurity increased by 2015. Use of health services was relatively low and satisfaction average – which has hardly changed from 2012. Satisfaction with education was average but much increased in 2015. The area saw hardly any IDPs and did not receive substantial livelihood assistance. Perceptions of

government actors were relatively positive and did not change much between the waves except in the case of local formal government actors (explained by the appointment of a local administrator).

In Nzibira, armed conflicts decreased moderately but remained high in 2015, while crime levels decreased substantially but the number of threats increased. Safety inside the village was perceived poorly, and remained largely unchanged since 2012, while safety outside the village was perceived poorly but improved slightly. Although the number of assets per household improved, the increase was relatively small and food insecurity did not improve at all. Access to and the perceived quality of health services decreased notably, and even more so for education. The area had a large number of IDPs and the highest percentage of respondents receiving livelihoods assistance, although this dropped substantially by 2015. The perception of all government actors worsened over time, with Nzibira showing the most negative perceptions of the three areas. The average perception of the central state fell by nearly half between the waves.

The developments in Bunyakiri are very interesting. Armed conflicts decreased moderately but remained very high; crime remained very high but was a mixed picture, with theft and cattle rustling increasing slightly but physical attacks decreasing substantially. Threats, especially physical and sexual violence in and outside the village, decreased enormously between waves and safety in and outside the village improved considerably; consequently, perhaps, asset ownership and food insecurity improved. Satisfaction with health services improved greatly, as did satisfaction with education. Bunyakiri has the same number of IDPs as Nzibira and received slightly less livelihood support (dropping slightly quicker too). The perception of government actors in Bunyakiri was, on the whole, the lowest of all areas, which can be understood in terms of it having the highest levels of armed conflict and crime, and the lowest levels of safety and security. However, decreasing levels of physical violence and threats had a very positive effect on the perception of the customary authorities, while the perception of central state authorities worsened substantially.

1 Introduction

SLRC aims to contribute to a better understanding of what processes of livelihood recovery and state-building look like following periods of conflict, and how positive outcomes are achieved. Understanding socioeconomic change of this nature is possible only when appropriate evidence exists. This, in turn, requires reliable longitudinal data that are able to measure shifts, fluctuation and consistencies. In order to directly address this need for appropriate evidence – evidence that tells us something about processes playing out over time and in more than a single context – SLRC has carried out panel surveys in five countries that were (and to some extent are still) affected by conflict: the Democratic Republic of Congo (DRC), Nepal, Pakistan, Sri Lanka and Uganda. The surveys are designed to produce information on people’s livelihoods (income-generating activities, asset portfolios, food security, constraining and enabling factors within the broader institutional and geographical context); their access, use and perception of the quality of basic services (education, health, water) as well as livelihoods support; and their relationships with governance processes and actors (participation in public meetings, perceptions of actors).

This report presents the findings of the DRC panel survey, which was delivered to 1,243 respondents (covering 8,484 household members) between September and November 2012 and to 1,045 respondents who were re-interviewed between August and December 2015. Our analysis will inform, together with the four other country survey reports, the SLRC synthesis report.

It is worth noting at the outset that most research on the DRC is qualitative and limited in scope. Reliable quantitative information is extremely scarce and mainly limited to a few broad national surveys; in-depth quantitative research on livelihoods, basic services and governance is largely absent.³ Because of this – and because large parts of the eastern provinces of the DRC are still affected by conflict – being able to understand the factors which influence livelihoods, basic services and governance in such conditions makes this research highly relevant for policy decisions.

The report is structured as follows. Chapter 2 provides background to the survey, situating it in relation to the overarching themes of SLRC’s research programme, outlining the objectives of the survey and briefly presenting the analytical frameworks used to guide analysis of the survey data. Chapter 3 discusses key aspects of the methodology, and presents some basic descriptive information on the nature and composition of the sample. Chapters 4 to 9 constitute the analytical core of the paper, exploring: the context of South Kivu and the research sites (Chapter 4); the livelihood trajectories of households in our sample and the factors that influence these (Chapter 5); people’s access to and experience of basic services, and the factors that influence these (Chapter 6); social protection and livelihood support (Chapter 7); civic participation and accountability of government for service delivery (Chapter 8); and perceptions of governance actors and the factors that influence these (Chapter 9). Chapter 10 summarises the findings on gender and displaced households, while Chapter 11 sums up the overall findings of the study and concludes.

³ Marivoet and De Herdt (2014) state that many country statistics are, as a consequence of processes of multiple sorts of estimation, permutation and even data negotiation, questionable if not unreliable. Although they cannot be dismissed altogether, country statistics must be used with utmost care. Survey data are by and large fairly good, although accessibility is limited and meta-data is fragmented.

2 Background, analytical framework and objectives

This chapter is split into three parts. The first section describes the position of this survey in SLRC's broader research agenda; the second briefly outlines the research objectives and questions; the third expands on the study's analytical framework.

2.1 The SLRC programme

The SLRC is a six-year global research programme that addresses the following broad themes:

- *Legitimacy*. What are people's perceptions, expectations and experiences of the state and of local-level governance? How does the way in which services are delivered and livelihoods are supported affect people's views on the legitimacy of the state?
- *Capacity*. How do international actors interact with the state and local-level governance institutions? How successful are international attempts to build state capacity to deliver social protection, basic services and support to livelihoods?
- *Livelihood trajectories*. What do livelihood trajectories in conflict-affected situations tell us about the role of governments, aid agencies, markets and the private sector in enabling people to make a secure living?

The Consortium started with an in-depth literature review on these themes (see Carpenter *et al.*, 2012; Mallett and Slater, 2012), followed by qualitative studies on specific aspects of these themes in the eight SLRC countries (Afghanistan, DRC, Nepal, Pakistan, Sierra Leone, South Sudan, Sri Lanka and Uganda) and panel surveys in five of these countries.⁴ The panel surveys are directly relevant to the first and third themes of the SLRC's research.

2.1.1 Legitimacy: people's perception of governance and the role of service delivery

Establishing state legitimacy is a major element of state building. The Organisation for Economic Cooperation and Development (OECD) (2010: 3), for example, notes that, 'State legitimacy matters because it provides the basis for rule by consent rather than by coercion'. While the steps donors can take to influence state legitimacy are few, they do have an interest in developing a clearer understanding of the following: what leads to legitimacy? What, if anything, can they do to strengthen state-society relations? And what might be the (unintended) positive and negative consequences of their programming on state legitimacy?

Basic services are often thought to represent a material expression of this social contract that is assumed to exist between functioning states and empowered citizens. As such, there has been a 'striking trend toward framing the provision of vital public services – including health, education, water, and sanitation – as a key source of legitimacy' (McCloughlin, 2014: 342). However, literature reviews carried out during SLRC's inception year found very little evidence for the frequent assertion that improving access to services and social protection in conflict-affected situations contributes to state-building (see, in particular, Carpenter *et al.*, 2012). The relationship between delivering services and state-society relations remains poorly understood. Given the importance of legitimacy to state-building

⁴ DRC, Nepal, Pakistan, Sri Lanka and Uganda.

processes,⁵ it is both surprising and concerning that we have so little robust knowledge about what leads to state legitimacy.

Despite these gaps with respect to both legitimacy and capacity, state-building provides the organising framework for much international engagement in conflict-affected situations. In tackling this question, we are thus taking up the OECD's (2010: 55) call for donors to 'seek a much better understanding – through perception surveys, research and local networking – of local people's perceptions and beliefs'.

2.1.2 Livelihood trajectories: tracking change and identifying determinants

Literature reviews carried out during SLRC's inception year identify empirical and longitudinal research on livelihoods in conflict-affected situations as a key evidence gap. Although good in-depth case studies can be found on livelihood strategies in particular contexts, these are usually just snapshots. Qualitative case study approaches are also insufficiently linked to quantitative survey data. The reviews also reveal a significant gap in any comparative analysis of the effectiveness and impact of interventions to support livelihoods (see, in particular, Mallett and Slater, 2012). There is some evaluation and academic literature that examines the impact of particular projects or programmes, but very little which looks at the overall significance of aid in people's livelihoods and compares the impact of different approaches. SLRC's research programme aims to fill some of these gaps by building a picture of how people make a living in particular contexts, and tracking how this changes over time. The panel survey is a core element of this.

2.2 Research objectives and questions

With regard to legitimacy, by incorporating perception-based questions, the panel survey aims to provide both a comparative and longitudinal perspective on difficult-to-measure and subjective issues such as trust and satisfaction in governance actors in conflict-affected situations.

Under livelihood trajectories, the survey aims to build a picture of how people make a living in particular contexts, to track changes over time, and to shed light on what appears to cause change. We want to know whether the Congolese in our sample population are recovering and starting to build more secure livelihoods. Furthermore, we want to understand how the broader socioeconomic and security environment has affected this.

More specifically, the research questions guiding this panel survey are as follows:

- Which factors influence livelihood trajectories?
- Which factors influence access to basic services and livelihood assistance?
- Which factors influence experience of basic services and livelihood assistance?
- Which factors influence perceptions of central government, local government and customary government actors?

2.3 Analytical frameworks

Three basic analytical frameworks emerged from the original survey design process, which are outlined very briefly below. For a fuller account of these, please refer to the baseline synthesis report (Mallett et al., 2015).

2.3.1 Livelihood trajectories

Livelihoods are a broad concept and cannot meaningfully be captured by a single indicator. We have chosen to measure it in two different ways, looking at:

⁵ As the European Report on Development (2009: 93) notes, 'State-building efforts are bound to fail if, in strengthening institutional capacities, the legitimacy of the state is not restored'.

- Household asset ownership as a proxy for wealth using the Morris Score Index (MSI)
- Food insecurity using the Coping Strategies Index (CSI).

The first outcome indicator, household wealth, is proxied by the assets owned by the household using the MSI (Morris *et al.*, 1999). The MSI is a weighted-asset indicator that weights each durable asset owned by the household by the share of households owning the asset. Essentially, households are considered better off when they own assets that are not owned by most households in the sample. The MSI includes all productive, household and livestock assets, with different assets for different countries. The index has been shown to be a good proxy of household expenditure in rural Africa (*ibid.*) and has also been used in many other settings, for example in transition countries like Albania (Hagen-Zanker and Azzarri, 2010).

The second outcome indicator, the CSI, is a tool for measuring current food access: the higher the food insecurity index, the worse off the household is (Maxwell and Caldwell, 2008). Five coping strategies and their relative severity have been identified to be generally internationally applicable, and can be seen as proxies for food insecurity (*ibid.*). The overall score of the insecurity index for each household is calculated by multiplying the number of times in the past month that each coping strategy has been used by the severity of the coping strategy, and then summing the products. The final index score is a weighted sum reflecting the frequency with which households have adopted particular behaviours over the course of the previous 30 days.

We argue that a number of different factors can explain livelihood trajectories (that is, for the purposes of our survey, the directions in which asset ownership and food security travel):

- 1 Household factors: including demographic characteristics such as sex, education and migration characteristics
- 2 Contextual factors: including location (or research site), occurrence of conflict and perception of safety
- 3 Shocks: including environmental hazards, economic shocks, crime and health shocks
- 4 Differential access and use of basic services: including livelihood assistance and the quality of these services.

2.3.2 Access, use and experience of basic services and livelihood assistance

We are interested in which factors determine access to, use and experience of basic services and livelihood assistance in the DRC. Under basic services, we focus on health centres (*centre de santé*), primary schools, and the household's main water source. We made use of relatively simple proxies for access to these services by considering the journey time in minutes to reach the various facilities. This proxy is less representative in the DRC because of our research area sample selection, as discussed further in the methodology (Chapter 3). An additional indicator of access to services in the DRC is use: for health, we used the proxy of number of visits made to a health centre; and for education, enrolment and attendance of primary-school-aged children within a household.

For satisfaction with health and education, the indicators used in the survey ask the respondents about their overall sense of satisfaction, as well as in relation to some specific aspects, such as human resources, costs and infrastructure. The answers are given on a five-point Likert scale.

We argue that the same factors mentioned in section 2.3.1 and the performance of the basic service providers can help explain changes over time in terms of access to, and use and experiences of basic service provision.

2.3.3 People's perception of governance actors

A third basic framework of this survey concerns state legitimacy, which is a complex, multi-dimensional concept. The OECD (2010) identifies four main sources of legitimacy:

- 1 Input or process legitimacy, which refers to agreed rules of procedure
- 2 Output or performance legitimacy, which is defined in relation to the effectiveness and quality of public goods and services
- 3 Shared beliefs, which refer to a sense of political community
- 4 International legitimacy, which refers to recognition of the state's external sovereignty.

In a recent paper, Teskey *et al.* (2012: 11) discuss this and other approaches to the conceptualisation of what constitutes legitimacy, and conclude that:

Legitimacy can originate from either performance, including how well the government is maintaining security, creating jobs, or delivering water and sanitation services, or from process, including how the government of the day acquired power to how inclusive it is in the process of policy-making.

Given that one of SLRC's overarching objectives is to explore the potential relationship between service delivery and state-building, what we are primarily interested in is the performance aspect or source of state legitimacy. However, a focus on the process dimension of legitimacy is also important. Recent research suggests that it is process factors themselves that help explain what (sometimes) connects service delivery to state legitimacy (Stel *et al.*, 2012; Wild and Mason, 2012). These studies provide some evidence that it is the way in which services are implemented and delivered that matters when it comes to shaping how people feel about the provider; in other words, it is not just about what is being delivered. In order for us to explore these connections through our survey, it is necessary to generate information on (a) how people rate the quality of what they are getting (the performance dimension), and (b) the way in which services are delivered and decisions about provision are made (the process dimension).

These are far from objective things to measure. As Teskey *et al.* (2012: 11) point out, 'Even if "performance" can be measured objectively, for it to translate into legitimacy, it has to be perceived as such by the population'. What this means more generally is that legitimacy is ultimately a subjective feature (*ibid*).

Against this backdrop, the existing literature suggests that people's own perceptions constitute a valid proxy measure of state legitimacy (Carter, 2011; Herbert, 2013; Hilker and Kangas, 2011). Thus, in DRC, respondents were asked about their perception of a range of governance actors at different levels, including actors in central government, local formal government, and customary governance institutions.

To measure these perceptions, we used five indicators: (1) the extent of confidence in government actors; (2) how much they act in the interest of the respondents; (3) how much they reflect their opinions and (4) priorities; and (5) to what extent they contribute to the improvement of basic services. Although these questions do not capture the full extent of the multidimensionality of legitimacy, they do help us to better understand the relationship between service delivery and state legitimacy.⁶

In terms of factors changing people's perception of governance actors over time, we argue that the same factors can help explain variation in the population's perception of government actors, but add 6) the implementation and performance of basic services and livelihood assistance; and 7) the participation of respondents in community meetings and committees.

⁶ It should be remembered that respondents do not necessarily represent the views of everyone in their household.

Finally, in addition to the three basic frameworks briefly outlined above, we pay particular attention in this DRC study to the analysis of two important themes: gender and displacement.

2.3.4 Disaggregation by sex

In order to understand livelihood trajectories, the use of and satisfaction with basic services, and perceptions of governance actors, the realities of both men and women must be depicted. However, taking into account that people are situated in specific geographies, temporalities and ethnographies implies that gender roles can be perceived and enacted differently depending on the social context (Berg and Longhurst, 2003; Lwambo, 2011). To truly understand gender differences, even only in the ethnically diverse province of South Kivu, requires a *gender-specific* study focus which is not the overall SLRC study design. Given the importance of gender in DRC, however, a *gender-sensitive* research approach was taken, and gender is presented as an independent variable in the analyses for respondent-level questions throughout this report. Findings are disaggregated by the sex of the respondents when statistically significant differences are identified between men and women. Furthermore, the survey explored perceptions on the specific security threats for women. A gender analysis is given in Chapter 10.

2.3.5 Displaced households

In the context of the 'no peace, no war' situation in large parts of South Kivu, the province held about 322,000 IDPs in September 2015, although this number had drastically dropped over the preceding six months. Many people had experienced displacement numerous times dating back to the 1990s (Beytrison and Kalis, 2013), with the impact becoming worse for each wave of displacement. This constrains livelihood options and has an impact on food security, migration patterns, access to services and probably perceptions of government both for those who are directly affected and for their host communities. IDPs are a key variable in the analysis and we report survey findings in a 'displaced-sensitive' manner. As for gender, displacement status is included as an independent variable in the regressions throughout the report; the key findings are outlined in Chapter 10.

3 Methodology

3.1 Research design

Cross-sectional surveys provide a snapshot of a situation at a particular point in time. Longitudinal surveys provide information on changes and trajectories over time. The SLRC survey is a panel survey, which is a particular type of longitudinal survey where the same individuals are followed over a succession of survey rounds – in our case in 2012 and 2015. An advantage of panels is that they allow for the direct study of change within a household or an individual, as well as cohort or macro-level changes.

However, panel surveys present their own set of particular methodological challenges. Attrition, meaning dropout from the sample, is perhaps the most major threat, as is non-response to some of the questions within a survey. To account for the risk of attrition, especially in fragile and conflict-affected contexts, the sample of the first wave was increased by 20% on top of what would be needed to achieve a representative sample at the village level.

As the survey is part of a multi-country study, the survey instrument is heavily based on a generic design, tailored to the specific eastern DRC context. The following modules were included in the survey: basic household and individual information, assets, livelihood sources and activities, food insecurity, shocks, security, basic services, livelihood services, civic participation and governance. The survey instrument is available upon request from the authors. More in-depth detail on the methods of the first wave can be found in the SLRC process paper and baseline synthesis report (SLRC, 2015; Mallett *et al.*, 2015), while greater detail on the panel analysis will be found in the forthcoming panel synthesis report.

The SLRC survey incorporates elements of both a livelihoods and a perception survey, which raises a methodological issue: while the ideal unit of analysis for the livelihoods survey is at the household level (e.g. how much land does *your household* own?), for the perception survey it is at the individual level (e.g. do *you* agree that the local government cares about *your* opinion?). Because the survey incorporated elements of both a livelihood and a perception survey, the unit of analysis had to be combined within the survey. Thus, we opted to sample at the household level, but ask a single respondent within the household all questions. To avoid a strong bias of male household heads for the perception questions, we made sure around half of the respondents were female. To include the opinions of young people, we aimed to have at least 20% of the respondents below the age of 24. The same individuals were interviewed two years after the first wave to ensure validity of the data.

The research also had a limited qualitative aspect, including desk-based analysis of existing literature and reports. We also conducted 45 semi-structured interviews in Bukavu and the research sites with, among others, provincial ministries, local and international NGOs, and local officials and leaders. The observations of the enumerators in the field were systematically collected. This qualitative data is used to better interpret and understand the findings of the survey and to contextualise them in the DRC and South Kivu province.

3.2 Sampling

DRC is the size of western Europe with a total population of around 77 million (United Nations, Department of Economic and Social Affairs, Population Division (UNDESA), 2015). Given the scope of the study and the resources available, we did not attempt to achieve representativeness at a national level. Instead, research was conducted in the particularly conflict-affected border province of South Kivu. South Kivu was chosen because it has suffered from enormous loss of life and livelihood in the past two decades owing to war and insecurity (Weijs *et al.*, 2012). Services have deteriorated severely and are

provided mostly by non-state actors and with high user fees. Since the province was and still is strongly affected by conflict and insecurity, it has attracted much attention from international actors.

South Kivu is a large province of 69,130km² and an estimated population of 3.9 million in 2009. It is divided administratively into 8 *territoires* (territories), 23 *chefferies* (chiefdoms) and 184 *groupements* (United Nations Development Programme (UNDP) 2009). The sampling strategy was designed to achieve representativeness at the village level through random sampling. The study is statistically significant at the *territoire*, *chefferie* and *groupement* level and for six of the nine villages.⁷ Other factors that influenced sampling include available budget, logistical and safety limitations, and likelihood of attrition between 2012 and 2015. A clustered sampling strategy was employed: in the first stage clusters (i.e. villages) were selected and in the second stage households within those clusters. Since no actual population figures were available, approximate sample size was calculated using estimated population sizes for different village sizes.⁸ Households were randomly selected within villages so the results would be representative and statistically significant at the village level, and so a varied sample could be captured. The following criteria were used to select the research areas and the related research villages:

- Areas should reflect as much as possible the variation in livelihoods in the province, different levels of access to basic services and the composition of different ethnic groups.
- Areas should be located in different *chefferies* and cover more than one *territoire*.
- The focus was to be on rural areas, meaning sites were chosen that were not part of or very close to Bukavu or another main town in the province. A total of 78.4% of the population of South Kivu lives in rural areas (UNDP, 2009).
- Areas had to be located at different distances from Bukavu to reflect variations in livelihood systems while also providing relevant information to the SLRC transport study in South Kivu (Ferf *et al.*, 2014).
- The security situation had to allow the field research to take place.

Table 3.1 displays villages selected by research site and the respective sample size by wave.

Table 3.1: Survey locations

Research site	Village	Sample size wave 1	Sample size wave 2	Groupement	Chefferie	Territoire
Nyangezi	Village 1 ^a	188	152	Karhongo	Ngweshe	Walungu
	Village 2	128	102	Karhongo	Ngweshe	Walungu
	Village 3	130	93	Karhongo	Ngweshe	Walungu
Nzibira	Village 4	193	134	Kanyola	Ngweshe	Walungu
	Village 5	98	79	Kanyola	Ngweshe	Walungu
	Village 6	133	102	Mulamba	Ngweshe	Walungu
Bunyakiri	Village 7	195	128	Kalima	Buhavu	Kalehe
	Village 8	83	68	Kalima	Buhavu	Kalehe
	Village 9 ^b	95	64	Bitale	Buhavu	Kalehe

Notes: a) The three neighbouring villages have been combined as one village for sample size reasons. Because the villages are bordering villages we do not expect this to affect representativeness.; b) Two bordering villages are combined for sample size reasons. Although they are two different villages we do not expect this to affect representativeness.

At the baseline there were 1,243 completed surveys (or responses). In the second wave we were able to complete 1,040 (five further respondents were found but did not consent to be interviewed). Attrition

⁷ Calculated using a 95% confidence level.

⁸ The main source was Sarantakos (2005).

was 16% overall and non-random, partly since it had not been possible to randomise the tracking of respondents who had moved house between waves.

Tests were run to determine whether any observed characteristics from wave 1 could predict attrition in wave 2. For the most part, village was not a significant determinant of attrition, when controlling for other factors, except in the case of Nzibira town centre where it appeared that a number of IDP households living there in wave 1 had moved on by wave 2 (and could not be tracked). Other determinants of attrition were: being male; being single; having more elderly persons in the household at baseline; being engaged in casual labour, the private sector or a government job at baseline.

To minimise attrition bias, non-response weighting adjustments are used in the wave 2 analysis. In any given dataset there is a design weight, given to all units (in this case to respondents) at baseline. In our case, the design weight is equal to 1 for all respondents at baseline. This is because at the village level all respondents had, in theory, an equal selection probability, and although our data can be aggregated at higher levels (e.g. region) we do not claim that conclusions made above the village level are representative. In finding that attrition from our sample at follow-up is non-random, it is necessary to adjust the design weight to restore the proportions of the original sample (Brick and Kalton, 1996; Kish, 1990).

Using wave 1 data, a probit regression was run with the outcome variable 'response in wave 2' (respondent in wave 2=1, non-respondent at wave 2=0) and including a list of covariates that proved to at least partly explain non-response in wave 2. This technique, known as 'response propensity weight adjustment', replaces the unknown probability of response with an estimate, which is a function of observed or known characteristics about the respondent (Brick, 2013; Kalton and Flores-Cervantes, 2003; Särndal and Lundström, 2005). (The results of this regression are shown in Table 124 in Annex 4.) Following the probit regression, the probability of response is calculated for each individual. Then the inverse of the probability is taken, which becomes the non-response adjustment. The final weight for each wave is calculated by multiplying the design weight and the non-response adjustment.

Non-respondents in wave 2 end up with a weight of 0 and all those remaining in the sample have a weight greater than 1. Put differently, this means that those remaining in the sample take on greater emphasis if they are relatively similar to those who have dropped out.

3.3 Data collection

In wave 1, three teams of enumerators (four women and 20 men in total) collected the data in the three research areas in parallel, over a period of five weeks. A paper questionnaire was used and the data were entered immediately after questionnaires were returned from the field by a data entry team in Bukavu. During the interviews, the location of the homestead was identified by a global positioning system (GPS).

One of the main challenges we faced with second wave data collection was attrition, which if too high would pose a threat to the internal validity of a panel survey. To this end, we were able to use some useful information collected in the baseline to track down respondents. This included their address, phone number (for some respondents), the household roster (in order to describe the household to others living in the same community), and their GPS coordinates.

In wave 2 a smaller team of eight enumerators (four women and four men) moved from one research area to another to minimise attrition, staying several weeks in each area to meet the respondents that might not always be immediately available. Even so, three rounds of visits were necessary before 83% of the 2012 sample had been interviewed; this included tracking down other respondents who had moved to different locations (e.g. Bukavu), and visiting the areas in the Christmas holiday period when many villagers who had migrated would be back home. Local chiefs and NGOs were instrumental in locating the respondents.

The survey was conducted with tablets using the application ODK-collect (designed by Open Data Kit Initiative). Data files were checked by the team leader before being sent each day to the server.⁹ The use of tablets avoided the need for the transcription of paper surveys, thus removing one step in which human error might have crept into the dataset.¹⁰ Furthermore, data quality was analysed regularly by the statisticians in London, with feedback being provided to the enumeration team.

In wave 2 qualitative data was also collected on a small scale through document study and semi-structured interviews by team leaders of provincial and local professionals, as well as by documenting observations of the enumerators during fieldwork.

3.4 Basic characteristics of the sample

In this sub-section we give a brief overview of the basic characteristics of the sample at household and individual level. We also compare the characteristics of our sample with findings of other surveys and studies whenever possible.

Although we interviewed the same respondents in wave 2 as in wave 1, the characteristics changed a little as not all the original respondents could be reached for a second time. Quite a few had died; others had moved and couldn't be located or had moved too far away or to very insecure areas.

Household characteristics have changed slightly in the three years between waves. Where the differences between research areas are relevant for further analysis, they are described in Chapter 4. Table 3.2 below reports the main characteristics of the individual respondents and households in the sample.

Table 3.2: Household characteristics

	Wave 1	Wave 2
Number of respondents	1,243	1,045
Number of household members	8,379	7,014
Median household size	6.76	6.73
Average age of household	20	22
Dependency ratio	1.3	1.4
Female-headed households	14%	16%
Households ever displaced due to conflict	18%	27%
Households moved to another place since 2012		15%
Households moved temporarily between wave 1 and 2		11%

In total, 83% of the original respondents could be found and were re-interviewed in 2015, comprising a total of 7,014 household members. The average household size of the sample was 6.7. Household size figures of other studies vary: the most recent *Enquete Démographique et de Santé*, or EDS-II (MPSMRM *et al.*, 2014) reports a household size of 5.1. The ratio of dependents to the other household members is, at 1.4, slightly higher than in 2012.¹¹

The average age of the household is low, at 20 years, and the median age is 17 years in 2012. This confirms that households are on average young, which is in line with other studies that indicate that around half of DRC's population is less than 15 years old (MPSMRM and INS 2014; MPSMRM *et al.*, 2014).

⁹ The data were hosted on <https://ONA.io>.

¹⁰ This is not to say that tablets are fool-proof in terms of minimising the chance of human error. In our case, however, we can claim that errors were reduced by the fact that incoming data was monitored in 'real time', so we could rule out the possibility that an error had been introduced during transcription and also try to resolve the error while the case was still fresh in the enumerator's mind.

¹¹ Dependency ratio reports the ratio of dependents (0-14 years and 66+ years) in the household.

In the sample, 14% of households have a female household head; this is lower than the findings of the ‘1-2-3 study’ (MPSMRM and INS, 2014), which found that 19% of households in rural areas were female-headed.¹²

Conflict and insecurity meant that 18% of the respondents reported that they have been internally displaced at least once since 2012, 15% had moved permanently to another location and 11% had lived temporarily elsewhere.

Table 3.3 reports the main characteristics of the individual respondents in the sample.

Table 3.3: Respondent characteristics 2012

	Wave 1
Female respondents	51%
Average age of respondents	37
Average years of education	
No formal education	34%
Completed primary school	32%
Completed secondary school	4%
Religion	
Catholic	48%
Protestant	43%
Ethnicity	
Shi	69%
Tembo	24%

In wave 1 around half of the respondents were female. In 2015 there was a slight over-representation of female respondents with 57%. This might have been caused by men working in the mines in areas far from their homesteads. As explained in section 3.2, these changes in the sample were accounted for in the analysis through non-response weights.

More than one-third of the respondents in the sample – the largest individual share – had received no education whatsoever (34%). 25% had some primary schooling, 31% had at least completed primary school, and 5% had at least completed secondary education. This is in line with the EDS-RDC II study (MPSMRM *et al.*, 2014) that found 32% of the South-Kivu population had at least completed primary school and 5% had at least completed secondary school.

South Kivu has a large number of different ethnic groups. With two research areas in the Ngweshe Chiefdom in the Walungu territory (Nyangezi and Nzibira), most of the respondents identified their ethnicity as Shi (69%). Tembo are the majority in one of the research areas (Bunyakiri) in the Kalehe territory, making up 23% of the total sample.

3.5 Data analysis

The panel survey analysis includes both descriptive statistical analysis and econometric analysis. The descriptive statistics are a quantitative description of all the variables of interest at different levels of the sample. Two types were produced for our variables of interest: comparative statistics, which are sample averages for each wave; and switchers and stayers in wave 2. Switchers are households or respondents who have changed their response to a variable between waves, while stayers have not changed their response.

When it comes to analysing the data, the complexity of the dataset can pose a serious challenge. There are now up to two observations for each respondent, and it is likely that their responses to some

¹² During the field research it was observed that the concept ‘female-headed households’ is not interpreted by all households in the same manner. Especially in the mining areas where husbands were often away for long periods, sometimes not returning at all, households with an absent husband often still considered themselves for various reasons as male-headed households. This might explain this difference.

questions will be correlated over time. Even if we control for everything that we can *observe* about that individual, there are still likely to be unmeasured individual factors that have an influence on an individual's outcomes over time. To put it in different terms, when a respondent answers whether or not they believe that the government cares about their opinion, their answer will be based on their personal beliefs, opinions, preferences, expectations, lived experience, personality and mood. Some of these we can attempt to capture (for example, we can control for the fact that people displaced by conflict are likely to have had a different experience to those who remained, and this may also affect our variables of interest), but most of these factors remain unobserved.

When it comes to modelling such a relationship, there are ways of addressing this bias. One approach is to assume that the individual-level effects are 'randomly' distributed across individuals and uncorrelated with everything else in the model. This is known as the Random Effects (RE) model. This assumption is rather strong as it requires us to believe that when we have controlled for all the observable characteristics of a respondent, any differences between them are more or less the result of random chance. In other words, we would have to accept that there is nothing else about the respondents themselves, besides what we have measured, that explains outcomes in any of the variables. A strength of this model is that it can estimate effects for variables that do not change over time (time-invariant variables).

An alternative model, the Fixed Effects (FE) model, rejects this assumption and assumes that there is a correlation between the individual-level effects and the regressors. When the individual-level effects are correlated with some of the regressors, the bias can be reduced by treating them as parameters in the model – in other words, by controlling for every individual in the sample. A drawback of the FE model is that it cannot estimate the effect of time-invariant variables. This is because when 'controlling for' the unobserved differences between individuals, the model can only estimate within-individual effects. These rely on there being a change between waves 1 and 2 for a given outcome variable. When there is no change in the outcome, there is no comparison observation against which to estimate the effect that a change *would* have.

Ultimately, the FE model was chosen since it is designed 'substantively ... to study the causes of changes *within* a person [or entity]' (Kohler and Kreuter, 2009: 245, emphasis ours), and this is the focus of our research rather than the study of macro-level processes. It is also highly doubtful that we can make the assumption inherent in the RE model that all personal differences between individuals can be accounted for by the control variables.

Those who look at FE and RE models with the same set of regressors, side-by-side, will note that although the coefficients usually remain almost identical in terms of size and direction of effect, there are always more statistically significant results in the RE model. This is because the standard errors of the coefficients are larger in the FE regression, and these are used in the test for significance. Though it may be tempting to choose a model which provides the most significant results, in our case we cannot ignore the possibility of omitted variable bias in the RE models. Deciding on the FE model still leaves us with the problem of how to estimate the effect of time-invariant factors, such as gender of respondent or displacement in a conflict prior to baseline (and these are some of our most important variables of interest). In the end, it was decided that the RE model would be run alongside the FE model but used *only* to estimate the effect of time-invariant variables.

Our variables of interest include household and respondent characteristics, shocks, conflict, livelihood proxies, access and satisfaction of social services, participation and perception of the government. We made sure to consistently include gender and displacement status as independent variables in our analysis. A full list of all variables, descriptive statistics and regressions models can be found in the annex. Sensitivity checks were run after the main analysis which consisted of two steps: (1) testing the

robustness of the results using a different model (this applied only for binary outcome variables), and (2) re-running the regressions with standard errors clustered at the village level.

The data have been analysed at two levels: as a full sample, and disaggregated into the three research sites. We chose this level because the three research areas are far apart and the developments in contexts and livelihoods systems in the areas differ importantly. In some cases we also disaggregated down to the village level.

The qualitative information gathered from reports, interviews and observations served as additional, explanatory information to understand the analyses of the survey data.

3.6 Limitations

We encountered some challenges over the course of the implementation of the fieldwork. In cross-country research such as this an often-mentioned problem is that of translation (Harkness *et al.*, 2003). The survey was translated from English into French and thereafter into local languages by the enumerators as they asked the questions. Despite intensive training, concepts and questions can still be distorted given the backgrounds and interpretations of the enumerators. This challenge is strongly related to the pragmatic meaning of research concepts and their meaning and understanding in a local context. Enumerators and the questionnaire designers had to remain conscious of the interpretations of the respondents in the context.

Although the academic and confidential nature of the study was emphasised to respondents, the enumerators reported that they suspected poorer households of underreporting assets and food intake to prevent themselves from possibly missing out on aid or (for the better off) out of fear of becoming a victim of theft and crime when exposing their valuable assets. Especially in the Bunyakiri area in 2012, the population was highly suspicious of the survey, and although the enumerators did everything to ensure a relationship of trust with the respondents, this may well have influenced the responses.

The survey team consisted of both men and women who each interviewed both men and women; this might have influenced the responses of respondents. Besides gender norms, other social characteristics could have had a limiting effect as well: certain groups within the Congolese population might have been excluded dependent on age, sex, physical ability, etc., and might therefore not have been proportionally represented in the sample.

A big challenge was conducting research in areas of conflict and insecurity. Two research areas were insecure and some of the 2012 respondents were displaced people who had moved back home or closer to their homes in uncontrolled areas. As the safety of our team was a priority, respondents in these areas were extremely difficult to access and often deemed inaccessible during the tracking phase.

4 Setting the context of conflict, safety and shocks

This chapter describes the context of DRC and the Province of South Kivu, followed by a discussion of the main characteristics of the three research areas. As the SLRC survey focuses on livelihood trajectories and state legitimacy in contexts of conflict and insecurity, we then analyse the survey data in terms of the prevalence of conflict and the perception of safety by men and women in the last three years. The analyses include armed conflict in the area, crime, displacement, insecurity and witchcraft. However, as other ‘shocks’ also put stress on daily life, the chapter concludes with an analysis of data on environmental hazards, health-related shocks and socioeconomic issues. Drawing on this material, we end with an overview of how contexts have changed in each of the three research areas in the past three years.

4.1 The DRC and South Kivu: an introduction to the broader context

The recent history of the immensely large and resource-rich DRC has been marked by conflict, misgovernment and massive and sustained humanitarian crises, leaving the country ranked 176th out of 185 countries in the Human Development Index. In the decades of misrule by President Mobutu Sese Seko and the subsequent wars at the end of the last century and the beginning of this one, the economy, service provision and the administration largely collapsed. All this left a massive death toll, a broken economy¹³ (Marivoet and De Herdt, 2014), and an administrative and political system that can be best described as an efficient kleptocracy that follows the rule of the strongest. The administration is oversized and the state officials represent a system that provides very few inputs in infrastructure, social services or elementary security and justice, but is ever-present at all levels of the society, which can include collecting formal and informal taxes and levies, demanding ransoms, and creaming off local production and income, in turn seriously hampering production, accumulation and investment (Bailey, 2011; Rudolf *et al.*, 2015). Basic services such as water, health and education have largely been handed over to third parties such as religious organisations and are nearly exclusively funded by immediate users (Weijs *et al.*, 2012).¹⁴

Despite the peace agreement of 2002, followed by two rounds of presidential, national and provincial elections, the context of South Kivu has not changed much and can be best described as neither peace nor war, depending on the area and period. Large parts of the province are still highly violent, controlled by the Democratic Forces for the Liberation of Rwanda (FDLR), local Maï Maï, Raia Mutomboki groups or other warlords fighting each other, the Armed Forces of the DRC (FARDC) and the UN peacekeeping forces (United Nations Organization Stabilization Mission in the Democratic Republic of the Congo, MONUSCO) (Vlassenroot *et al.*, 2016).

Households are often cut off from the most fertile plots and grazing lands in the hills, which reduces livelihood options. Cattle, a traditionally important asset with productive and cultural importance, largely disappeared from the province. Key crops such as manioc, banana and palm are threatened by disease. Agricultural plots are often too small to provide enough food for households, and they are overexploited, largely without any external inputs. Markets are seriously distorted by predatory officials,

¹³ According to World Bank indicator statistics, gross domestic product (GDP) per capita in 2012 was lower than it had been in the 1980s. Marivoet and De Herdt (2014) argue that the decrease of the GDP per capita is overestimated as the informal economy was not taken into account but they nevertheless recognise the very strong decrease since independence.

¹⁴ Government contribution to the education sector has increased in recent years. The contribution to health is still close to zero and is absent for the water sector, except for in urban centres. Investments in these sectors since the war have been nearly exclusively externally funded.

the police, the army and armed groups, leaving the population undernourished and extremely poor (Mufungizi Nabintu, 2011; Eriksson Baaz and Stern, 2010).

The continuing insecurity forces large parts of the population to periodically move to safe areas and back (Beytrison and Kalis, 2013; Rudolf *et al.*, 2015). As of September 2015, South Kivu still held about 322,000 IDPs, although the number had declined sharply since March that year when the province held more than double this figure (UN Office for the Coordination of Humanitarian Affairs, OCHA, 2015). Currently, there are about 21,000 displaced in Walungu and about 27,000 in Kalehe (*ibid.*), the districts where the survey was conducted.

In the latest Gender Equality Index, the DRC was ranked 149th out of 155 countries (UNDP, 2015), making it one of the most challenging countries for women and girls to live in with gender inequalities in all sectors, education, political representation, access to resources, health and economic empowerment (Davis *et al.*, 2014). Women are less educated than men: the mean number of years of schooling for women of South Kivu is 2.7 years and 5 years for men (MPSMRM *et al.*, 2014: 28) while girls have less access to education than boys.

The often shocking stories about sexual violence and 'rape as a weapon of war' (Douma and Hilhorst, 2012; Douma *et al.*, 2016; Eriksson Baaz and Stern, 2010; Lwambo, 2011), violent attacks on women, men and children as well as many forms of crime, continue to highlight a severe problem. Communities fear killings, sexual violence, kidnapping, torture and random arrests (Oxfam, 2012; 2014). Women are particularly vulnerable when walking outside of the village on roads or heading to their fields. In insecure areas the perpetrators are usually members of armed groups or FARDC soldiers (Eriksson Baaz and Stern, 2010; Oxfam, 2012); elsewhere there is considerable sexual violence committed by the police, army (Eriksson Baaz and Stern, 2010) and civilians in the form of rape, forced marriage, prostitution and domestic violence. To make matters worse, female victims of sexual violence become more vulnerable through stigmatisation.

The Congolese population is growing rapidly at 3.2% a year and it is young, with 46% aged under 15 (World Bank, 2016). Although population density is low, in South Kivu land remains scarce, aggravated by insecurity and population growth, which puts enormous pressure on the available productive land. The fast growth of the population also increases the demand for education and health services, requiring continuous investment in human and infrastructural capacities to simply maintain present standards.

4.2 Three research sites of the survey

4.2.1 Nyangezi

The site of Nyangezi is situated in the territory of Walungu,¹⁵ approximately 30 km from Bukavu. The research site consists of three villages: two are located a few kilometres from an important junction of roads connecting the city of Bukavu to Uvira and Luwindja. The fourth village, 16 km from the junction, is more isolated. The area is hilly and like other rural areas in DRC the main livelihood activities involve subsistence farming and intensive agriculture in the wet valleys (*marais*). Diseases afflicting cassava and banana, both staple foods in this area, decrease production.

What distinguishes this area from other sites is proximity to Bukavu and, except for Village 3, heavy involvement in brick production for the large market at Bukavu. Brick production engages men and women of all ages in a variety of activities. Work in the brick industry is arduous, especially for women, who carry loads of up to 100 kg. Related to this is the production of eucalyptus trees, used as construction material or for fuel in the brick industry, another common activity in this site. Casual

¹⁵ Chefferie of Ngweshe, and *groupement* of Karhongo.

labour, or what the locals call *musokoli*, is an important source of income for men and women of all ages, and it is considered a reliable source of income in the region. Many households are engaged in cattle herding, with Nyangezi having the biggest cattle-herding area of the three researched. Mining plays a smaller but still important role as a source of income. There are very few commercial activities such as restaurants, markets and shops, as these are concentrated a kilometre away in Munya, a larger village at the junction.

In terms of assets and food insecurity, Nyangezi is certainly the best off out of the three research areas, with the highest levels of family assets and the lowest level of food insecurity. Even during the two wars, Nyangezi was relatively safe and less plagued by conflict than the other sites in this survey. It did not see an influx of IDPs and crime levels were low compared to the other areas. Respondents felt quite secure in the area apart from several instances of violence related to 'Systeme Kabanga',¹⁶ a phenomenon on the rise in 2012.

4.2.2 Nzibira

Nzibira is situated in the Walungu¹⁷ territory about 75 km from Bukavu along the road from Bukavu to Burhale and Shabunda, on which it is a key stopping point. Over time the road has slowly improved up to Nzibira and several kilometres further on. The research site consists of three villages: the central village, a stopping point on the road; a neighbouring village; and a more distant village a few kilometres away from the main road. Close to the villages is an important regional weekly market.

Nzibira is a poor area. Changes in land ownership and land use, demographic pressure and violence in Walungu transformed an area producing food for the markets of Bukavu into one surviving mainly on subsistence agriculture (Vlassenroot and Romkema, 2008). More distant fields cannot be accessed due to the high levels of insecurity and the fields closer to the villages are often over-exploited and exhausted. This has made Nzibira highly food insecure and largely dependent on food aid and food imported from Bukavu. Cattle, once an important source of income and the key to social relations, are very limited in number. Something that distinguishes Nzibira from the other sites is the heavy involvement in mining, with men and boys working in mines deep into Shabunda, staying away for long periods and regularly starting new families elsewhere. Village 4 has an active commercial sector with restaurants and shops that have benefited from repair of the road, and that serve truck drivers, traders, returning miners and soldiers.

Nzibira is badly affected by livestock and crop diseases. Livelihoods are further affected by inflation and price hikes, more so than in other sites. These price hikes are reportedly related to the high number of IDPs from the surrounding areas and large contingents of FARDC soldiers in the region.

Nzibira is located on the edge of the 'high insecurity' area of Shabunda where, in 2011, control was heavily disputed between the FDLR (notorious for its brutal violence) and various grassroots self-defence groups called *Raia Mutomboki* (literally 'children of the community'), with enormous consequences for the local population. Beyond Village 4, security rapidly decreases along the road in the direction of Shabunda. After the FDLR was pushed out of most of Shabunda territory in 2012, the *Raia Mutomboki* refused to disarm and hand over control to the FARDC and was regularly attacked by the FARDC supported by MONUSCO (Stearns *et al.*, 2013). Nzibira was an unsafe environment and conflict with insecurity was very much part of daily life in the area.

¹⁶ Cult-like murders by strangulation with a rope. This rope then carries extraordinary powers and can be sold.

¹⁷ *Chefferie* of Ngweshe includes villages in the *groupement* of Kaniola and Mulamba.

4.2.3 Bunyakiri

The third research site is Bunyakiri, which is in the territory of Kalehe,¹⁸ approximately 75 km from Bukavu along the road to Hombo and Walikale, which are rich palm-oil producing and mining areas. The area is hilly, with the road situated in the valley and hills and plateaus on both sides. The three villages included in the research are located along this road. The region is traditionally known as a supplier of agricultural and forest products to the markets in Bukavu, for example cassava, construction wood, charcoal and palm oil. Village 7 is a commercial centre, serving as a regional market, and has a number of restaurants, hotels and shops. Agriculture is the main livelihood activity in the area. Neither mining nor livestock play a role in the local economy. Plots are of limited size and productivity is low. Relative to the other research sites the region is affected less by crop and animal diseases. Bunyakiri was an extremely poor area in 2012 with households having few assets; food insecurity was the highest of the three areas.

Bunyakiri had extremely high levels of conflict and crime. By early 2012, the *Raia Mutomboki* had expanded operations against the FDLR into Bunyakiri and succeeded in doing what the Congolese army had failed to do: chasing the FDLR out of the area. As the *Raia Mutomboki* movement grew, FARDC commanders tried to limit the movement's military power, disarm and even arrest *Raia Mutomboki* fighters, which led to armed confrontations (Stearns et al., 2013). In the survey in 2012, Bunyakiri was perceived as the most insecure site of the sample and research couldn't be conducted in villages away from the main road as it was too risky and the enumerators were met with suspicion. As a consequence of the high levels of conflict and crime, the area had a very large number of IDPs and many households moved regularly from one place to another depending on the security situation.

4.3 Conflict, displacement and crime

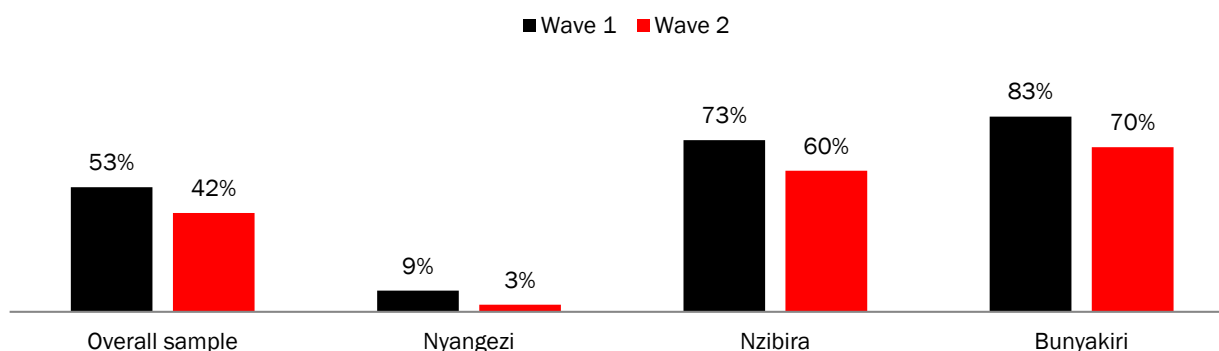
South Kivu has experienced violence and prolonged instability since 1996. Large areas are not under government control and host multiple clusters of armed groups. Although armed conflict has decreased, fighting and insecurity are still part of life (Stearns and Vogel, 2015). To understand the changes in livelihood trajectories and the perceptions of the government it is therefore important to identify people's experiences with conflict and their perceptions of security and safety.

4.3.1 Conflict

Of the survey sample population, 53% experienced conflict (as shown in Figure 4.1), which is understood as fighting in the area where they live in the three years prior to the first wave of the survey in 2012. In the years since, we have seen a decrease in reported armed conflicts in the research areas. The situation in South Kivu is clearly still far from stable and remains very fluid: as much as 42% of the households experienced armed conflict between 2012 and 2015. Furthermore, one out of six respondents who said they had not experienced conflict in the 2012 survey said they had experienced it in the 2015 survey. Armed groups move around and armed conflicts continue to appear in different parts of the province at different times.

Figure 4.1: Share of households that experienced armed conflict, by wave

¹⁸ In two *chefferies*: Buhavu and Buloho.



The general positive trend of a reduction in armed conflict is recognised in all three survey areas, but there remain large differences between them. As the survey findings indicate and the qualitative data and other research confirms, Nyangezi was the safest area before 2012 and remained largely free from armed conflict. In contrast, although armed conflicts decreased in Bunyakiri and Nzibira, more than 60% of households in these areas experienced armed conflicts in 2015.

4.3.2 Displacement and migration

The armed conflicts forced many families to leave their homesteads. The survey data confirm that large numbers of families were displaced in the long term, while others moved temporarily from their original homesteads to safe areas, forced by army offensives or rebel group attacks. Of the respondents in 2012, 18% had been displaced at least once for a period of time.¹⁹ Between 2012 and 2015, nearly 11% of all respondents had to move temporarily with their entire household,²⁰ and another 2% moved permanently because of conflict. More than one-quarter (27%) of all respondents have been displaced at least once across both periods of the survey – and many several times. Displacement in areas of conflict was very high for Bunyakiri, which hosted as many as 45% of the IDPs in the sample, followed by Nzibira which had 39% of the IDPs in the sample.

Table 4.1: Number of IDPs in wave 1 and wave 2

IDPs in wave 1	IDPs still displaced in wave 2	IDPs displaced a second time in wave 2	Not displaced in wave 1 but displaced in wave 2	Households that were displaced temporarily between waves	Total households that were displaced at least once ^a
219	142	9	11	97	285

Note: a) This number includes those who reported having been temporarily displaced due to conflict between panel waves but were back in their place of origin by the second wave.

The figures in Table 4.1 indicate that there is quite a lot of movement within the sample population: many households in the sample have been displaced at least once, either permanently or temporarily. Conflict is an important reason for displacement, but not the only one: 21% of the temporarily displaced respondents moved for other reasons (such as family reasons and economic opportunities).

4.3.3 Crimes

Armed conflict was not the only form of violence the population had to cope with. Households, especially in the areas most affected by conflict, also had to cope with physical attacks and crime in the form of theft of assets, livestock and land.

¹⁹ Displaced are those households that have reported to have been forced to leave their home at least once due to conflict or insecurity.

²⁰ Of the 152 respondents that moved temporarily, 114 (75%) moved because of conflict.

Figure 4.2: Share of households that experienced various forms of crimes, by wave

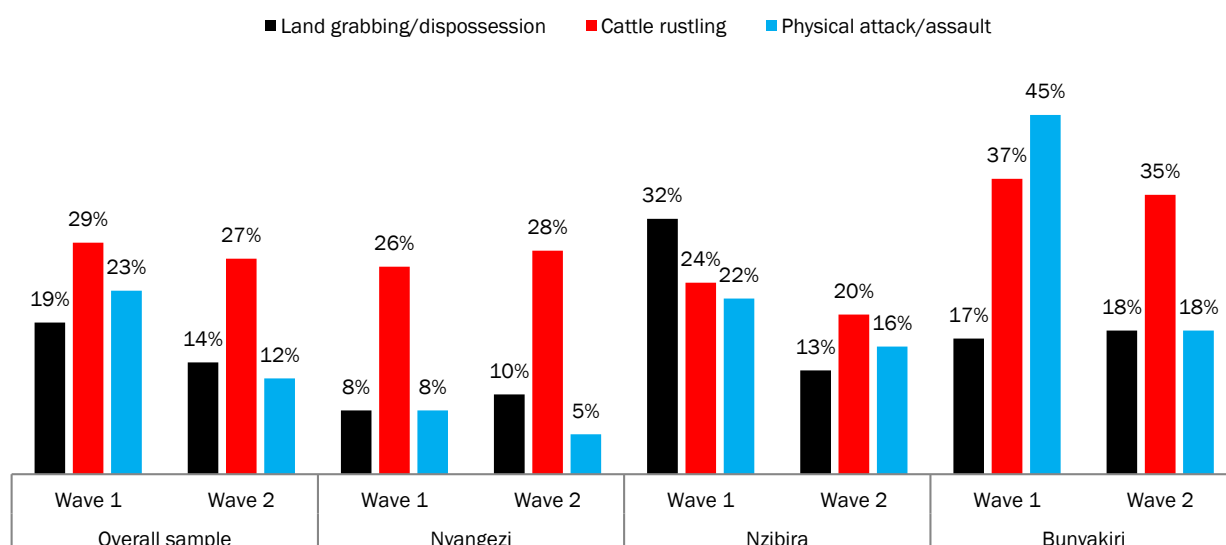


Figure 4.2 above illustrates that alongside the decrease in conflict, various forms of crime have also dropped substantially.²¹ That said, they generally remain high: one in eight households experienced a physical attack, over one in five have experienced theft of land or assets, and nearly a third theft of livestock in wave 2.²² There are quite large differences in crimes experienced by region; in Bunyakiri in particular, the decline in physical attack is remarkable.

The figures indicate that life in Bunyakiri and Nyangezi is, besides having high levels of armed conflict, further complicated by the loss of land and assets (including productive assets such as cattle), as well as physical attacks and assaults on a large, if decreasing, scale.

4.4 Perceptions of safety and security

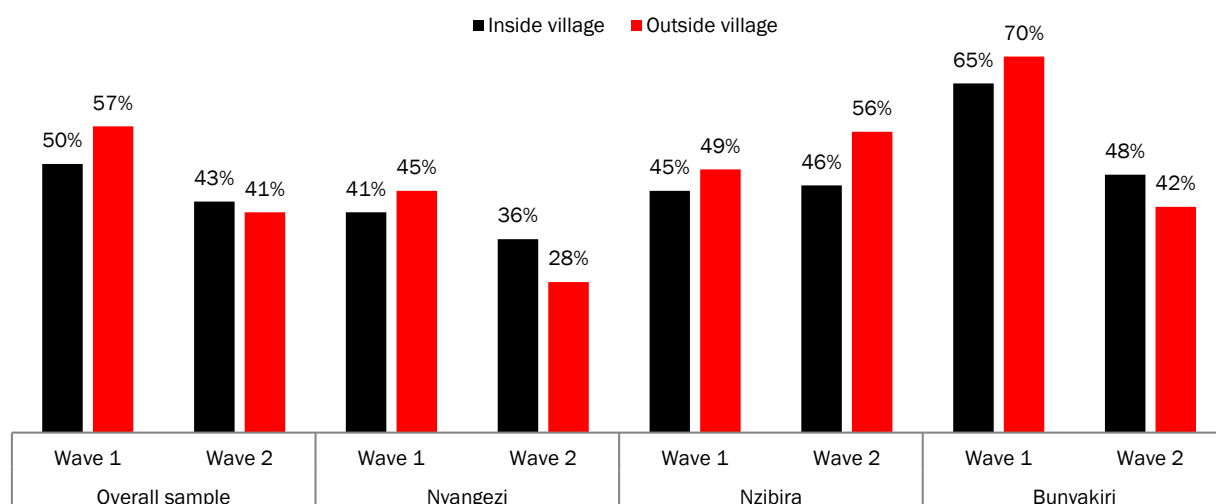
4.4.1 Safety and security

As observed above, the populations of Nzibira and Bunyakiri in particular continue to face high levels of armed conflict and crime. It is therefore not surprising that the survey found that many respondents in these research areas feel unsafe (measured on a four-level scale) within and outside their villages (for example when working on their land, going to market, travelling to social events, etc.). Perceived safety improved between the two waves however, as shown in Figure 4.3. The majority of the respondents felt that safety inside and outside the village has improved between waves (37% and 42%, respectively), although despite the improvement, over 40% of the respondents still feel that it is unsafe to move within or outside the village they live in.

²¹ The change between waves for 'land grabbing/dispossession', 'cattle rustling' and 'physical attack/assault' are statistically significant at 99% confidence level.

²² Including medium and small livestock such as goats, chickens, etc.

Figure 4.3: Share of respondents who assessed the situation inside and outside the village as quite dangerous or unsafe

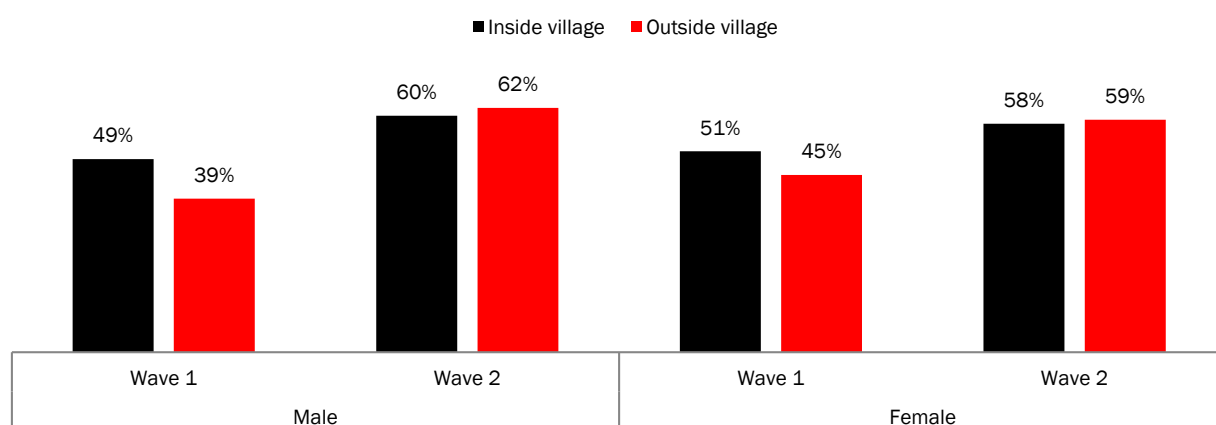


Among the research sites, respondents in Nyangezi felt safest in 2012 and felt even safer in 2015, especially outside the village. However, the difference in perceived safety within the village was not as big as expected considering the other two sites coped with much higher levels of conflict and crime. Analysing how individual respondents' perceptions changed between waves, we see that more respondents in Nyangezi felt that safety within the village had become worse than respondents who felt it had become better. During the interviews, respondents often mentioned instances of violence related to *Systeme Kabanga* and witchcraft.

Bunyakiri shows remarkable changes. The number of respondents who felt that life in the village had become safer is far larger than those who felt that it became less safe. Perceived safety in Nzibira, on the other hand, has hardly changed at all. The number of respondents who felt that life in the village had become safer nearly equals the number of respondents who felt less safe.

4.4.2 Gender and security

Figure 4.4: Share of respondents who felt safe inside or outside the village by gender and wave



In 2012, men and women felt almost equally safe in the village, as shown in Figure 4.4. Interestingly, in wave 1, men felt much less safe outside the village than women. In just three years the perception of safety improved substantially for both men and women. Furthermore, there was only a small (but

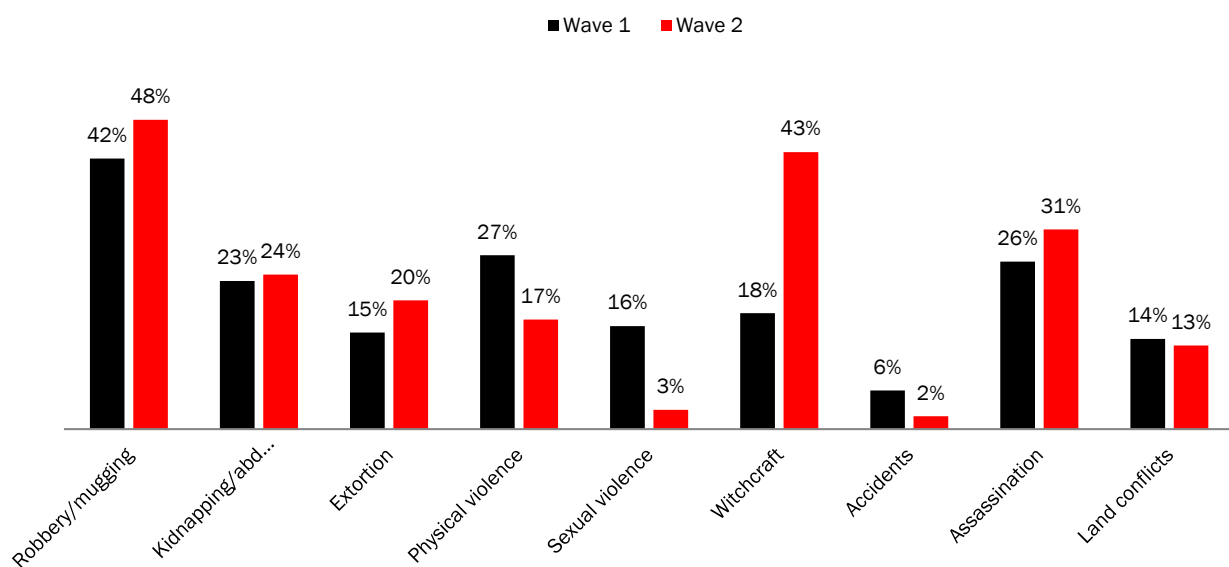
statistically significant) difference for men and women in terms of perception of safety: women felt only slightly less safe than men.²³

The survey data indicate an improvement in women’s perceived security over time: 72% of female respondents indicated an improvement in the security situation for women from 2009 to 2012 (wave 1), and this share increased even higher to 76% for the period 2012 to 2015 (wave 2). Interestingly, women were slightly more positive about this than men. Improvements are particularly notable in Bunyakiri, which had the lowest levels of perceived security for women in the years before 2012, but experienced the greatest improvement by far between 2012 and 2015.

4.4.3 Threats

Feelings of security and safety are influenced by the threats that respondents perceive. In the context of high levels of armed conflict and crime, it is not surprising that respondents perceive many threats within their villages and even more outside them (Figure 4.5).²⁴

Figure 4.5: Share of respondents reporting perceived threats inside the village, by wave



In 2015, perceived threats of physical violence and assault, sexual violence and accidents inside the village were below 2012 levels. Despite these positive developments – coupled with the decrease in armed conflict and crime, and the increased perception of security – respondents did not perceive fewer threats within the village in 2015 compared to 2012. Perceived threats of robbery, kidnapping, extortion, witchcraft and assassination increased.

Respondents perceived even greater threats outside the village. The fear of assassination increased from 33% in 2012 to 58% in 2015, robbery from 43% to 54%, kidnapping from 27% to 50%, extortion from 18% to 27% and physical violence from 30% to 32%. The fear of accidents also increased markedly, suggesting a decrease in road safety. Only sexual violence outside the village decreased (from 18% to 13%), however this level is far above that for inside the village.

In Nyangezi, which had the lowest levels of armed conflict and crime in 2012, the population generally perceived fewer threats than in the other areas. However, this increased both within and outside the

²³ The difference between sexes is slight but significant at a 99% confidence level.

²⁴ It should be noted that the crimes mentioned earlier differ from the perceived threats in the chart above. The first refer to real crimes experienced by a household, the latter refer to a perception of possible experiences by individuals, which are not surprisingly higher.

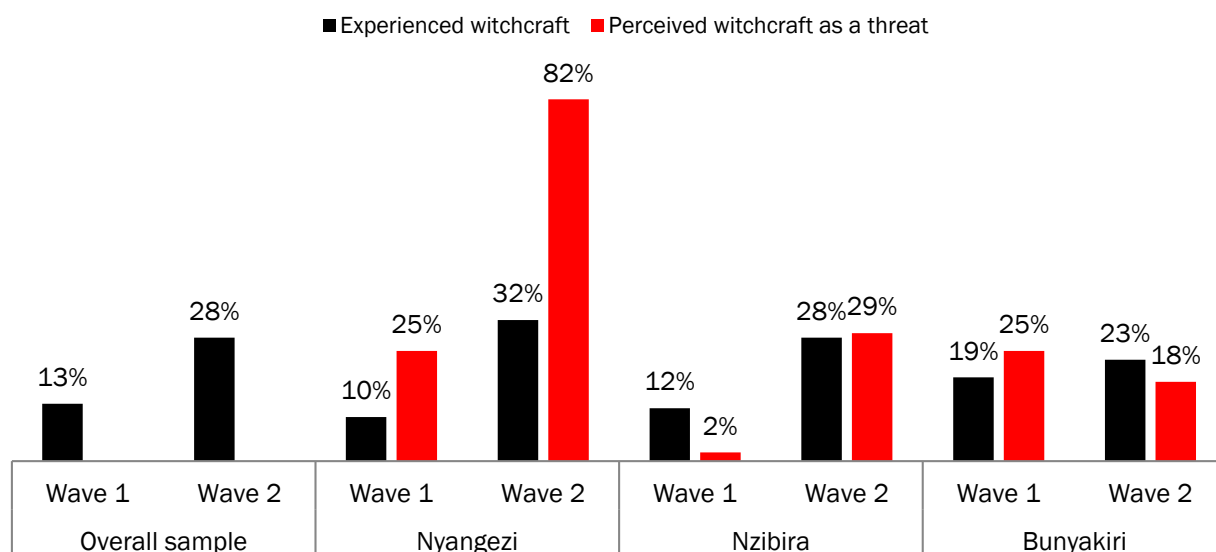
village by 2015. In particular, witchcraft became a major perceived threat in this area by 2015, with as many as 82% of respondents mentioning it as a threat within the village.

Nzibira also saw a large increase in perceived threats within and outside the village. Perceived threats of kidnapping/abduction and assassination outside the village increased to very high levels of 60% and 70%, respectively. Before 2012, respondents perceived fewer threats in Nzibira than in Bunyakiri, but by 2015 the situation had changed dramatically. Despite the persistent high levels of conflict and crime in Bunyakiri, its population felt significantly less threatened than in Wave 1.

Women’s fear of sexual violence dropped substantially from the extremely high level of 34% to 5% within the village and from 33% to 15% outside the village. Physical violence was reported as a threat to both men and women, but dropped from 47% to 17% (men) and 42% to 27% (women). These findings reflect a positive trend in sexual violence, and run counter to the findings of research commissioned by the Swedish Embassy (Davis *et al.*, 2014) that suggests that sexual violence against women may be increasing in eastern DRC.

In many African societies, perceptions of witchcraft are common and have far-reaching effects on people’s lives: some people are killed for it, and many people are concerned about living in certain villages out of fear of witches (Ngong, 2012; Schnoebelen, 2009). As Figure 4.6 shows, the number of households that think they have had some experience of witchcraft increased substantially between the two waves. This results in an enormous increase in the fear and perceived threat of witchcraft (from 18% to 43%, as seen in Figure 4.5).

Figure 4.6: Share of households that had experienced witchcraft and share of respondents who perceived witchcraft as a threat within the village



One in every four households in the sample reported that they had come into contact with witchcraft in the three years between waves 1 and 2. We believe that this perception is generally the effect of increasing tensions within the community because of health, economic, political or security crises and extreme environmental conditions (Schnoebelen, 2009). Some indications of potential contributing factors were found in the research areas. The strongest increase in experiences with witchcraft was observed in Nyangezi, where experience with witchcraft increased to 32% of respondents, and over 82% perceived it as a threat within the village. During the survey and in interviews in Nyangezi, tensions in the community caused by a succession of conflicts in one village as well as conflicts between generations were often mentioned as possible causes of the steep increase in witchcraft. This trend may also relate to the appearance of the *Raia Mutomboki* in the area, as witchcraft (*dawa*) plays an important role with its

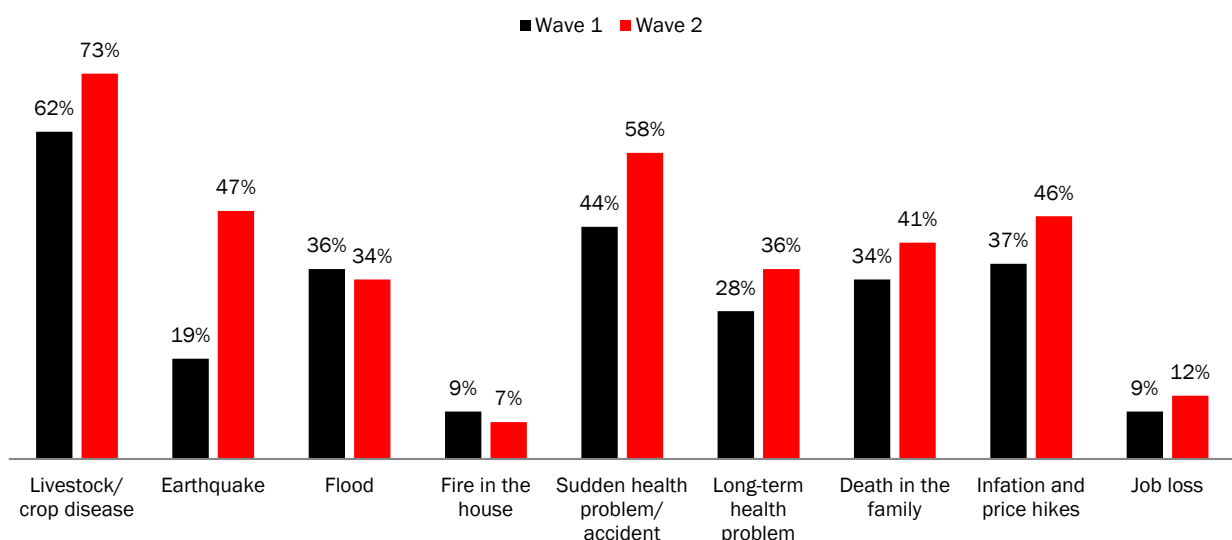
fighters having to pass special initiation rites, and carry wristbands (*bijou*) made by local witches (*bachawi*) that make them invincible (Stearns, 2013).

A general explanation for the overall ‘increase in witchcraft’ in the research areas was not apparent. There is no evidence to support the idea that the worsening perception of state actors (see Chapter 10) contributed to the perceived increase in witchcraft. The extent to which other factors (such as an increase in plant and animal diseases, increasing political tensions, health and economic shocks, etc.) played a role was not investigated.

4.4.4 Shocks

It is important to keep in mind that in conflict-affected or post-conflict environments, it is not only armed conflicts and crime that affect the lives and livelihoods of the population. In an agricultural society, environmental shocks have major impacts, as do health and economic shocks. In each survey, the respondents indicated which shocks they had experienced in the preceding three years (Figure 4.7). The number of shocks does not say anything about the impact of the shocks on the households; some shocks have more devastating effects while others may hardly affect daily life at all.

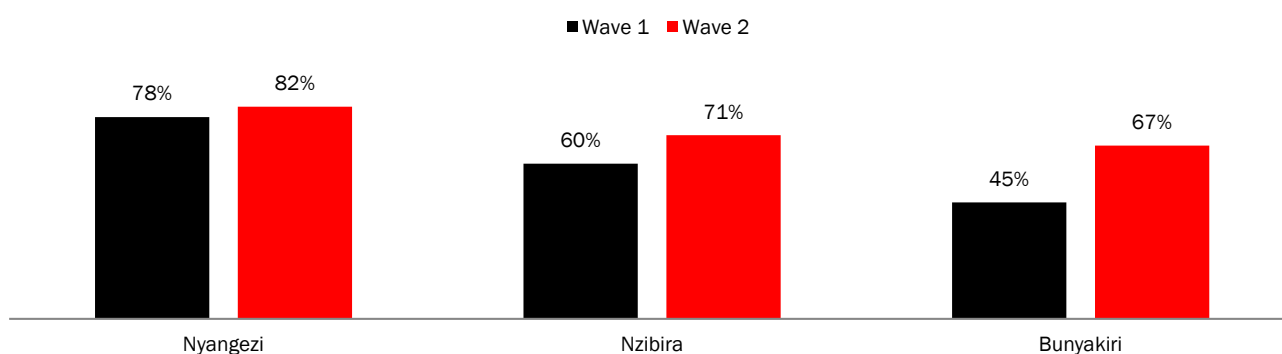
Figure 4.7: Share of households that experienced shocks related to natural hazards, health and economic life



Livestock and crop disease

Crop and plant diseases have affected bananas and cassava for years in eastern DRC, and they are becoming more prevalent (FAO, 2014). This leads to declining production for the two most important staples, the risk of food insecurity, and the necessity to import these products from neighbouring countries at higher prices. Kalehe Territory is the worst-affected, with incidence of diseases in about 50% of the plantations, while in Walungu the rate is estimated at 10-20% (IPS News, 2012). During the survey and in interviews, plant diseases – especially in cassava and bananas – were frequently mentioned as seriously affecting crop production. The share of households that have faced livestock or crop diseases increased from 62% to 73% between waves, posing obvious threats to livelihoods and food security. Farmers depend on (limited) special projects to introduce disease-resistant varieties because state extension services have totally collapsed.

Figure 4.8: Share of households that have experienced livestock or plant diseases



While all three areas reported high levels of plant and animal diseases (Figure 4.8), Nyangezi, with its large banana plantations and larger cattle herds, reported the highest levels.

Earthquakes and floods

The most frequently reported environmental disasters in DRC are flooding (60% reported this), followed by storms, landslides, volcanic activity and earthquakes (EM-DAT, 2015).²⁵ Figure 4.7 shows that the number of respondents who experienced an earthquake increased drastically (19% to 47%), which is related to the 5.6 magnitude earthquake that hit the eastern border of the DRC (BBC, 2015) and a number of small earthquakes in South Kivu that followed throughout the end of 2015, just before and during the data collection phase.

Health

Health problems are common experiences for households in the sample. The experience of sudden health problems or accidents (57%), death in the family (41%) and long-term health problems (36%) have all increased between waves.

Economic life

With regard to economic shocks, price hikes and inflation were most frequently and increasingly mentioned, in particular in Bunyakiri and Nzibira. Furthermore, more than one in ten households had a member who had lost their job (probably in the informal job sector as there are very few jobs in the formal sector) in the preceding three years.

4.5 Exploring the changing contexts

The three research areas have different characteristics in terms of location, accessibility, conflicts, safety and livelihoods, and some of these contextual characteristics changed in different ways over time. While Nyangezi was not affected by conflict, is considered safe and had changed little, Bunyakiri was highly affected by conflict, was unsafe and had changed substantially. The third area of Nzibira was highly affected by conflict and was unsafe, but had changed little. Comparing the findings of the different developments in these areas deepens our understanding of the impact of conflict and insecurity on the respondents' lives and livelihoods.

The survey reconfirms that although the peace agreement was signed and first national elections were conducted over a decade ago, the state of 'neither peace nor war' continues in a large part of the South Kivu province, affecting people's lives profoundly. Although somewhat reduced, the large majority of respondents in two of the three research areas still faced armed conflict. In these areas, levels of experienced crime were much higher than in the relatively peaceful areas. Warring parties, including the army, were often accused of using physical violence against civilians, including sexual violence in the war, and of criminal activities such as robbery and extortion (Eriksson Baaz and Stern, 2010; Oxfam, 2012).

²⁵ An event can be recorded as a disaster in the EM-DAT database if it kills ten or more people, or affects at least 100 people, or entails a declaration of a state of emergency, or leads to international assistance being called for.

Despite the continuing armed conflict, women's fear of sexual violence had dropped substantially since 2012.

While the levels of armed conflict and of experienced crimes went down after 2012, a very large proportion of the respondents still assessed their immediate living environment as unsafe or quite dangerous in 2015. They perceived many threats inside and especially outside the villages, affecting their personal and family life and their options for making a living.

The survey data do not reveal why in Bunyakiri, despite the persistent high levels of conflict and crime, the population felt substantially less threatened and insecure in 2015 than in 2012, and why this trend was not observed in Nzibira. From reports (Stearns, 2013) and additional qualitative research, it was learned that the FDLR, a largely Rwandan Hutu rebel group notorious for its brutal violence, had a stronghold in Bunyakiri. In 2012, the *Raia Mutomboki* had expanded its operations against the FDLR into Bunyakiri, and succeeded in gaining widespread support from the mostly Tembo local population. They succeeded in doing what the Congolese army had failed to do: chasing the FDLR out of their areas. As the *Raia Mutomboki* movement grew, FARDC commanders tried to limit the movement's military power by disarming and arresting its fighters, which led to armed confrontations in 2012 and 2013. The deployment of FARDC troops with Rwandophone officers in high positions led to serious tensions between the FARDC and the *Raia Mutomboki* in Bunyakiri in May 2014. While the movement was welcomed with great enthusiasm on its arrival, local support waned as the group evolved from a protection role to that of a controlling force that taxed the population and became involved in local politics, crime and extortion. Bunyakiri is perhaps the clearest example of this trend and of the complex relations between armed groups and local society (Stearns et al., 2013).

At the time of the survey, the FARDC largely controlled the roads and the villages close to the main road while most of the interior was controlled by various *Raia Mutomboki* groups. These developments explain the survey findings of the high number of respondents who experienced armed conflict and, as these groups are certainly not harmless, the high levels of experienced crime and insecurity.²⁶ At the same time, the *Raia Mutomboki* is regarded by the population as a source of protection against the FDLR, easier to negotiate with, and less aggressive and cruel towards the local community. In the survey findings it stands out that there was a very large reduction in incidences and threats of physical and sexual violence outside and even more so inside the village. This suggests that physical and especially sexual violence against the civilian population was used substantially more by the FDLR. Furthermore, the qualitative research suggests that the FARDC had improved discipline, with regular payment of salaries a contributing factor. So, the armed conflicts and the presence of armed groups in the region persisted but the nature changed. This could well explain the reduction in perceived threats and insecurity. Such a major change in conflict context was not observed in Nzibira, where the situation changed less after 2012 and the levels of experienced crime and perceived insecurity hardly changed at all.

Given the lack of armed conflict and low levels of crime in Nyangezi, the level of insecurity within the village was remarkably high, with witchcraft standing out. Other factors than armed conflicts and crime apparently play a role in feelings of safety and security in the villages therefore. In the qualitative research, the increase in witchcraft was explained by a conflict over who would succeed the deceased chief of one of the villages, and generational conflicts in others where witchcraft was said to play a role.

In conflict-affected and post-conflict environments, the immediate effects of armed conflicts and crimes are a logical analytical starting point for the lives and livelihoods trajectories of the population. But livelihood trajectories are also defined by the impact of other shocks. The survey data and interviews

²⁶ For more information on violence and crimes committed by local defence groups, see the political and security context analysis reports by the ngo Action pour la protection des droits humains et de developpement communautaire (APDHU).

show high and increasing levels of environmental shock, extremely high and increasing levels of animal and plant disease also, as well as increases in flooding, health and economic shocks. Especially in the context of South Kivu following the collapse of most state services in rural areas, respondents hardly have any effective institution or service to turn to for assistance when affected by a shock. For instance, they have no service from which to obtain information or support for resistant plant material or veterinary care, except for a few externally funded projects (Lambrecht *et al.*, 2015).

5 Livelihood trajectories

In this chapter we investigate respondents' livelihood trajectories and search for factors that could explain the changes in their livelihood indicators during the two study waves. We first describe the development of the livelihood trajectories and the productive activities that household are involved in, and then present the outcomes of the regression analyses of factors that could explain the observed changes in livelihood indicators. Finally, we draw some conclusions.

5.1 Livelihood trajectories

5.1.1 Assets

Four indicators have been used to illustrate asset-based wealth trajectories of households in our panel. The Morris Score Index (MSI) (Morris et al., 1999) was used as a proxy for household wealth. Livestock ownership, land ownership and housing quality data were studied to assess household livelihood trajectories.

Household assets

To explore household wealth, the MSI was calculated based on the weighted ownership of particular household and productive assets. These assets were chosen based on discussions with academics familiar with household assets in South Kivu. The survey collected data on the numbers as well as the market value of these assets.

Table 5.1: Mean household wealth (MSI) by wave

	MSI, 2012	MSI, 2015
Sample mean	25	34
Non-IDPs	28	37
IDP households	14	27
Male-headed households (MHHs)	32	27
Female-headed households (FHHs)	14	22
Sample mean asset value	US\$196	US\$272

Households typically possess few assets, and these are low in quality. As shown in Table 5.1, the mean total value of assets in 2015 was below US\$275 per household. Although very low, this is a substantial increase in value since 2012, and the mean MSI score increased from 25 to 34 (the higher the score, the greater the level of asset ownership).²⁷ From the total sample, 63% of the respondents improved their MSI between waves and became better off. IDP households were clearly worse off than non-IDPs, yet they also reported improvement and are perhaps catching up. FHHs were also far worse off than MHHs: although the gap is getting smaller, the differences remain substantial.

The data also tell us who improved their overall wealth between waves in terms of assets. Of the households with a lower MSI score (lowest quintile) in 2012 more than 85% improved, while only 40% of the households with the highest MSI score (highest quintile) improved; in fact, on average this latter group decreased their average MSI score in wave 2, which suggests a trend of 'catchingup' by the less wealthy.

²⁷ From a range of 0-1336 and statistically significant at a 99% confidence level.

There are some substantial regional differences when it comes to household wealth, as shown in Figure 5.1. Nyangezi scored way above average in terms of household wealth and improved between waves. Nzibira and Bunyakiri both scored equally poorly on household wealth in 2012; the data shows an improvement for both in 2015 but the increase in Bunyakiri was substantially higher.

Figure 5.1: Mean MSI by research site by wave

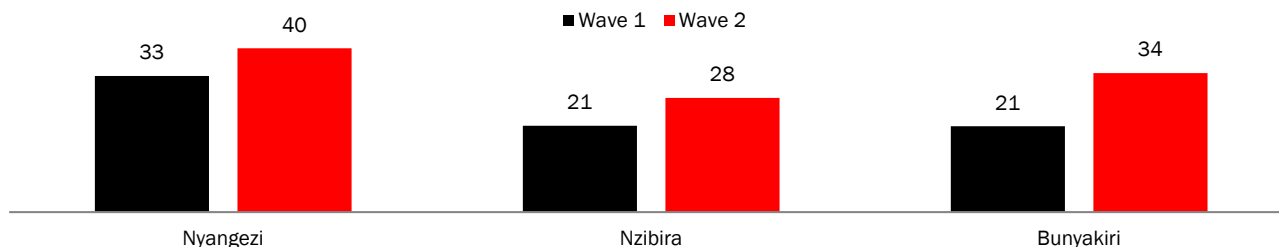
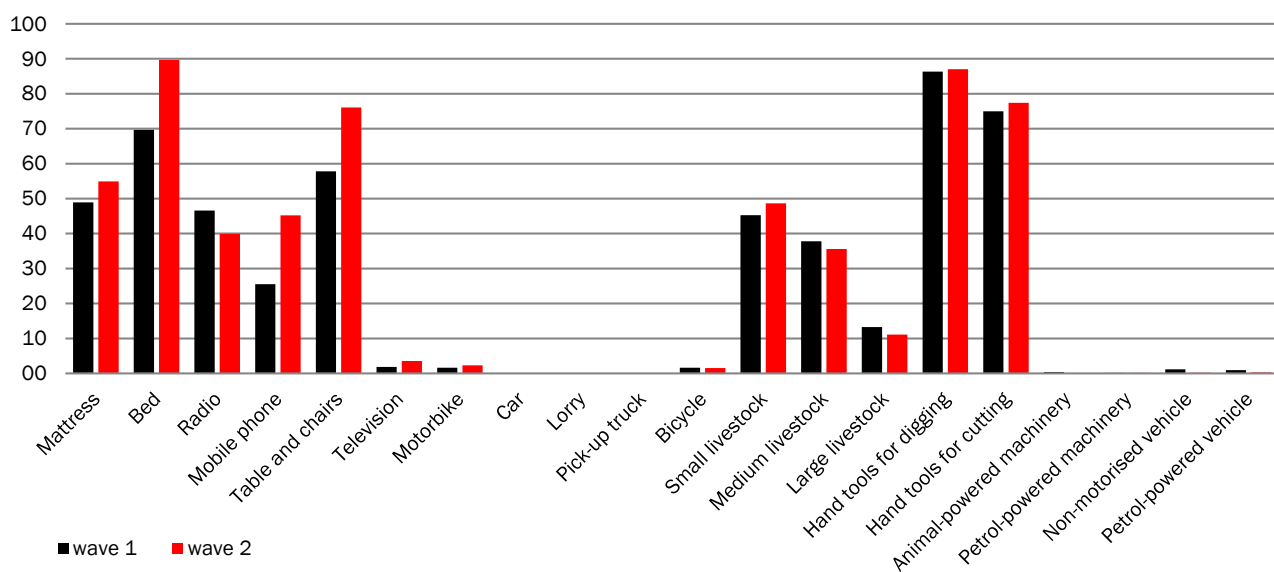


Figure 5.2 shows which assets are most commonly owned by the households in our sample and where the biggest changes lie between waves. Most own household assets such as furniture, and productive assets such as tools and livestock. The number of households that own a mobile phone rocketed from 26% to 45% in three years.²⁸ Apart from mobile phones, which can be a luxury good as well a productive asset, households possess limited productive assets and there was hardly any change in this between waves.

Figure 5.2: Proportion of asset ownership per wave



Most asset gains are domestic or household assets. There is hardly any equipment for mechanisation and productive assets are mainly hand tools for digging and cutting, small livestock such as chickens, guinea pigs and rabbits, and to a lesser extent medium livestock such as goats, sheep or pigs. Only 11% of the households in the sample own large livestock such as cattle. As cattle graze in the hills outside the villages, cattle ownership is still very much restricted by the situation of insecurity and risk of theft of livestock. These livestock findings are in line with the EDS-DRC II study that finds that 55% of the rural population in their sample owns livestock (of different sizes) (MPSMRM et al., 2014). The data

²⁸ More areas in South Kivu, including some of the research areas, were connected with one or more mobile telephone networks since 2012. This explains, amongst other things, the growth in mobile phones, which are extremely important in conflict areas to be informed in time of new fighting, risks, etc.

show large variation in terms of cattle ownership across the research sites, as stated in the previous chapter. Finally, very few families own a bicycle, motorbike or other means of transport.

The data on assets contains a risk of bias because respondents might have underreported their assets, especially in Bunyakiri and Nzibira where high proportions of respondents receive livelihood support (food aid, seeds and tools, etc.). Therefore, we should not focus on the actual levels of reported assets but rather be guided by the direction of change over time.

Housing and land

Another indicator of livelihood trajectories in the survey is housing quality. The survey found a slight improvement in the quality of the type of materials used for both the walls and roofs in the three years between 2012 and 2015, suggesting an increase in wealth. Generally speaking, economically less wealthy families live in houses with walls of bamboo and earth and thatched/straw roofs, while better-off households have invested in walls of (baked) bricks and roofs of iron sheets or tiles, which are seen as higher quality materials that increase comfort and decrease maintenance costs. Between waves we see a statistically significant²⁹ increase of 14 percentage points in the number of metal-sheet roofs, mostly replacing straw roofs. In 2015, 68% of the households had a metal sheet roof against 31% straw roofs. Between the waves, the construction material of walls had not changed as drastically as for roofs, yet there was a substantial decrease in the use of bamboo and earth and an increase in the use of bricks, wooden planks, and clay. Broken down by the sex of the household head, FHHs reported only a slightly higher use of poorer quality materials than MHHs (13% of MHHs have brick walls against 10% of FHHs, and 65% of MHHs use clay against 67% of FHHs). In terms of roofing, 62% of MHHs reported having metal sheet roofs against 55% of FHHs.

A very large majority of respondents owned a dwelling (more than 76%) and a minority of houses were rented. While the improvements in housing quality suggest a positive trend in relative wealth, housing quality remains very poor (Humphreys et al., 2012; Humphreys, 2008) and underpins the low level of wealth observed in the Morris Index.

Given the importance of agriculture in the DRC, insights into land ownership are crucial for understanding livelihood developments. As Table 5.2 shows, the large majority of respondents own land.

Table 5.2: Share of house and land ownership by IDP status and sex of household head, by wave

	2012				2015					
	Non-IDP	IDP	MHH	FHH	Overall sample	Non-IDP	IDP	MHH	FHH	Overall sample
Household owns land	74%	43%	78%	77%	69%	82%	60%	77%	67%	75%
Household rents land	32%	41%	34%	31%	33%	53%	49%	53%	44%	52%
Household uses communal land						15%	12%			14%
Household owns dwelling	83%	46%	77%	72%	76%	83%	66%	80%	69%	79%
Household rents dwelling	9%	38%	14%	13%	14%	10%	26%	14%	18%	14%

However, this is only part of the story as plots are often small and of low quality. The 2012 data indicate that 50% of the landowners had a plot smaller than 0.5 hectares and another 13% had a plot between 0.5 and 1 hectare. This doesn't compare with the average landholdings in the province (2 hectares) or country (2.5 hectares) (FEWS NET, 2015). Furthermore, 90% of respondents had problems with agriculture, of which 40% were too little or too low quality land. Partly due to the inaccessibility of land away from the villages, systematic overexploitation of the available land in combination with a lack of external inputs resulted in low quality and low productivity land. Because of the smaller plots, many

²⁹ Significant at a 99% confidence level.

households had to rent additional land, although 21% rented smaller plots than in 2012. Finally, in both waves, only 14% of households used any communal land, particularly important for grazing.

With regard to house and land ownership, changes over time were generally small. This was not the case for IDPs, however. While there was an increase in the share of IDP households both owning and renting land between 2012 and 2015, there are still substantially fewer IDP households owning land relative to non-displaced households (making them dependent on other livelihood activities in the host community besides agriculture). Furthermore, fewer IDPs own a house. But this pattern has changed to some extent with a growth in home ownership and home rental for IDPs in the three years to 2015.

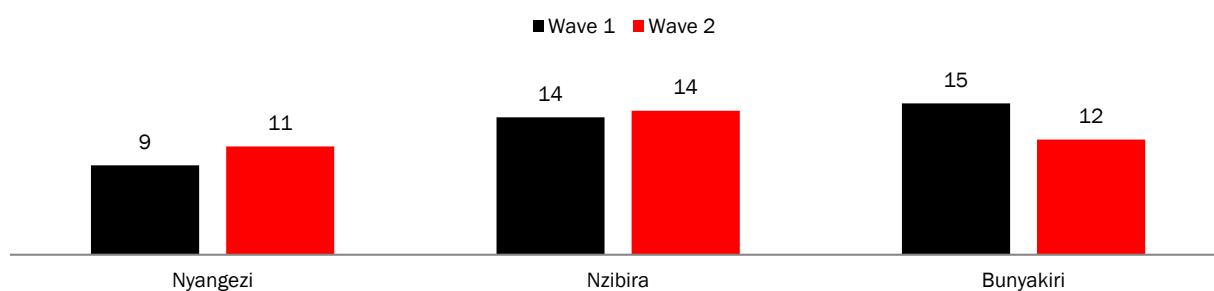
Male- and female-headed households show similar figures in land ownership, with around 77% of FHHs owning land in 2012. However, in wave 2 the gender gap in land ownership increased substantially: 77% of MHHs and only 67% of FHHs owned land. In terms of house ownership, more MHHs owned their own dwelling than FHHs, and in wave 2 the discrepancy again grew larger. In fact, more FHHs than MHHs rented a dwelling in 2015.

5.1.2 Food insecurity

Coping strategies

To understand household food insecurity, food consumption and coping strategies in times of food insecurity were measured with the Coping Strategies Index (CSI). The respondents were asked how often in the past month they had had to opt for food that was less appreciated or cheaper, borrow food from a friend or parent, limit their portions, reduce adult consumption so children could eat, reduce the number of meals per day, or eat in turns. Overall, the respondents in our sample had a CSI of 12.24 in 2015. This is a slight but not statistically significant decrease from 2012, meaning that on average households had become very slightly better off (the lower the CSI score, the less food insecure the household). Despite this marginal change at the aggregate level, there were substantial regional differences, as shown in Figure 5.3.

Figure 5.3: Mean Coping Strategies Index (CSI) score by region, by wave



Respondents living in Nyangezi were the least food insecure on average, but their CSI had increased slightly over the three years (meaning they became more food insecure). Nzibira's high CSI had not changed over time. Bunyakiri, however, became substantially less food insecure.

Focusing on the differences between waves and the changes in food insecurity within households, we see that 46% of the respondents improved their CSI, while 49% actually got worse. Yet, the figures suggest a trend of levelling out: those who were the most food insecure in 2012 (those with the highest CSI score) showed the biggest change and this change was mostly a decrease in food insecurity. Those who were least food insecure in 2012 had a smaller change and mostly an increase in food insecurity. However, the limitations with respect to under- and over-reporting asset ownership are also valid for food insecurity, so it is critical to focus on the direction of change rather than the absolute numbers.

Food consumption patterns

Respondents were asked about what they ate and how often in the past week. Overall, the diet of the respondents in the sample consisted mostly of oil, fat and butter, roots and tubers and vegetables. They rarely ate eggs, dairy, fish and meat. This is also confirmed by the WFP food security and vulnerability study (WFP, 2014). Analysing the changes in diets, it was observed that respondents in the sample ate vegetables less often in 2015. The same can be said about roots, tubers and pulses. Respondents also ate less fruit on a daily basis. Oil, fat and butter became part of the daily diet for more respondents. Even though meat and fish were eaten infrequently, they had become part of more people's diets (at least for some meals), which suggests the consumption of more costly foods.³⁰

5.1.3 Loans and credit

While asset ownership and housing quality improved, a substantial number of respondents reported that they, or someone in the household, owed money to someone or were indebted to an institution as they couldn't pay their bills: this increased from 51% in 2012 to 61% in 2015. Over a third of the households had debts in both waves while 27% got into debt between waves. The survey shows that most have borrowed money in order to meet their immediate basic needs (39%), to pay health care bills (29%), for productive uses (23%), or to pay for education (12%). These reasons did not change much between waves.

It is clear from the data in wave 2 that a formal credit system is missing in rural South Kivu. Only two respondents borrowed money from a bank, savings or credit institution. Microcredit is only in the very early stages of development with less than 2% having borrowed from a savings or credit cooperative. The main source of loans was friends (45%) and family (17%). Informal money lenders played a small role in providing credit in our research areas (9%).

Households that owe money to someone had, on average, a lower MSI than those who did not (although no significant difference was found in the regression analysis). There was no association between increased borrowing and food security, although it is a regular practice to buy food on credit.³¹

5.2 Livelihood activities and mining

This panel survey explored livelihood activities with two different questions: what livelihood activities is the household engaged in and how much does each activity contribute to household income? Nine different household activities and two other sources of income were explored: (1) own cultivation, livestock or fishing activities, (2) own cultivation to sell, (3) casual labour (agriculture or fishery), (4) non-agricultural casual labour, (5) selling goods (such as agricultural produce and petty trade), (6) own business (such as hairdresser, workshop), (7) private sector job (non-agriculture, transport), (8) public sector job, (9) paid housework and childcare, (10) remittances and (11) social assistance. Mining as a livelihood activity was not included in the 2012 questionnaire; to make up for this omission a set of separate questions was added in 2015.

5.2.1 Livelihood activities

As expected in a vastly agricultural society, over 85% of the households in our sample were involved in 'own cultivation or keeping livestock' in 2015, as shown in Figure 5.4. This had hardly changed since 2012, but as a primary source of income its role decreased to 74%, as depicted in Figure 5.5. More households became involved in commercial agriculture – growing crops to sell – which is reflected in the increase in households that received income from commercial agriculture. We observe a shift from primary production for own consumption to more households having a mix of production for own

³⁰ Enumerators report an increase in consumption of a particular fish that is little-liked but cheap and available.

³¹ Reported by enumerators in the field through informal interviews.

consumption and market-oriented production. We must note, however, that in agricultural societies it can be difficult to make a clear distinction between subsistence farming and selling (a part of) one's produce.

Figure 5.4: Share of households that have at least one family member involved in one of the livelihood activities, by wave

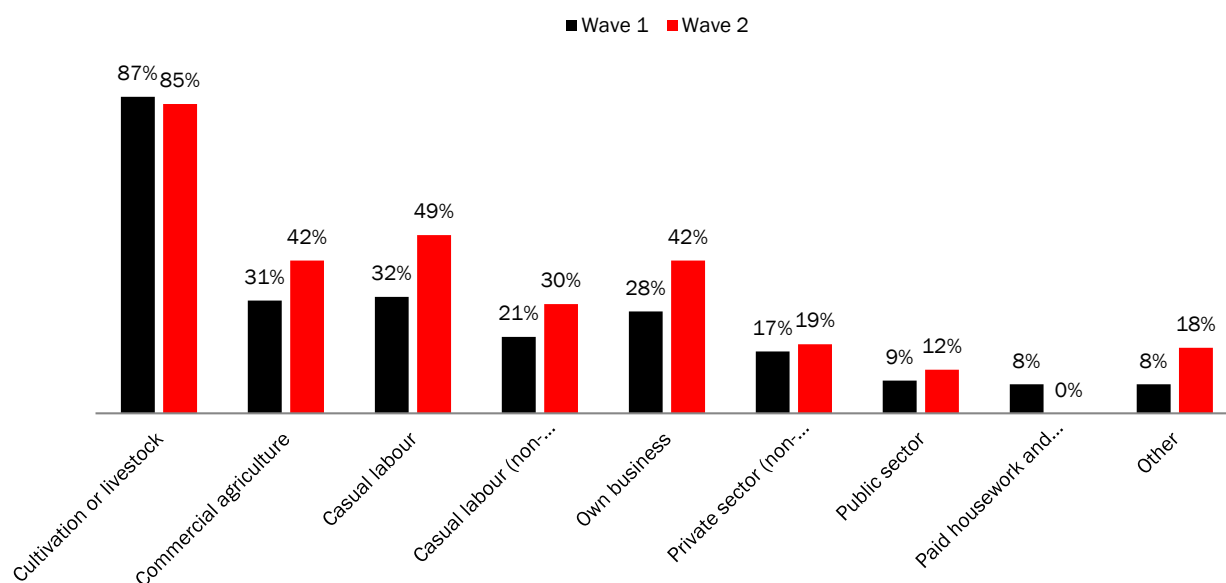
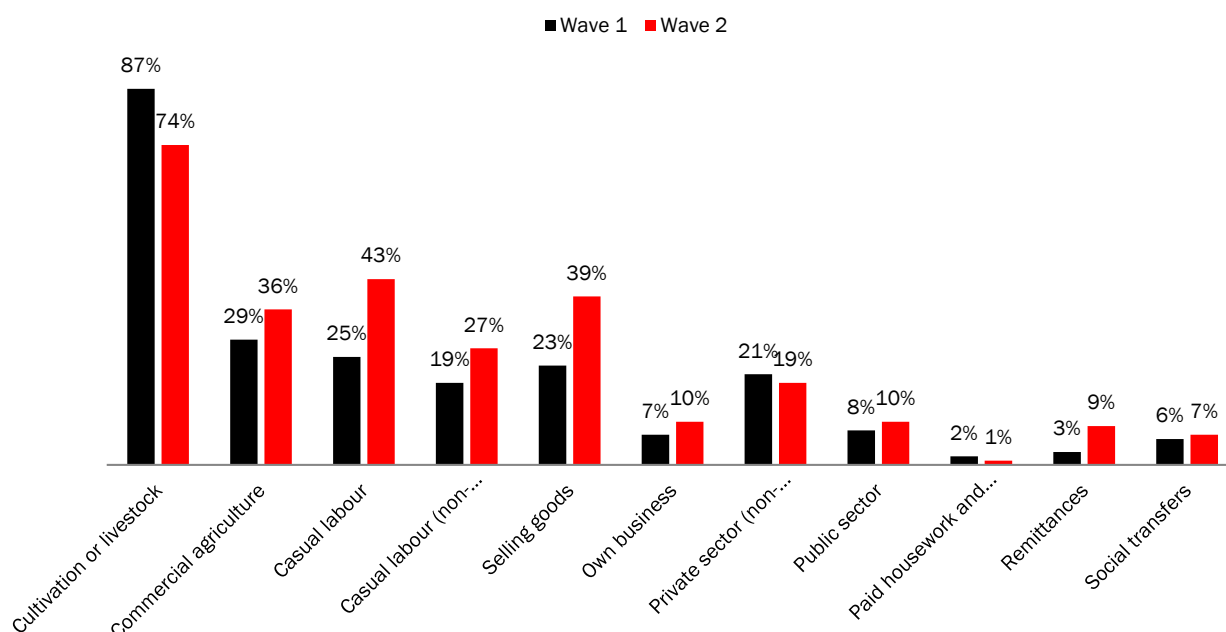


Figure 5.5: Share of households that receive income from each activity, by wave

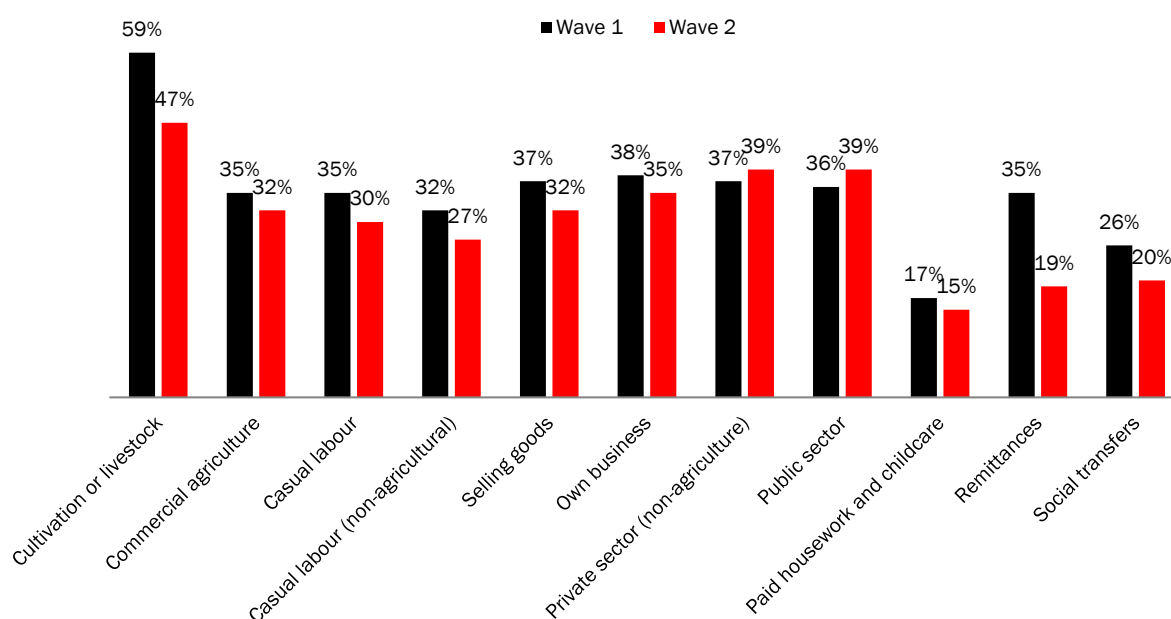


We also observe an increase in casual labour and selling goods or owning a business. The decline in households engaged in subsistence farming is matched by an increasing number of households engaged in other activities, in particular farming for the market, in casual labour and selling goods or owning a business. Weijs et al. (2012) point out that 92% of people in DRC are involved in agriculture in some way. Of these, almost half are believed to lead a 'purely agricultural' way of life. Such high proportions are not fully reflected in the SLRC survey, but we see that agriculture remains essential for the large majority of households. The EDS-DRC II survey found that 70% of women in their sample living in South Kivu work primarily in agriculture and 26% of the women work in sales or services (MPSMRM

et al., 2014). Among men, the picture is more diverse: 36% work primarily in sales and service activities, 46% in agriculture and 8% work in qualified labour.

The SLRC survey also allows us to explore the mean share of household income contributed by each activity, as illustrated in Figure 5.6. The contribution of subsistence farming for household income decreased from 59% in 2012 to 47% in 2015. Income from the private and public sectors each covered only 39% of household expenditures in wave 2. 60% of respondents indicated that they did not have a main income source in wave 2. These data indicate that multiple income sources are needed for a household to meet their expenses. The private and public sectors not only employ very few people, but incomes are so low that additional income sources are needed, even for nurses, teachers or administrators. Furthermore, the share of each source has decreased over time, indicating that households are diversifying their income sources.

Figure 5.6: Mean share of income for a household from each source, by wave



Many households engage in multiple livelihood activities: the average number of income sources per household increased slightly (statistically significantly) over three years, from 2.3 to 2.7.

With respect to livelihood activities and income sources, IDPs show a slightly different picture. Agriculture was an income source for 64% of this sub-group in wave 2, which was a substantially smaller proportion than among non-displaced people (92%). Agricultural casual labour was the second most engaged-in activity for displaced households (62%), followed by owning a business (51%), which was much higher than the 39% of non-displaced households. Interestingly, looking at the changes over three years, IDPs in fact became more engaged in subsistence farming: from 61% in 2012 to 69% in 2015. This is in line with IDPs owning less land than non-IDPs, although they were catching up in 2015. IDPs also became more involved in other activities, especially agricultural casual labour and owning a business, which clearly increased their number of income sources.

5.2.2 Mining

The DRC has an abundance of resources including copper, cobalt, coltan, tin and gold, and the industrial and artisanal mining sector is of key importance for the nation. Since colonial times, the Congolese economy has relied heavily on the exploitation of these minerals, but recurrent conflict has

had devastating effects on the outputs (Geenen, 2014). The abundance of resources has resulted in an enormous growth in the artisanal mining sector (ibid.) and has become at least part of the livelihood of many families in South Kivu.

In the survey, 18% of the respondents indicated that a member in their household was engaged in mining activities in the six months prior to the survey in 2012, compared to 16% in 2015 (Table 5.3).³² Mining is of particular importance for the research site of Nzibira and to a lesser extent Nyangezi.

Table 5.3: Share of households engaged in mining activities by wave

	2012	2015
Nyangezi	13%	13%
Nzibira	34%	36%
Bunyakiri	2%	4%
Overall sample	16%	18%

Note: The question regarding participation in mining activities was asked in 2015 for both waves. The data concerning 2012 (wave 1) is a recall question.

Artisanal mining is seen as a livelihood that provides a good income (and more than any other activity), yet the income is not steady (Geenen, 2014). In our survey, 69% of the households with members engaged in mining activities in 2012 and in 2015 indicated that their earnings had decreased over time. We see this partially reflected in Figure 5.6 above: the share of income from remittances dropped over the three-year period. Assuming that remittances mainly reflect income from mining, this change could be related to a drop in the income received by miners. The significance of this drop in income should not be underestimated, particularly for Nzibira.

5.3 Problems in agriculture

Agriculture remains of great importance for respondents but they are confronted with many and even increasing numbers of serious problems in cultivation, leading to low productivity. A substantial 85% of the sample population faced a problem pursuing agricultural activities in both waves (Table 5.4).

Table 5.4: Share of respondents who experienced the four most common agricultural problems reported, by wave

	Crop and animal disease		Poor quality/ not enough land		Lack of labour		Insecurity	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
Overall sample	67%	82%	31%	41%	9%	14%	15%	7%
Nyangezi	90%	86%	26%	38%	11%	17%	1%	2%
Nzibira	61%	80%	41%	56%	6%	12%	8%	10%
Bunyakiri	13%	78%	32%	29%	7%	12%	61%	12%

Note: Differences between the levels of problems within region, by wave, are all statistically significant at 1%.

‘Animal and crop diseases’ and ‘land scarcity and quality’ stand out as the most frequent problems reported. Crop disease increased greatly in Bunyakiri and Nzibira, and affected nearly all respondents in Nyangezi. The rampant spread of crop diseases, such as Banana Xanthomonas Wilt (BXM), Cassava Mosaic Disease (CMD) and Cassava Brown Streak virus Disease (CBSD), had a major negative impact on production, forcing farmers to choose other crops and reducing household incomes substantially (FEWS NET, 2015).

³² These figures are based on a recall question.

Land quality or lack of land is a problem in all three areas. As indicated in the previous chapter, Bunyakiri's safety improved dramatically between 2012 and 2015, and access to the fertile plots in the hills – once inaccessible or very risky – improved.

5.4 Who is better off?

As stated above, in the three years to 2015 the households that showed the biggest improvements in terms of their livelihood trajectories (MSI and CSI score) were those that scored the lowest in 2012. Those that scored better in 2012 saw their wealth slightly reduced on average, and their food insecurity slightly increased. Yet, there are other aspects that could have had an effect on livelihood trajectories. A selection from the regression analysis looking at changes in MSI and CSI is shown in the Table 5.5 (the full regression findings can be found in Tables 125 and 126 Annex 4). The selection is based on the factors of influence discussed in Chapter 2. These findings show how changes in household wealth and food insecurity relate to: household characteristics; livelihood activities; and the experience of conflict and shocks. For each independent variable listed in the table below that does *not* have the symbol (RE) next to it, this should be read as a change. Take 'home ownership', for example: this variable refers to households that did not own a dwelling in wave 1, but by wave 2 in 2015 had come to do so. Similarly with, say, 'engaged in casual labour': this refers to households that previously did not have any members engaged in this activity, but that did do by wave 2.

Table 5.5: Key findings from Fixed and Random Effects regression, looking at changes in asset ownership and wealth

Dependent variable	MSI ^a	CSI ^b
Household characteristics		
FHHs (RE)	-0.11***	0
Household size	0.15***	1.04*
Home ownership	0.30***	n/a
Average education of adults (RE)	0.04***	-0.24**
Household displaced in wave 1 (RE)	-0.09**	0
Livelihood activities		
Engaged in own cultivation to sell	0.20***	1.27**
Engaged in casual labour	0	2.14***
Engaged in own business	0.10*	-0.43
Number of income sources	0.05	-0.33
Conflict and shocks		
Fighting in the area	0.01	-0.97
Feeling safe in the village	0.03	-1
Feeling safe outside the village	-0.10*	-1
Reported threats in the village	-0.01***	n/a
Crime (% experienced crime)	-0.01*	n/a
Number of shocks and crimes	-0.01	0.55***
Climate shock	0	-0.33
Health shock	-0.11*	-1.40**
Witchcraft	-0.01	1.29**
Other		
Receives humanitarian assistance	0.03	0.91

Notes: Asterisks indicate whether the coefficient is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%. a) Sensitivity analysis found that the significance levels of the coefficients for health shock, witchcraft, feeling safe outside the village, threats and crimes are sensitive to model specification; b) Household size, being engaged in own cultivation to sell, health shock and witchcraft are sensitive to model specification.

We highlight the most striking outcomes. The RE analysis shows that FHHs are slightly but significantly worse off on one of the livelihood indicators: assets. For food insecurity, the regression analysis shows no association for this sub-group. With respect to education level (also drawn from the RE model) the

effect is as expected: more educated households are, on average, wealthier and less food insecure than less educated households. The results for household size are as expected too: increased household size is associated with increased wealth. However, food insecurity is not associated with an increase of household size in this sample.

In terms of conflict and shocks, when it comes to their association with MSI (asset ownership) the picture is hazy, contradictory and sometimes counterintuitive. No significant relationship is observable between conflict and livelihood trajectories, nor with an increasing number of shocks and crimes. However, an increase in the reported number of threats within a village and crime experienced does have a small negative association with wealth. Yet, the table also shows, counterintuitively, that respondents who reported feeling safer outside the village in 2015 than in 2012 are on average less wealthy. We do not know why we see this effect. Experiencing health shocks or deaths in the family (when not having experienced them in the previous wave) is only moderately negatively associated with wealth.

Regarding food insecurity, no significant relationship is found with conflict: people who have experienced conflict are not more food insecure than those who have not. However, an increase in the number of shocks and crimes experienced by a household is associated with a simultaneous increase in its levels of food insecurity. Households that say they have experienced witchcraft between waves are, however, on average, significantly more food insecure than households that have not – as are those experiencing a health shock. Regression analysis shows that households that were displaced in wave one, on average, score lower on wealth compared to non-displaced households, as confirmed by the descriptive statistics (this finding is drawn from the RE).³³

5.5 Exploring livelihood activities in a changing context

Analysis of the longitudinal livelihoods data reveals the following themes.

First, households in the sample are extremely poor, possessing a minimum of assets, living in extremely poor housing conditions and with high levels of food insecurity and poor diets. No explanation could be found in the data or the qualitative research for the observed trend of a levelling out of assets and food insecurity between the worse off and better off households. It is perhaps related to the under- and over-reporting that is often observed in data in disaster- or conflict-affected areas.

Second, in the three years to 2015 household assets rose significantly and housing conditions improved. This positive development did not coincide with decreasing food insecurity but it did with increasing debts.

Digging deeper into the data, there were no indications that the increase in assets was related to increased incomes through increased production. The data do not show that households possessed more modern means of production, such as means of transport, larger landholdings or an enlargement of livestock holdings that could have contributed to higher productivity, and therefore potentially to higher income. As plant and animal diseases increased, an increase in production is even more unlikely. The data also show that the increase of assets was not the result of more household members involved in mining or better income from mining; on the contrary, mining incomes, important for 20% of the households in the survey, decreased.

Two factors might explain the increase in household assets. Firstly, the survey data show that debts increased. Most debts are related to loans for consumption, household articles and outstanding bills from health and education institutions (much less for productive investments such as stocks for marketing products or means of production). Moreover, production at household level diversified with

³³ The variable is constructed as households that were currently displaced at wave 1, in 2012, so a minimal recovery can be expected.

increased production for the market, while the number of income sources also increased and diversified. This points towards a better functioning of local markets, a trend that was also observed after 2012 in another study in South and North Kivu following a change in the conflict situation (FEWS NET, 2015). Better functioning markets and more products to sell might well have increased income and resulted in more assets. As this might have been at the expense of the production of food crops for household consumption, this confirms the observed trend in food insecurity – more or less stagnant food intake and diet. This causes us to question, of course, whether the livelihoods of the sampled households have indeed improved.

A third observation from the livelihood data is the significant differences between the three research areas (with different conflict profiles) with respect to livelihoods. Nyangezi, with substantially better livelihood indicators than the two other sites, had been relatively peaceful during and after both wars. The two others were for many years heavily affected by armed conflicts, crime threats and insecurity. In Bunyakiri the levels of physical violence and threats decreased greatly while both livelihood indicators improved. This was not the case in Nzibira, where the conflict-related indicators decreased much less and livelihood indicators stagnated. There is generally no doubt that high levels of armed conflict, crime and threats have a negative effect on livelihoods, yet our regression analysis produces a hazy and sometimes counter-intuitive picture in this regard. Of course, we may well require a longer timeframe in order to see whether changes in relation to conflict and security have much of an effect on livelihoods. Additionally, it could well be that violence needs to decrease below a certain maximum threshold before having such an effect.

Fourth, other shocks influence livelihoods and their trajectories. Despite the decrease of the (already relatively low) levels of conflict, crime and insecurity in Nyangezi, there was a clear trend of increased food insecurity. This could be linked, among other things, to plant disease in the area (which is highly dependent on banana production as a main staple food crop) and increasing stress on land and land productivity.

Fifth, individual and household characteristics are associated with livelihood trajectories. The descriptive statistics show that, as expected, FHHs and displaced households score worse on the Morris Score Index, while the displaced also score worse on food security. The regression analyses (RE) with gender of household head and household displacement as independent variables confirm this, although the effect is small, and with respect to food insecurity the regression analyses do not show any impact. The shrinking gap between IDPs and non-IDP households suggests integration of IDPs in the areas where they have settled, or have access to their original plots to which they did not have access before, as is the case in Bunyakiri.

6 Basic services: access, use, satisfaction

Basic social and utility services such as health, education, water, electricity, transportation and communication are often problematic in conflict-affected contexts. The lack or poor functioning of these services can have negative consequences on people's health, income-earning capacities and other crucial aspects of development (Stel *et al.*, 2011). In the DRC's National Development and Poverty Reduction Strategy 2 (DSCR 2), the government expressed its intent to provide access to basic services to the whole Congolese population (Ministère du Plan, 2011). However, as the evidence paper of Weijts *et al.* (2012) points out, basic and utility services are considered fragile and insufficient in the DRC. Service delivery suffers from insufficient, irregular and declining funding as well as the complexity of the governance system, with continuous renegotiation between governmental and non-governmental actors, who all have overlapping mandates, responsibilities and interests (De Herdt and Titeca, 2016). Between 2010 and 2015, most financial commitments were targeted at Kinshasa, with less than 1% targeted at South Kivu.

To understand the development of basic services in a conflict and post-conflict context, as well as the factors that influence changes in access, use and satisfaction, we examine different aspects of access to water, education and health, and their use. We also investigate what influences changes in respondents' levels of satisfaction with regard to these services. We use regression analysis to support our descriptive findings. Our findings show substantial regional differences that are important to address, and these will be discussed separately.

6.1 Access to basic services

Distance, in terms of journey time from the household to the location of the service, is generally a good proxy for access to the service and is therefore used in the SLRC multi-country survey (see also Brinkerhoff *et al.*, 2016). However, for the survey in South Kivu, DRC, it is less indicative because our sample was randomly selected from areas purposely closer to main roads, which were relatively safe and with easier access. Most investment and activities in basic service delivery are located in our research areas, most likely for the same reasons, and it is therefore very likely that households in these areas access services relatively close by compared to households in other parts of the province. Furthermore, individual estimates of journey time may not necessarily be accurate, especially when potential changes between waves are small, and this should be taken into account in the interpretation of these data.

As expected, return journey times were generally short, as shown in Table 6.1 below. Average journey times from the homestead to the location of the service and back did not change much between waves for both the health and education service.³⁴ That said, the data also show that there is a lot of change happening within the sample over time, which is possibly due to the difficulty of estimating a journey time. The distance to a water service decreased statistically significantly on average between waves.³⁵ While 27% of the respondents reported a longer journey time than in 2012, a greater proportion (36%) reported that the journey time had decreased.

Table 6.1: Return journey time and share of change for basic services by wave

³⁴ Reported estimated distances are prone to error. In the calculation of change in distance between waves we included a margin of five minutes.

³⁵ These figures are lower than those in Humphreys' household survey (2008) which identifies the average distance to a water source at 52 minutes walking. Investments since 2008 and the choice of the research location might explain the differences.

	Water ***		Health		Schools ^a	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
Mean journey time (minutes)	26	22	48	48	53	52
Share who increased journey time		27%		37%		42%
Share who decreased journey time		36%		38%		38%

Notes: Asterisks indicate whether the mean for each wave is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%. a) As most schools are mixed there were only slight differences between boys and girls.

Table 6.2 gives an overview of the most relevant outcomes of the regression analyses to determine which factors have an influence on changes in access to basic services. (The full regression findings can be found in Tables 127, 128 and 129 of Annex 4.)

Table 6.2: Key findings from FE and RE regression analysis, looking at changes in distance to the service

	Distance to water	Distance health centre	Distance to schools
MSI	-2.9	-1.1	2.62
CSI	0.32	0.11	0.28
Fighting	-2.55	-1.32	-0.05
Feels safe	-2.08	-0.61	-4.39
Starts paying (for water and health) / Stops paying (for school)	-7.43**	5.73	-36.67**
Household was displaced in wave 1	-3.49	-0.61	3.72

Notes: Asterisks indicate whether the coefficient is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%.

The regressions establish a negative association between starting to pay for water and journey time to a water source. The relationship is difficult to explain other than that improved livelihoods could allow switching from a free water source to a paid one that is closer. For schools, the opposite was observed, where households had shorter journey times on average if they *stopped* paying for school.

There is, however, no significant relationship between increase in assets and journey times to any of the services. This is in line with the reasons respondents gave for switching to another health centre or school. Costs were hardly ever mentioned; instead, half the respondents mentioned distance as the main reason. In other words, an increased capacity to pay doesn't lead to a (short-term) change in the health or education provider. Neither, we find, are journey times influenced much by the presence of conflict and perceptions of safety.

6.2 Use of basic services

The survey also allowed us to examine changes in the use of basic services. The use of water, health and education services differs. For each service, a proxy is used that is further explained below. As shown in Table 6.3, the sample population made more use of the basic services in 2015 than before, especially for health services. There are substantial regional differences, which will be discussed below.

Table 6.3: Use of basic services by respondent or household member, by wave

Never queue for water		Number of visits to health centre***		Net (gross) enrolment of girls and boys ^a	
Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
58%	58%	3.7	5.3	75% (137%)	76% (136%)

Notes: Asterisks indicate whether the mean for each wave is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%. a) As most schools are mixed there were only slight differences between boys and girls.

As the survey did not ask how often households went to collect water or whether water was available all year round in sufficient quantities for the different uses, queuing for water is used as a proxy to understand the ease of use of the water service. The survey asked whether members of the household who collected the water had to queue once they arrived at the water source. The majority didn't need to queue in 2012 and this remained constant in 2015: 58% of the household members never queued in 2015; only 17% always queued. Queuing is a problematic indicator when users switch sources: improved sources might have a longer queue while collecting water at a river does not require any queuing.

As an indicator for use of health services, the number of visits to a health centre per year per household is used. For the whole sample, the number of visits to a health centre per year by a household increased significantly³⁶ from 3.7 to 5.3 times in just three years. With an average of 6.4 members per household, the survey shows that the respondents in the sample use health services quite often. Looking at the changes over time, 54% of the respondents reported that their households visited a health centre more often in 2015 than in 2012, against 33% who visited it less frequently. So, even though the majority visit the health centres more, around a third are going less often, suggesting that there are quite some changes happening in the sample. The Ministry of Planning indicated that an average person in DRC consults health care services once every 6.7 years (Maini *et al.*, 2014).³⁷ The substantial increase we see can be understood from both a positive and a negative perspective (improved access or worsening health).

As an indicator of use for education, the survey measured net and gross primary school enrolment³⁸ as well as attendance of students in primary schools. Additional findings are presented in Table 6.5.

Table 6.4: Net and gross enrolment in primary school, by wave

	2012	2015
Net enrolment	76%	76%
Girls	75%	76%
Boys	76%	76%
Gross enrolment	137%	136%
Girls	130%	133%
Boys	144%	139%

The net enrolment figures of the survey are quite high in both waves and higher than in the other studies. According to the 1-2-3 study, the net primary school enrolment rate³⁹ in rural areas is 61% for girls and 65% for boys (MPSMRM and INS, 2014). De Herdt *et al.* (2015) indicate a 70-80% increase in enrolment in South Kivu in the past decade. Soeters *et al.* (2011: 51) identified that in 2011, 65% of girls and 75% of boys in South Kivu go to school. The gross enrolment figure of 113% in South Kivu in 2012 and 116% in 2015 are in line with the national average of DRC at 113% according to the World Bank in 2013, while the World Bank observed a steady increase of gross enrolment over time (World Bank, 2015). The 1-2-3 study (MPSMRM and INS, 2014) indicates a gross enrolment figure of 111% in rural areas. The SLRC survey did not observe significant differences between net enrolment of boys and girls in primary education. However, there are differences in gross enrolment. Boys' gross enrolment is slightly higher at 139% compared to 133% for girls, yet the difference is decreasing. Gouzou *et al.*

³⁶ Significant at 99% confidence.

³⁷ As visits are often not recorded in health statistics, comparisons with neighbouring countries couldn't be made.

³⁸ Net primary school enrolment is the number of children enrolled in primary school who belong to the age group that officially corresponds to primary schooling, divided by the total population of the same age group. Gross primary school enrolment is the number of children enrolled in a level (primary or secondary), regardless of age, divided by the population of the age group that officially corresponds to the same level.

³⁹ Net enrolment calculated among 6 to 12 year olds.

(2009: 35) also found that the proportion of boys and girls who had completed their primary education is almost the same (62% to 60%).

Women in this sample are less educated than men. 49% of the women reported having had no education at all or being illiterate, compared to 27% of the men. 40% of men and 33% of women have had some primary education. This is in line with a recent survey that found substantial differences in the mean number of years of schooling of 2.7 years for women and 5 years for men of South Kivu (MPSMRM *et al.*, 2014: 28).

In the DRC, enrolment figures only tell part of the story, as enrolment doesn't imply education throughout the year. It is a rather common practice to turn children away from school if fees aren't paid on time. It is therefore important to look at actual class attendance. Around 55% of the children in households in the 2015 sample went to school every day. Table 6.5 gives an indication of school attendance, by survey wave.

Table 6.5: School attendance by wave for girls and boys (*)**, by wave

	2012		2015	
	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>
Every school day	79%	81%	54%	55%
Most of the time	18%	18%	34%	34%
Sometimes	3%	1%	8%	8%
Rarely	1%	0%	2%	2%
Never	0%	0%	1%	1%

Notes: Differences by wave statistically significant at the 1% level.

Focusing on the changes over time, it is clear that attendance dropped over the three years. In terms of changes within households, 36% of the children went to school less frequently in 2015 than in 2012. The data shows that there are only slight differences between boys and girls.

An FE regression analysis was done for the dependent variable 'use of hospitals' (measuring how often in the preceding year any member of the household went to the hospital) to understand which key factors affect changes in the use of services, as shown in Table 6.6. (A full regression analysis can be found in Table 130 in Annex 4.)

Table 6.6: Key findings from FE and RE regression analysis, looking at changes in analysis of use of service

	Use of hospital
Independent variable	
MSI	-0.14
CSI	0.14**
Fighting	-1
Feels safe in the village	0.28
Experienced health shock	0.57
FHH (RE)	-2.31
Household displaced in wave 1 (RE)	-0.26

Notes: Asterisks indicate whether the coefficient is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%.

Table 6.6 shows that respondents who have increased their assets (MSI score) between waves have not, on average, statistically significantly increased their use of hospitals. However, respondents who score higher on the CSI between waves (that is, respondents who have become more food insecure), visit the hospital on average significantly more often than respondents who are less food insecure, yet the effect isn't very strong. As several of the major health problems in the DRC are related to malnutrition, more use of health services when food insecurity increases is a plausible relationship. Such a relationship was not found between the number of health shocks and use of hospitals. The number of health shocks experienced does not show a statistical significant relationship in this sample.

There is no association between use of the hospital and experience of conflict, nor the perception of safety in this sample. Neither does the data suggest that displaced or female-headed households use hospitals less.

6.3 Satisfaction with basic services

The data also allow us to explore respondents' levels of satisfaction with basic services. Respondent satisfaction with water is measured using their perception of the safety and cleanliness of the water source that their household uses. Respondent satisfaction with the health centre is based on an index of six aspects of the centre (as shown in Table 6.7), measured using five 'levels' of satisfaction: very dissatisfied, dissatisfied, quite satisfied, satisfied, very satisfied. As can be concluded from the table, average levels of satisfaction with basic services remained stable between 2012 and 2015.

Table 6.7: Satisfaction with basic services, by wave (share of those respondents who stated quite satisfied, satisfied, or very satisfied)

	Respondent reports water is clean and safe ***		Satisfaction with health centre (index)		Satisfaction with school % Quite satisfied or above ***	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
Mean satisfaction	77%	84%	77%	77%	70%	70%
Opinion improved		17%		15%		29%
Opinion got worse		10%		17%		40%
No change		73%		68%		31%

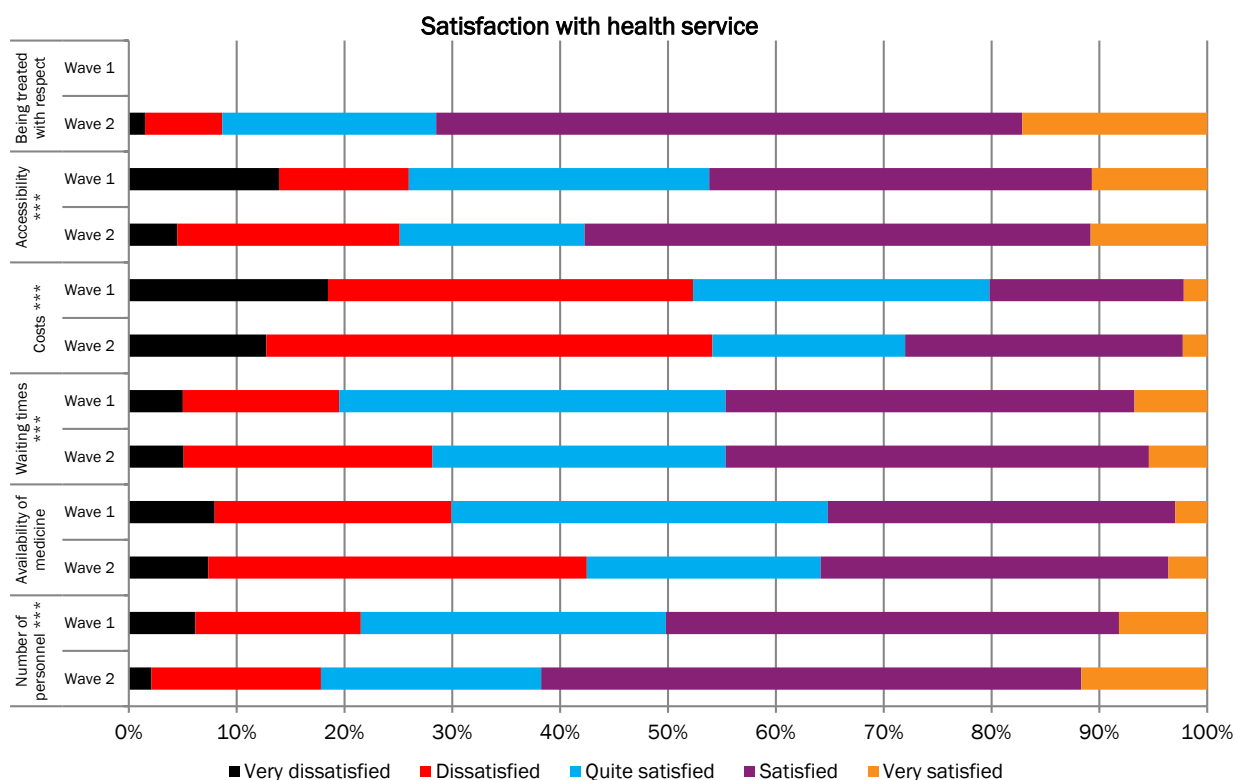
Notes: Asterisks indicate whether the mean for each wave is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%.

From our sample population, 84% in 2015 believed that the water from their source was clean.⁴⁰ This has increased from 77% in 2012.⁴¹ 17% of respondents changed their opinion between waves from reporting their water was not clean and safe to reporting that is; 10% reported a negative change. 67% of the sample was satisfied with water in each wave, which confirms the slight but positive trend reflected in the sample averages.

In 2012 and 2015, generally speaking, respondents were very positive about health centres. Satisfaction with hospitals shows a similar picture (76% of respondents were satisfied in 2015). There is little change when studying average satisfaction levels. However, there is a lot of churning within the sample. Similarly, about 17% of the sample population have a worse opinion of the health service, while 15% have an improved opinion. A different effect is noted for primary school satisfaction: 40% of parents reported a worse opinion, while 29% became more positive. So, although people were very satisfied with the services overall, there was some movement up and down the scale of satisfaction.

To better understand these changes between waves, we look at satisfaction with health centres in more detail along six different aspects of the services – number of qualified personnel, availability of medicines, waiting time, cost, accessibility, and being treated with respect⁴² – measured along five levels of satisfaction.⁴³

Figure 6.1: Satisfaction level with different aspects of the health service, by wave



Notes: Asterisks indicate whether the mean for each wave is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%.

⁴⁰ The quality of the water is often poor in DRC (Kooy and Bailey, 2012) and there are large differences between water that has been analysed and considered clean and the perception of users about the quality of their drinking water.

⁴¹ Significant at a confidence level of 99%.

⁴² This indicator was added after wave 1 so there is no data available for wave 1.

⁴³ The category of 'quite satisfied', although being a middle category, should not be interpreted as 'neutral' because of the way the question was posed in the field. In this research this category is interpreted as 'satisfied'.

As shown in Figure 6.1, it is quite noticeable that respondents have become less satisfied with some important aspects of the health service, namely: costs, waiting times and availability of medicine.⁴⁴ The increased dissatisfaction with the availability of drugs might well be related to the departure of many international agencies that supported the sector with the provision of medicines. The medical costs are clearly a serious concern and the aspect of costs scores the lowest out of all aspects in both 2012 and 2015.⁴⁵ This is important, as shortages of drugs will have an immediate effect on the quality of the health care. Satisfaction has increased with regard to accessibility and number of personnel, however.⁴⁶

Contrary to the overall improvement in the perception of the quality of health services, there was simultaneously a large increase in users who had a problem with health services, from 15% in 2012 to 33% in 2015.

The relatively high levels of satisfaction with both health centres and hospitals were also observed in a study performed in South Kivu by Soeters *et al.* (2011). In that study, satisfaction rates with health services were even higher and increasing over time: in 2008, 80% of the respondents were satisfied about the quality and this increased to 93% in 2011. Because before and especially during the war health services were very bad, it is assumed that the high levels of satisfaction with both the health centres and hospitals are a result of the low starting level as well as improvements made by the multitude of programmes in this sector in the last five to eight years. Many health centres and hospitals have been rehabilitated or are newly constructed, drug supply has become more regular, staff are trained and better paid (donors provide salary top-ups, the so called '*primes*'), while supervision improved.

However, it must be noted that perception of quality is very different from absolute quality. Soeters *et al.* (2011) found that quality as perceived by users was quite different from the quality assessment of the health service by health experts. This finding highlights that even if quality of the services is low, satisfaction with the service can still be high (*ibid.*) and it is therefore important to note that 'quality' can be highly subjective.

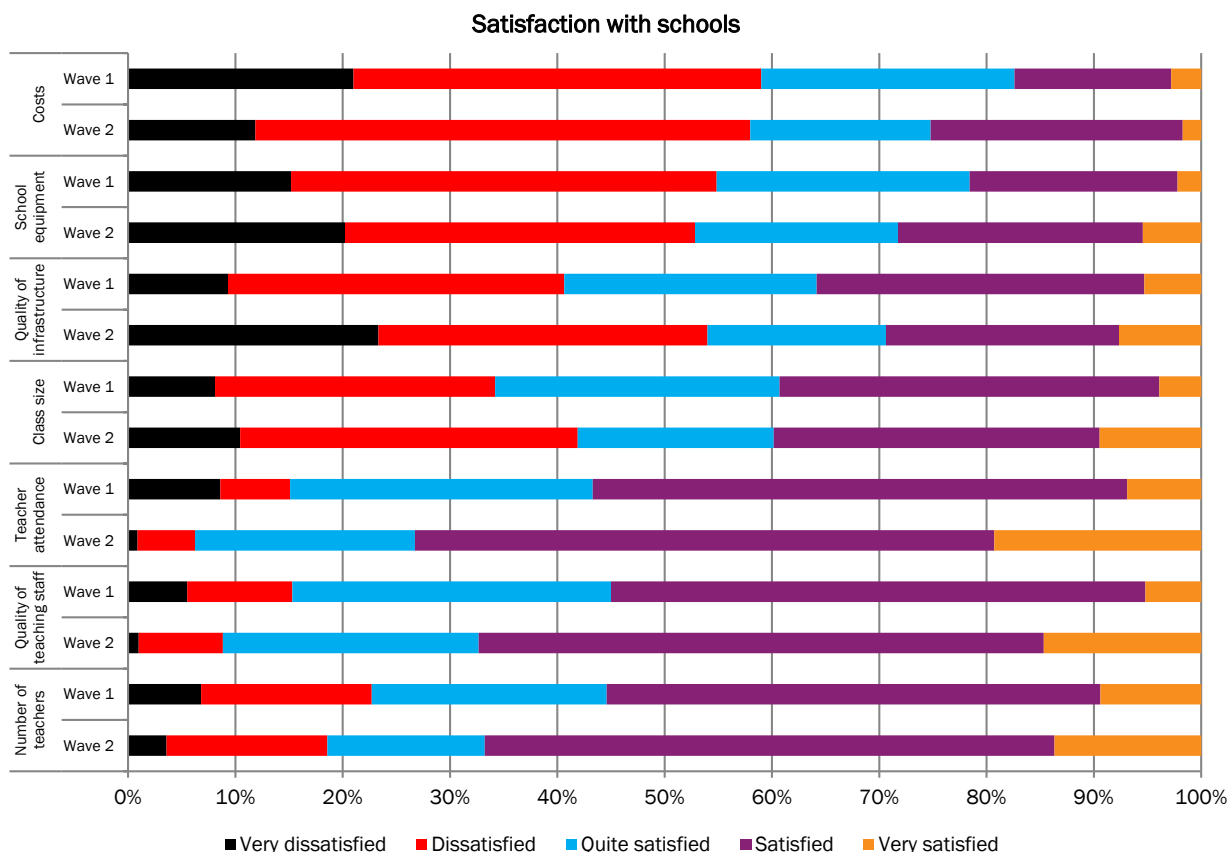
As for the education service, parents in the sample were also rather satisfied with schools overall. A similar effect as mentioned for health services might have played a role since the quality of schools was very poor before and during the war. Many school buildings were burned down or destroyed and many teachers left for safer places during the war. Since 2004, there has been a lot of investment in the education sector. Figure 6.2 illustrates five levels of satisfaction along seven aspects of the service: costs, school equipment, infrastructure, class size, teachers' attendance, quality of teaching staff and number of teachers.

⁴⁴ Each significant at 99% confidence level.

⁴⁵ Significant at 99% confidence level.

⁴⁶ Each significant at 99% confidence level.

Figure 6.2: Satisfaction level with specific aspects of the education service, by wave (***)



Notes: Asterisks indicate whether the mean for each wave is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%.

In wave 1, most parents were especially satisfied with teachers – their attendance (84%),⁴⁷ quality (84%) and numbers (77%) – and satisfaction increased in wave 2. The positive perception of the quality of the staff might be related to better and more regular payment of staff and further activities to increase the quality of education.

Parents were satisfied with class size to a lesser extent (58%), further decreasing their appreciation in 2015.⁴⁸ Satisfaction with the quality of infrastructure (46% in wave 1) and school equipment (47% in wave 1) also decreased. It should be noted that a fast-growing population requires a rapidly expanding sector, but investment in education has been decreasing. Costs are, just as for health services, a major problem for most respondents and thus satisfaction with costs scored very low, with 42% of parents satisfied.

The findings are similar to the findings of Soeters *et al.* (2011) with regard to satisfaction with education in South Kivu. Their study shows high satisfaction with education and identifies an increase in satisfaction from 86% in 2005 to 93% in 2011. In addition, it identifies negative experiences with school infrastructure as the main determinant for dissatisfaction. Despite positive satisfaction levels, parents appeared very much aware that the quality of schools in their region is lower than that of schools in major cities such as Bukavu.

⁴⁷ Significant at 99% confidence level.

⁴⁸ Significant at 99% confidence level.

As reflected in Table 6.8, respondents experienced an increasing number of problems with all basic services. In fact, in 2015 around one in three respondents had a problem with each service in wave 2, which is double the number of respondents who had a problem in wave 1.

Table 6.8: Share of respondents who experienced a problem with the service (*)**

	2012	2015
Water service	11%	32%
Health service	15%	33%
Education service	12%	36%

Notes: Asterisks indicate whether the mean for each wave is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%.

FE regression models with changes in perception of water quality, satisfaction with the health service and satisfaction with schools as the dependent variables were run (see Table 6.9; a full regression can be found in Tables 131, 132 and 133 in Annex 4). The regression analyses indicate that there are only a few factors found in this sample that significantly influence levels of satisfaction.

Table 6.9: Key findings from FE and RE regression analysis, looking at changes in satisfaction with the service

	Quality of water ^a	Satisfaction with health service ^b	Satisfaction with schools ^c
Independent variables			
MSI	0.03	-0.01	0.03
CSI	0	0	0.01*
Fighting in the area	-0.07	-0.04	-0.14
Feels safe in the village	-0.04	-0.01	0.04
Feels safe outside the village	0.07*	-0.06	-0.05
Female respondent (RE)	0.02	0.05**	-0.34
Displaced in wave 1 (RE)	-0.01	0.03	-0.06
Government runs the service	0.04	0	0.01
Experienced a problem	-0.14***	-0.15*	0.02

Notes: Asterisks indicate whether the coefficient is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%. a) The significance level of 'feels safe outside the village' is sensitive to model specification; b) The significance level of 'problem with the health service' is sensitive to model specification; c) The significance level of 'CSI' is sensitive to model specification.

We see that respondents who experienced an increased number of problems with the water source in wave 2 compared to wave 1 were, on average, less positive about the water quality than those who had not experienced a problem with the water source. The same relationship is also apparent for the health service. This is noteworthy as so many respondents experienced problems.

Also, drawing on the RE findings, women are slightly more likely to be satisfied with health services compared to men.

There are no significant relationships found for the sample population between fighting in the area and perceptions of safety with satisfaction of basic services. Furthermore, there is no statistically significant relationship between an improvement of livelihood trajectories and the respondents' satisfaction level of basic services. There is a slight and weak relationship between increased food insecurity and satisfaction with schools, but we have no explanation for this effect.

6.4 The role of costs for basic services

As we saw earlier, respondents who switch services report the main reason to be distance, not cost. This can be understood in terms of the cost of basic services (health care, in particular) being similar

across the board. However, satisfaction levels with cost confirm that it remains an issue. Respondents are most dissatisfied with the cost of health and education services, and this is getting slightly worse. Other research shows that people can become completely excluded from any medical treatment if they do not have money (Maini *et al.*, 2014). The average estimated total expenditure on health care per household is US\$142 a year in South Kivu (MPSMRM *et al.*, 2014).

The importance of cost is also reflected in respondents' debts and loans, which are often related to payment for health care. As stated in Chapter 4, 63% of the respondents in the sample owe money to someone. 29% of these reported that they borrowed money for health-related reasons such as the payment of treatment fees and the purchase of medication.

For education services, households face similar difficulties. In 2015, 32% of households had had to take a girl out of school at some point because the parents couldn't pay the school fees; the equivalent figure for boys was 26%. For boys this suggests an improvement over time. The data indicate that there is a weak but significant positive relationship between household wealth and the number of children who are enrolled in school.⁴⁹

6.5 Regional differences

Although the data show an overall positive trend of distance to, use of, and satisfaction with basic services, there are some substantial differences between the research sites. An RE regression analysis with the regions where the respondents live (Nzibira and Bunyakiri compared to Nyangezi) as the independent variable (full Table 127 to 133 in Annex 4) show us an initial picture: respondents in Bunyakiri and Nzibira are significantly less positive about the education service compared to in Nyangezi. Respondents in Nzibira have a significantly longer journey time, on average, to a water source compared to respondents in Nyangezi and a higher average use of health services. On the other hand, Nzibira and Bunyakiri have significantly shorter journey times to the health and education services than Nyangezi.

6.5.1 Nyangezi

Table 6.10: Indicators for basic services in Nyangezi, by wave

	Water		Health		Schools ⁵⁰			
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2		
Access (minutes)	25	16	Access (minutes)	73	67	Access (minutes)	81	70
Does not need to queue for water	91%	86%	Use of health service	3,1	3.8	Net (gross) enrolment	72% (143%) ⁵¹	67% (134%)
Water is safe and clean	84	97	Satisfaction with health service (index)	16.2	16.5	Satisfaction with schools (quite satisfied or more)	77%	88%

Nyangezi, which was not affected by armed conflict and had relatively low levels of crime, reports overall positive trajectories with basic services, with a few remarkable exceptions, as shown in Table 6.10. Journey times to service facilities were generally longer on average in 2012. This is largely explained by the absence of schools and health facilities in one of the villages, namely the most excluded Village 3, and the presence of a popular school in a nearby town that attracts many pupils from the research area, resulting in long journey times.

⁴⁹ Correlation of 0.144.

⁵⁰ As most schools are mixed there were only slight differences between boys and girls.

⁵¹ Net enrolment (gross enrolment).

Between waves, journey times to basic services improved, most probably due to new investments made. In the case of water, the average walking time decreased by almost ten minutes. Respondents are also using improved water sources: 25% of the respondents used the lake or river in 2012 and only 5% did so in 2015, while public tap use increased from 4% to 59%. These findings are reflected in Village 4: six new water taps were installed in the lower valleys between waves.⁵² In Village 2 public tap use increased from 41% to 68%. We see a similar effect with schools. Due to the recent opening of a private school in Village 4, the journey time reduced from an average 114 minutes in 2012 to 72 minutes, and the proportion of students who had to walk more than one hour to school dropped from 75% to 35%. The large reduction in journey time to the health centre in Village 2 is explained by the effective servicing of the population by a centre constructed several years earlier.⁵³

Use shows a mixed story. The number of people queuing for water was well below the sample average but had slightly increased. The frequency of health centre visits was low compared to the other areas in 2012 and increased with 0.7 visits per household per year, the smallest increase in the sample. Participation in education, however, is a surprising finding. The net enrolment level was already low in 2012 and decreased further while the other areas saw increased enrolment – a trend that is also reflected in the gross enrolment figures. It is probably related to the absence of schools in Village 3 and the long distances to schools for most students. However, the opening of a school in Village 3, reducing the average journey time substantially, only slightly increased the net enrolment rate for this village but did increase the gross enrolment rate. This suggests that the school attracted many children who hadn't been to school before, recovering lost opportunities. Interestingly, respondents are more satisfied with schools even though attendance has remained low.

The sample population of Nyangezi is more satisfied with all the services provided to them than the overall sample, and became even more satisfied in 2015. Water is perceived by nearly all respondents as clean and nearly 90% of the respondents were quite satisfied or better with education. Nyangezi is also the area where the population experienced fewest problems with the water, health and education services for both waves, compared to the other two areas, as shown in Table 6.11.

Table 6.11: Problems experienced with basic service, by region and wave

	Overall sample		Nyangezi		Nzibira		Bunyakiri	
	2012	2015	2012	2015	2012	2015	2012	2015
Water service	11%	32%	5%	25%	6%	39%	24%	33%
Health service	15%	33%	3%	26%	14%	38%	30%	35%
Education service	12%	36%	3%	30%	6%	44%	29%	30%

6.5.2 Nzibira

Table 6.12: Indicators for basic services in Nzibira, by wave

	Water		Health		Schools			
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2		
Access (minutes)	30	32	Access (minutes)	33	42	Access (minutes)	38	50
Does not need to queue for water	50%	51%	Use of health service	4.6	6.7	Net (gross) enrolment	70% (122%)	76% (126%)
Water is safe and clean	85	73	Satisfaction with health service (index)	16.5	15.1	Satisfaction with schools (quite satisfied or more)	77	49

⁵² Reported by enumerators in the field through informal interviews [26].

⁵³ Reported by enumerator in the field [28].

Nzibira has seen some difficulties in both waves of the survey. Armed conflict and crime levels are constantly high and the high number of IDPs keeps the population quiet fluid. Political developments are rather stable, and in this respect not much has changed in the region.

In 2012 the journey times to basic services in Nzibira were shorter than the sample average for health and education services and slightly longer for water. But all journey times became substantially longer between the waves. The increase in journey time to a health centre especially in Village 4 (from 31 to 53 minutes) and to schools in all villages in the area are hard to explain, especially considering increasing investment in education in the region.⁵⁴

Nzibira had the highest use of health services, low enrolment rates and average rates for queuing for water in 2012. Since 2012, the use of health services increased greatly to 6.7 visits per year, far above the average for the sample of 5.3. For schooling, the low net enrolment rates improved surprisingly in all villages, which is also reflected in an increase in gross enrolment figures.

In Nzibira, as in Nyangezi, satisfaction levels with services were above average in 2012. However, between waves, and in all sectors, these levels decreased substantially, even becoming the lowest of the three areas in 2015. In 2015 half the population was dissatisfied or very dissatisfied with education. Fewer respondents believed their water was clean and safe: one-fifth switched from believing it was clean and safe to believing it was not safe. This is perhaps related to sources that have fallen into disrepair between waves. Not surprisingly, in all sectors Nzibira respondents experienced more problems with each of the services compared to the other areas, as shown in Table 6.11.

6.5.3 Bunyakiri

Table 6.13: Indicators for basic services in Bunyakiri, by wave

	Water		Health		Schools			
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2		
Access (minutes)	23	18	Access (minutes)	34	20	Access (minutes)	40	37
Does not need to queue for water	27%	33%	Use of health service	3.4	5.6	Net (gross) enrolment	84% (148%)	87% (151%)
Water is safe and clean	60%	80%	Satisfaction with health service (index)	13.4	15.2	Satisfaction with schools (quite satisfied or more)	58	76

The developments in Bunyakiri are very different. It is an area with equally high levels of armed conflict and crime but with important changes in its armed actors and threat profiles and substantially improved perceived safety and security. Table 6.13 reflects a positive trend in access, use and average satisfaction of basic services over three years. Journey times decreased, all satisfaction levels increased and even the already very high levels of enrolment increased slightly.

In Bunyakiri, journey times were all below average in 2012 and, like in Nyangezi, they shortened between waves. In this case new investments played a role. The decrease in journey time to a health centre from 40 to 23 minutes for the whole area is probably the effect of several new health centres,⁵⁵ such as one constructed close to Village 8 where journey times dropped substantially.⁵⁶ The reduction in journey time to schools is likely to be the result of the opening of many new schools in Bunyakiri, such as a new Catholic school in Village 9.⁵⁷ The reduction in journey time to water sources is probably the

⁵⁴ As reported by informal interview by enumerators in the field.

⁵⁵ Reported by enumerators in the field through informal interviews [24].

⁵⁶ Reported by a local contact in the field through informal interview [ML].

⁵⁷ As reported by enumerators in the field through informal interviews [24].

result of various wells and taps being constructed by NGOs in the region, although many are in a state of disrepair. There are no indications that the reduction in journey time to water sources in the area is the result of investment in the water sector.⁵⁸ Also in Bunyakiri, the frequency of health centre visits increased very significantly from the relatively modest level of 3.4 to 5.6 – above the overall sample average.

The population of Bunyakiri, the majority of which is Tembo, is said to be known for the high priority it gives to education and this is reflected in the very high school attendance figures. As these were already high, the increases are small but positive and the net and gross enrolment rates were, at 86% and 121% respectively, substantially above the sample average. Water access was the worst in the sample in terms of queuing: well above the average number of people are queuing for water, but it seems to be improving over time.

Levels of satisfaction were very low in 2012, the lowest of all areas, but they all made major jumps and in 2015 the satisfaction levels approached or bypassed the sample averages. Not surprisingly, in 2012 the highest number of problems was experienced in Bunyakiri (Table 6.11). They then increased slightly, but much less so than in Nyangezi and Nzibira, and came close to the sample averages in 2015.

6.6 Discussion of the context of South Kivu

Delivery, use and satisfaction with basic services in the research areas give a varied picture. The government doesn't play a role in the provision of water and many households still have to use water from rivers and unprotected sources. This stands in contrast to health and education. While in reality most service delivery is organised by religious organisations (Titeca and De Herdt, 2011), most respondents perceive the government as delivering these services (see Table 109 and 111 in the Annex). The services are intensively used; considering the high levels of armed conflict and crime as well as the substantial costs, the enrolment figures for education and use figures for health services are surprisingly high. Appreciation of education is apparently high and net enrolment for girls and boys is more or less equal, although girls are more often turned away from school than boys for non-payment of fees. Despite a total lack of water quality control, the overwhelming majority of users consider their water clean and safe. Respondents are similarly highly appreciative of the quality of the health and education services.

In the three years to 2015 there were quite a lot of changes. Overall, the distance to water, education and health services slightly improved and use went up for both education and health, probably due to new investments in the area, as detailed above. The strong increase in visits to health facilities can be interpreted as both positive (better access) and negative (worse health and higher needs). The increased use might be related to the observed increased number of health shocks mentioned in Chapter 4.

Focusing in on the different components of service delivery, the perception of quality of health and education services might be challenged in the future. The quality of infrastructure, and in the case of health, the availability of drugs, is perceived to be decreasing. Combined with the increase of problems experienced with the services, this is quite worrisome.

However, overall figures hide quite sizeable regional differences. While the relatively peaceful and prosperous Nyangezi shows promising figures overall for basic service delivery and satisfaction, the positive trend is stabilising, except for the already low and further declining enrolment figures that are surprising and unexplained. The overall positive trend in Bunyakiri is remarkable, with all indicators improved: while respondents were the most negative of all areas in 2012 they were substantially more

⁵⁸ UNICEF invested in water supply in Bunyakiri but the exact locations are not known. The largest reduction in journey times was in Village 7, but as the number of stand posts did not increase, it is unlikely that this is the effect of new investment. The increase in the use of protected wells might be the result of investments in Village 9 but the decrease of journey times in Village 9 was marginal.

positive in 2015. Especially remarkable are the high enrolment figures despite the high levels of insecurity in the area. By contrast, in Nzibira access decreased, use increased, and satisfaction dropped greatly for all services. While relationships between these developments in the three areas can be hypothesised using the information on armed conflict, crimes, and security, no relationship was confirmed in the regression analysis.

The study finds that more educated households, on average, live slightly closer to health centres, are less positive over water quality and use health services slightly less. While recognising the importance of the relationship between wealth and use of basic services in a country with largely private funding of all basic services, not much else can be said. Costs were not an important factor in changing provider for health or education. The study found no association between wealth and use of services; an increase in assets does not have a relationship with both health and education services. On the other hand, there are positive links with water services. But, as argued in Chapter 5, an increased assets base might not imply increased wealth since food security hardly improved. There is, however, a relationship between increased food insecurity and an increased use of health services. This relationship was found in other countries as well (such as Brazil as in Scheper-Hughes, 1993) and food shortages are assumed to increase the probability of several diseases in South Kivu. Other household characteristics such as gender of the household head and displacement did not show a significant and consistent relationship with distance, use and satisfaction of basic services in the regressions.

7 Social protection and livelihood support

As the government of DRC provides hardly any support to households in the form of pensions and subsidies for disability, low income, unemployment and so on, this chapter explores the various types of livelihood support services available: seeds and tools, material aid, food aid and microfinance. These are nearly exclusively supplied by national and international humanitarian and development agencies.

7.1 Access

Households received several forms of assistance, often simultaneously, especially food aid providing short-term relief in combination with seeds and tools intended for the recovery of food production.⁵⁹ However, there has been a decline in receipt between waves: while in 2012 one in three respondents received any form of humanitarian assistance, by 2015 this had fallen to one in five (Table 7.1). Food aid was especially reduced. The reduction of food aid can't be understood from the overall food insecurity situation as this hardly improved between waves. Support in the form of microfinance doubled but remains low.

Table 7.1: Households that received 'humanitarian' assistance transfers, by wave

	2012	2015
Seeds and tools	12%	11%
Food aid	22%	10%
Construction materials	4%	2%
Microfinance	2%	5%
Any humanitarian assistance	30%	20%

Not every household that received assistance in 2012 still received it in 2015. There are indeed large changes within the groups that received assistance before. Only 4% received food aid and 2% seeds and tools in both waves. While 5% of households received food aid for the first time in 2015, as did 8% of households with seeds and tools, the large majority no longer received assistance. Clearly a new group of people were receiving assistance compared to 2012.

Focusing in on the humanitarian assistance received by the region, we can see some variation. The differences are not only apparent by site but also vary substantially by village. The smallest number of respondents indicating receipt of aid was in Nyangezi, and this has hardly changed despite a substantial increase in food insecurity in all villages in this area. In the isolated Village 3, where food insecurity levels were above those in the villages in Bunyakiri in 2015, just over 2% of the respondents received any type of aid.

Nzibira received the highest levels of assistance in 2012 and even more so in 2015. The levels dropped– drastically in Village 4 and Village 5, while in Village 6 there was a slight increase. The largest decline in livelihood assistance, in particular food aid, is visible in Bunyakiri. In Village 9, assistance decreased from approximately 70% to 30%, and food aid from approximately 70% to 10%. These are very large changes and their effects on the population can be imagined.

A breakdown by household headship is shown in Table 7.2. It demonstrates that the drop in assistance is much larger for MHHs than for FHHs. In wave 1 there is no substantial difference between male and female-headed households in terms of receipt of humanitarian assistance. In wave 2, however, there is a large discrepancy: 27% of FHHs reported receiving any humanitarian assistance in wave 2, compared to 19% of MHHs. In 2015 more FHHs also reported receiving food aid.

⁵⁹ We did not further investigate the details of the provider of assistance and the nature, frequency and duration of their activities.

Table 7.2: Reception of 'humanitarian' assistance by gender of household head, by wave

	2012		2015	
	MHH	FHH	MHH	FHH
Any humanitarian assistance	30%	30%	19%	27%
Food aid	21%	23%	9%	15%

The key findings of a regression analysis with the receipt of aid as the dependant variable are presented in Table 7.3. (A full regression table can be found in Annex 4 Table 134.)

Table 7.3: Key findings from FE and RE regression analysis, looking at changes in receipt of humanitarian assistance

Independent variables	Effect and significance ^a
MSI	-0.02
CSI	0*
Average age of the respondent (FE)	0
Average education (RE)	- 0.01
Number of children (FE)	- 0.05**
FHHs (RE)	0
Experienced climate shock/natural disaster (FE)	- 0.13**
Respondents in Nzibira (compared to respondents in Nyangezi) (RE)	0.21***
Respondents in Bunyakiri (compared to respondents in Nyangezi) (RE)	0.05
Ethnicity: other (RE)	0.10***
Displaced (RE)	0.05
Experienced fighting in the area	-0.03
Feels safe in the village	0
Feels safe in outside the village	-0.01

Notes: Asterisks indicate whether the coefficient is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%. a) The significance levels of 'CSI', 'experienced climate shock' and 'ethnicity (other)' are sensitive to model specification.

The table doesn't show particularly large correlations for many variables. Displaced households are not more likely to receive humanitarian aid compared to non-displaced households. Households that have increased their number of children are less likely to receive any assistance. Respondents who have increased their average years of education are also less likely to receive any assistance. Surprisingly and counterintuitively, respondents who experienced a climate shock or a natural disaster, when they hadn't before, are less likely to receive assistance.

The regression also shows that for the sample there is no relationship between conflict and perceptions of safety and the receipt of humanitarian aid. We expected to find a positive relationship with conflict in the area and a negative relationship with improved perceived safety. A similar counterintuitive result is that respondents who have experienced shocks and natural disasters are also less likely to receive humanitarian assistance. There was no effect for other shocks such as health and economic shocks.

7.2 Quality and effectiveness

Overall, the respondents in the sample portray quite a negative picture of reliability of the delivery process. Less than 20% of the respondents who received any type of aid say they received the transfer on time in 2015, as shown in Table 7.4. These figures are dramatically worse than those of 2012, except for microfinance.

Table 7.4: Reliability and impact of the transfer, by wave

	Transfer came on time	Transfer improved livelihood activity
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	2012	2015	2012	2015
Seeds and tools distribution	76%	20%	60%	80%
Food aid	89%	7%	61%	88%
Construction materials	86%	20%	73%	67%
Microfinance	83%	9%	76%	91%

Interestingly, respondents in 2015 clearly indicate that the transfer had a positive impact on their agricultural production or other livelihood activities – and more so than in 2012. This effect is particularly strong for microfinance programmes, where 91% of the respondents felt the transfer improved their livelihood activity.

7.3 Targeting of livelihood assistance

Changes in the distribution of livelihood support can be partly understood from changes in food security and asset ownership. In Bunyakiri, food insecurity decreased and asset ownership increased substantially, while in Nzibira food insecurity hardly changed and a smaller increase in assets was noted than in the other regions. As a result of these developments, food insecurity and asset ownership became worse in Nzibira than in Bunyakiri in 2015. Focusing in at the village level, the two villages (both in Nzibira) that were the most food insecure in 2015 also received most assistance.

Redistribution of the available livelihood assistance from Bunyakiri to Nzibira can be understood from this point of view. While Nyangezi is richer in terms of assets, food insecurity increased between the waves to nearly match levels in Bunyakiri. Nyangezi received hardly any food aid at all but assistance with seeds and tools increased somewhat. Considering the stability in this area, the decision to provide seeds and tools instead of food aid can be understood but the low level of assistance from the perspective of food insecurity cannot. Food insecurity and assets are clearly not the only criteria as we see that higher levels of livelihood assistance are concentrated in areas of armed conflict and insecurity.

7.4 Discussing livelihood support

There was a substantial reduction in livelihood assistance in the three years after 2012 and a dramatic reduction in efficacy. Yet, there is no reason to assume that the needs for this assistance decreased. While there was some improvement in assets and housing, there was hardly any reduction in the rates of food insecurity, and diets remained poor. Armed conflicts and violence decreased but remained high in two of the three areas and a large number of households were displaced. The situation is far from stable and the potential for more armed conflicts and violence is certainly still high. As the extension services and other state services that could support the population are hardly operational in the rural areas, food-insecure households and displaced families must depend on external assistance from humanitarian agencies. Considering the increasing tensions in the country and the unstable local security situation, the departure of many humanitarian agencies from the province, the reduction of livelihood assistance and the perceived dramatic reduction in efficacy are therefore a matter of serious concern.

8 Civic participation and the role and accountability of the government in service delivery

In Chapter 5 we explore the potential relationship between various aspects of the quality of services with the objective of being able to link these to the respondents' perceptions of the government actors in this next chapter. However, recent research suggests that process factors help explain what (sometimes) connects service delivery to state legitimacy (Stel et al., 2012; Wild and Mason, 2012). These studies provide some evidence that it is the way in which services are implemented and delivered that matters when it comes to shaping how people feel about the provider. In other words, it is not just about what is being delivered but how it is delivered, as well as what the role of the user looks like in the delivery process. In order to be able to explore these connections through our survey work, the survey not only collected information on (a) how people rate the quality of what they are getting (the performance dimension), but also (b) the way in which services are delivered and how decisions about provision are made (the process dimension).

In this chapter we first present some basic descriptive statistics on the participation of the respondents in community meetings, followed by some basic descriptive statistics of their perception of the role the state plays in the delivery of these services and the degree they hold the government accountable for problems with the services. These three issues do not of course capture the full range and extent of possible process factors, but they do take us some way towards better understanding the potential connections between service delivery and state legitimacy.

8.1 Civic participation

Many government programmes or other interventions in the DRC involve a form of participation, from passing on information to creating village-level committees that take part in the decision-making system. By law, every school has to have general assemblies (*Assemblée Générale*) to which all parents are invited, which elect the parents' committees (*Comités de Parents* or COPAs), where decisions about school fees are made, and where the school management is held accountable to the parents. In many cases, however, the *Assemblée Générale* and COPA are merely symbolic institutions, and in reality participation is limited to one-way communication (De Herdt and Poncelet, 2010).

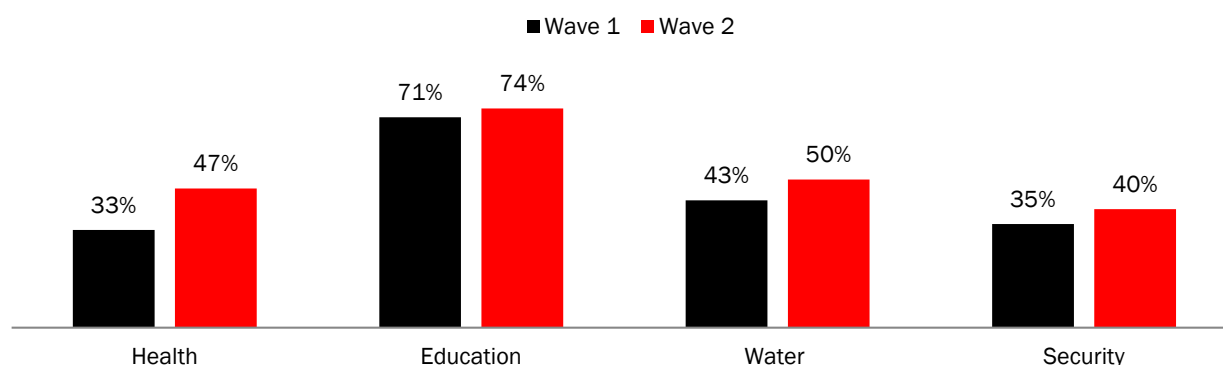
In the health sector, small groups of households elect their '*relais communitaires*' (public health workers) who pass on information to the population from the health staff (and vice versa), and participate in health provision such as vaccination campaigns. Through the elected health committees (*Comités de Santé* or CODESAs), these individuals participate in the decision-making and management of the health centre. But like the COPAs, the CODESAs function poorly and civic participation is at best limited.

Communities might also participate in water committees that manage water supply systems, in meetings on security issues, and in projects run by international organisations. Civic participation was investigated in this survey by asking the respondents if any community meetings regarding health, education, water, security or anything else were held in the past year and whether they had attended these meetings.

8.1.1 Meetings organised and attended

As shown in Figure 8.1, levels of awareness of community meetings are high. The number of meetings that respondents knew about increased significantly⁶⁰ for all types of meeting. While the vast majority of parents in the sample were aware of meetings on education in wave 2, this is less true for meetings on health, water and security. There has been quite a lot of change happening over time in terms of awareness of meetings. 28% of the respondents had become aware of a meeting on health in wave 2 when they were not aware in wave 1, which is a substantial increase. In contrast, 14% were unaware of a meeting in wave 2 but were aware in wave 1. For meetings held on water, the increase is similar at 28%.

Figure 8.1: Share of respondents who identify that a meeting was held, by wave



As shown in the Table 8.1, there are substantial differences among the research sites. In Bunyakiri, and to a lesser extent in Nzibira, a higher number of respondents knew about meetings than in Nyangezi. Over time, Nyangezi and Bunyakiri show a notable increase in meetings that respondents knew about. Interestingly, Bunyakiri had the most security meetings among the three sites and, despite a decrease in meetings between the waves, 48% of respondents were aware of these meetings taking place (21% were aware when they were not aware before, against 30% who knew about meetings previously but didn't anymore). It might well be that the improved perception of safety between waves diminished the community's interest in or need for these meetings.

Table 8.1: Mean number of meetings known about, by region, by wave

	2012	2015
Nyangezi	1.02	2.51
Nzibira	1.25	2.33
Bunyakiri	2.05	2.96

Levels of participation in the meetings were high and increasing, except in Bunyakiri as shown in Table 8.2.

Table 8.2: Mean number of meetings attended if known about, by region, by wave

	Average number of meetings attended if known about		% Meetings attended if known about	
	2012	2015	2012	2015
Nyangezi	1.0	1.7	70	70
Nzibira	1.3	1.4	60	58
Bunyakiri	1.9	1.5	72	51

⁶⁰ At a 99% confidence level for health and water and a 95% confidence level for education and security.

The main reason for attending a meeting differs somewhat by theme, but meetings were most often attended because respondents were simply invited. Education meetings are organised for all parents with school-going children and it is in their direct interest to attend as school fees and results are discussed. This explains the high percentage of invited attendees (72%) in wave 2. For health care meetings, 50% of the participants said they were invited and almost a quarter attended because they are members of the CODESA. Respondents who were not a member of the CODESA participated relatively less. This is similar for security meetings: most attendees were there because they were invited. In fact, there was a 42% drop in respondents who attended because they were interested in wave 2.

The main actor responsible for organising the meetings depends on the topic. Health meetings are most often organised by the CODESA or health workers, and education meetings are most often organised the school directors and to a lesser extent the COPA. There is also an important role for chiefs in organising meetings (apart from on education), as reported by about one in ten of the respondents who were aware of the meeting. In fact, for security meetings, local formal and customary officials played a significant role in their organisation, as perceived by 86% of the respondents in wave 2 who reported a meeting on this subject.

8.1.2 Women's participation

To understand the differences between women and men in terms of civic participation, we disaggregated the results by gender, as shown in Table 8.3.

Table 8.3: Meetings known about and attended, by gender and wave

	Male		Female	
	Wave 1*	Wave 2 **	Wave 1*	Wave 2 **
Knew about any meeting	60%	94%	52%	89%
Attended any meeting	77%	78%	63%	68%

Women were less likely to know about any type of meeting than men and this gap widened in the three years between waves (although both genders increased their knowledge of any meeting). Furthermore, women were substantially less likely to attend a meeting than men. In terms of the subject of the meeting, men were particularly more likely to know about and attend security meetings, which was clearly seen as a men's issue. In wave 2, 59% of men and 32% of women attended such a meeting. Women were more likely to attend meetings on education rather than on other topics: 66% of women in wave 2 attended a meeting on education (compared to 73% of men).

The data allowed us to disaggregate by household headship, as shown in Table 8.4. Overall, respondents in MHHs were slightly more likely to know about any type of meeting than those in FHHs, and in wave 2 this difference was slightly larger than in wave 1. Respondents in MHHs also reported attending more meetings than those in FHHs.

Table 8.4: Meetings known about and attended, by gender of household head, by wave

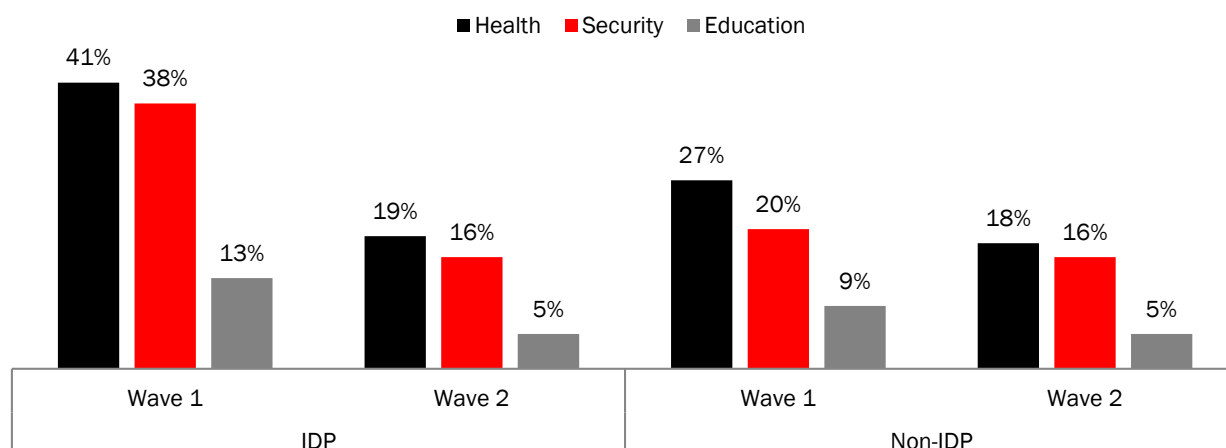
	Male-headed household		Female-headed household	
	Wave 1	Wave 2	Wave 1	Wave 2
Knew about any meeting	56%	92%	55%	86%
Attended any meeting	70%	74%	63%	66%

8.1.3 Participation of IDPs

The research allowed us to focus on the attendance of IDPs in community meetings. In 2012, IDPs were much more likely to be excluded from community meetings on health, education and security than non-IDPs because they were not invited, as shown in Figure 8.2. In 2015, the difference was significantly

smaller between the displaced and the non-displaced. This suggests IDPs were being integrated into their host communities.

Figure 8.2: Percentage of IDPs who did not attend a meeting because they were not invited



8.2 The role of government in service delivery

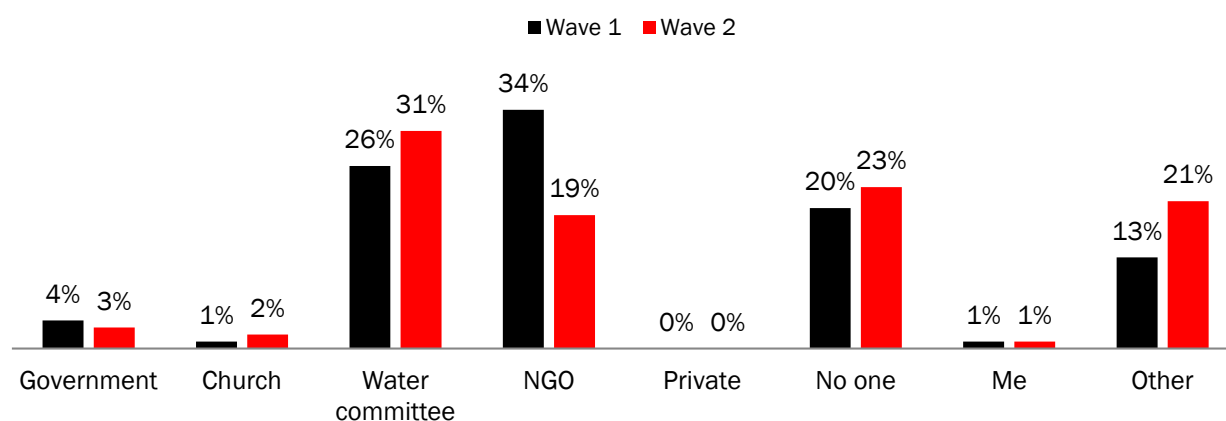
The survey looked into whether who the respondents believed delivers a service (the state or private actors, religious organisations or NGOs) made a difference to their perception of state actors. To do this, the survey first asked about the respondents' knowledge of the service deliverer.

8.2.1 Water

Water provision in South Kivu is not run by the government outside major urban areas, and consequently only a very small proportion of the respondents indicated that the government was involved in the delivery of water.

The responsibility for the water source is either poorly defined or is unknown to many users. 70% of the respondents believed a different provider was responsible in 2015 than in 2012, while only 25% actually switched to a different source. Similarly, the responses identified a wide range of providers, from the village chief to God. That many believe that no one is responsible is not surprising as many respondents still use natural sources. That the number of respondents who believed their water service was run by an NGO dropped substantially is also understandable as NGOs became less active in recent years because of a substantial drop in international funding.

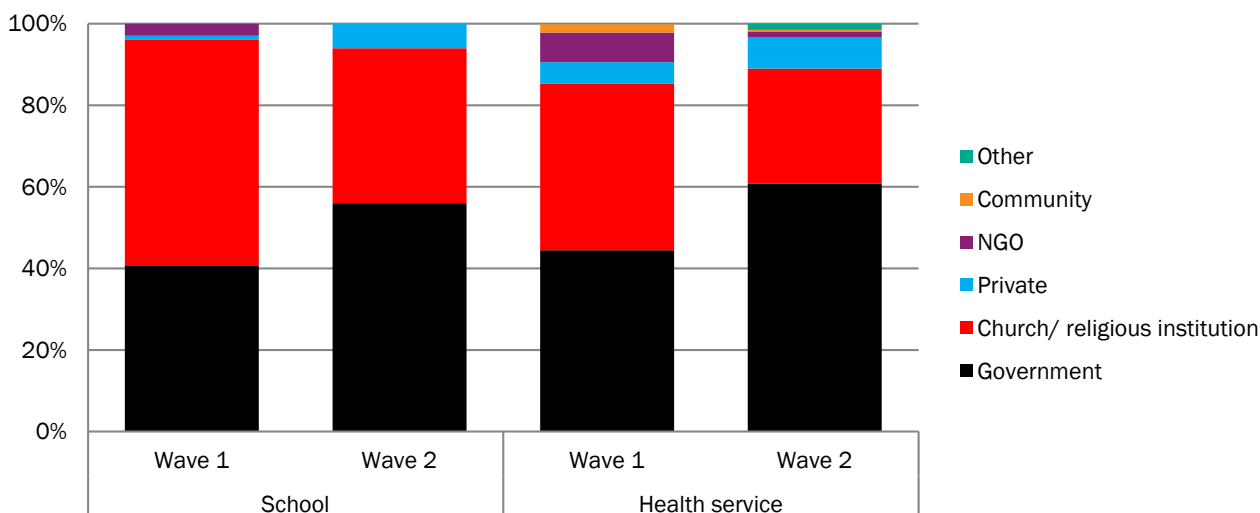
Figure 8.3: Share of respondents who perceived that water was run by each organisation/body, by wave



8.2.2 Health and education

In terms of health and education, a somewhat different picture is painted with regard to who respondents perceive to govern the service. As shown in Figure 8.4, the government is perceived to play a much larger role. In 2015, 50% of parents believed that the government ran their school and 60% of the respondents believed the government ran their health service. The church was thought to play a slightly smaller role, but still very substantial. Interestingly, more than half of the respondents switched their answer between waves (54% for health and 57% of parents for education).

Figure 8.4: Perception of who runs the school and health service, by wave

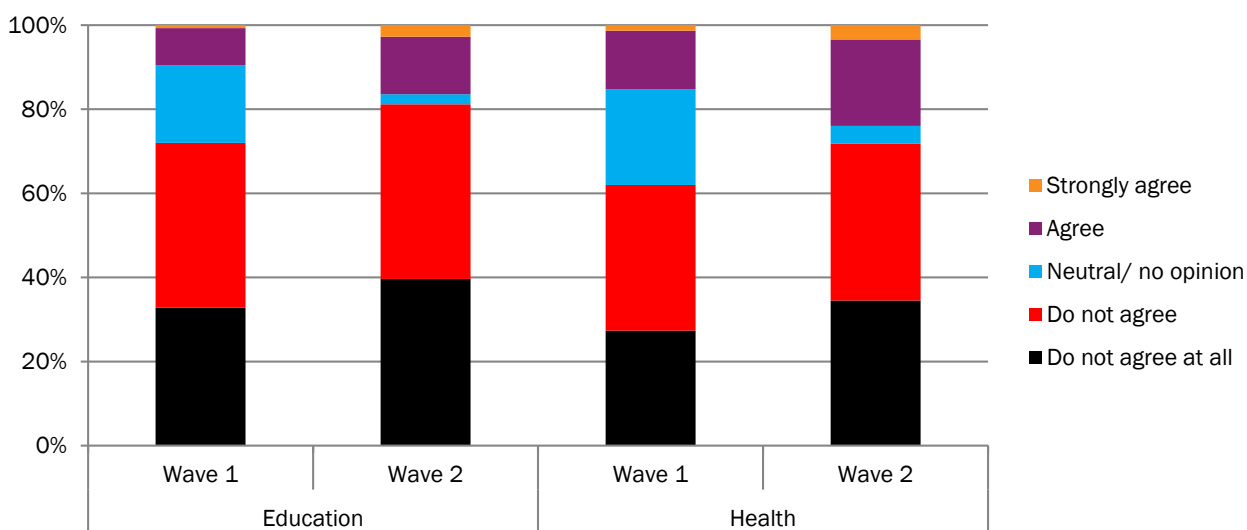


There are three other striking features. First is the high number of respondents who believed that the government ran the health and education facilities, while in reality other organisations supplied these services. Second, the changes over time are quite significant. In 2012 religious institutions dominated the perceived governance of schools, but in a mere three years perceptions of the role of the government grew considerably. A similar growth was observed for health care services. Third, despite the very large investment by humanitarian actors in the education and health sectors (in infrastructure, staff training as well as financing drugs supply and salary top-ups for staff), only a small and decreasing proportion of the respondents identified international organisations as responsible for the governance of these sectors. What is also interesting is the growth of private institutions in 2015 in both sectors, in particular the appearance of private schools, which constituted 6% of schools in 2015. As we observed for the water services, fewer respondents perceived humanitarian actors as being responsible for services in the education and health sector,

8.3 Accountability

Independently of the question of who runs the service, we asked the respondents how much they agree with the following statement concerning the health and education sector: 'The government does everything it can to improve the service'. The results are shown in Figure 8.5.

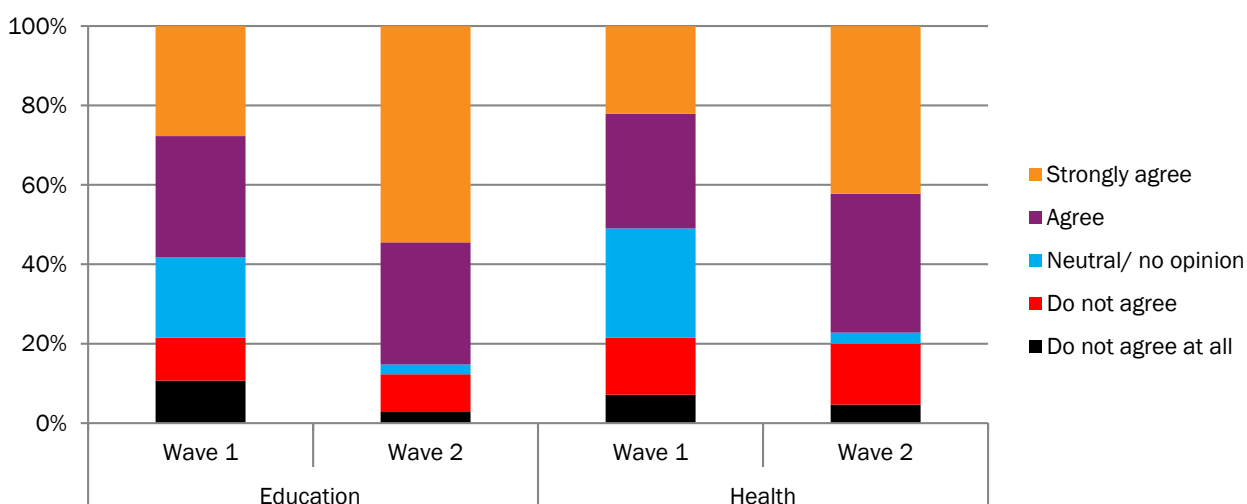
Figure 8.5: Proportion of respondents who agreed with the statement 'the government does everything it can to improve the service', by wave



Overall, the respondents in the sample were not at all convinced that the government did everything it could. In fact, 82% of the parents in wave 2 did not agree with this statement in relation to education. For the health sector, the figures are slightly less negative; nevertheless, 72% did not agree with the statement in wave 2. In the three years to 2015 the respondents became more negative about government involvement.

Respondents were also asked whether they agreed or disagreed with the following statement: 'problems with the service undermine my confidence in the government'. Figure 8.6 shows that a majority of the sample agreed with the statement in 2012 and that in 2015 85% of the parents agreed with the statement for education and 77% of respondents for health.

Figure 8.6: Share of respondents who agreed with the statement 'problems with the service undermine my confidence in the government'



Combined with the increasing number of respondents who experienced a problem (Table 6.11), this is an important indication of the decrease in confidence that respondents have in government actors. This will be analysed in more depth in the next chapter.

8.4 Participation and accountability in South Kivu's changing contexts

After a period of nationalisation, the Mobutu regime handed the organisation of the provision of health and education back to third parties, mainly religious organisations, which were the main providers of these services during colonial times. The role of the administration in service delivery decreased further during the wars. It is thus striking that the visibility of the government increased in the eyes of the respondents, reflected in not only their perception of who runs their basic services, but also with regard to who is held accountable for them. The government is increasingly seen as running the service, in tandem with religious organisations, and they are increasingly considered responsible for problems experienced with the service.

Since religious organisations still supply the majority of the education and health care services, there is obviously no straightforward relationship between the reality of the provision of the education and health facilities and the perceptions of the population. The reason why many respondents still perceive the state as the final responsible institute is perhaps the continued involvement of the government in these sectors in the form of inspection, partial financing of salaries and, in the case of education, state exams (Titeca and De Herdt, 2011; De Herdt and Titeca, 2016). This also explains the increase in perceived government involvement, as the government has increasingly provided teacher salaries, increased inspections, and has participated in school construction. Lastly, while international organisations might well finance the investment and part of the operational costs, government actors succeed in claiming these successes as the effect of their interventions.⁶¹ With the reduction in humanitarian assistance in recent years, the role of international organisations has become even less visible, which may explain the strong increase in the role of the administration in service provision.

That the population holds the government responsible does not necessarily imply a positive perception of their efforts, however. On the contrary, government performance is judged to be very poor, and most are not convinced by their efforts despite the overall positive perception of quality, as shown in the chapter on basic service provision (Chapter 6).

The DRC has a history of participation in decision-making and management of basic services, recognised by law. The survey demonstrates that health and education meetings are well-known phenomena and the organisation of community meetings is practised in many humanitarian and development efforts. The levels of participation of men are generally high, but as participation doesn't imply any influence of individual citizens on actual decisions made (see, for example, Arnstein, 1969), it is probably a result of the substantial financing of the costs by the users. In the case of projects or humanitarian assistance, the reason for high levels of participation is probably related to the expectation that participation might result in immediate benefits. The decline in participation in meetings in Bunyakiri supports this argument, as humanitarian assistance decreased greatly in this area.

Fundamentally, while participation in decision-making for the delivery of basic services is generally recognised as important for the quality and effectiveness of delivery, and might additionally influence people's perceptions of the government, we cannot simply assume that such effects follow. The high levels of participation in community meetings we see in South Kivu do not necessarily indicate a lively and active civil society that can hold the government accountable for the provision of services.

⁶¹ As reported by workshop participants [WS].

9 Factors that influence people's perception of government

The SLRC research programme aims to identify factors that influence changes in people's perception of different governance actors. This chapter explores whether the way livelihoods change and are supported, basic services are delivered, and people participate in service delivery influences changes in their perceptions of different governance actors.

The chapter is split into four parts. The first provides some basic descriptive statistics to illustrate some key 'perceptions of governance' characteristics in our sample population. The second section presents the findings of the regression analyses of the different factors that are included in the survey on perceptions of governance actors. In the third part, we analyse people's perceptions of governance actors in relation to the characteristics and changes in the three regions. In the final section we discuss the findings from the regression analyses in a more narrative way using information provided in the previous chapters.

9.1 People's perceptions of governance actors

Apart from the president and the national and provincial government, the administrative hierarchy in the three research areas in South Kivu consists of customary authorities (kings and chiefs). These 'traditional' authorities have recognised roles and responsibilities in the official state hierarchy in many parts of South Kivu.⁶² The district level, which is headed by a district commissioner, includes several *territoires* (territories), led by a *chef de poste* (territory administrator) and *chefferies* (chiefdoms) led by the *Mwami* (king) (African Development Bank and African Development Fund, 2009). The *Mwami's* chiefdom is divided into *groupements* (grouping of villages), villages and sub-villages; these are led by *chiefs* (local leaders) who report to the *Mwami*.

To measure trust and confidence in these actors, the questionnaire included five perception-based questions on seven governance actors along this administrative and customary hierarchy. The customary governance actors include the village chief, the chief of the *groupement*, and the *Mwami*. The formal local government actors include the *chef de poste* and the local administrator. The central government actors include the provincial government, the national government and the President himself. Respondents were asked whether they have confidence in each of these actors, if these actors act in their interests, care about their opinions, reflect their priorities in with their actions, and if they contribute to improving access to health services and education. These were combined into a single index to measure respondents' perception of the government, on a scale from 1 to 100 (100 being most positive).

Table 9.1 summarises the sample population's perception of the various actors. Generally speaking, respondents were not particularly positive, scoring the actors no higher than 39 and as low as 13 out of 100. The table also shows a marked difference between the various levels or 'clusters'. Customary actors score much higher than formal local and central government actors. And the local formal government actors score much higher than the central state actors.

Interestingly, the average perception of the customary and formal local actors did not change by much between waves. Yet, the data on changes in respondents' opinions demonstrate a lot of movement over time: just under half of the respondents scored the customary actors worse in 2015 than in 2012 and slightly fewer scored them better. 43% of the respondents scored the formal local government actors

⁶² Whether the customary authorities have these roles and authorities depends on the ethnic composition of the area.

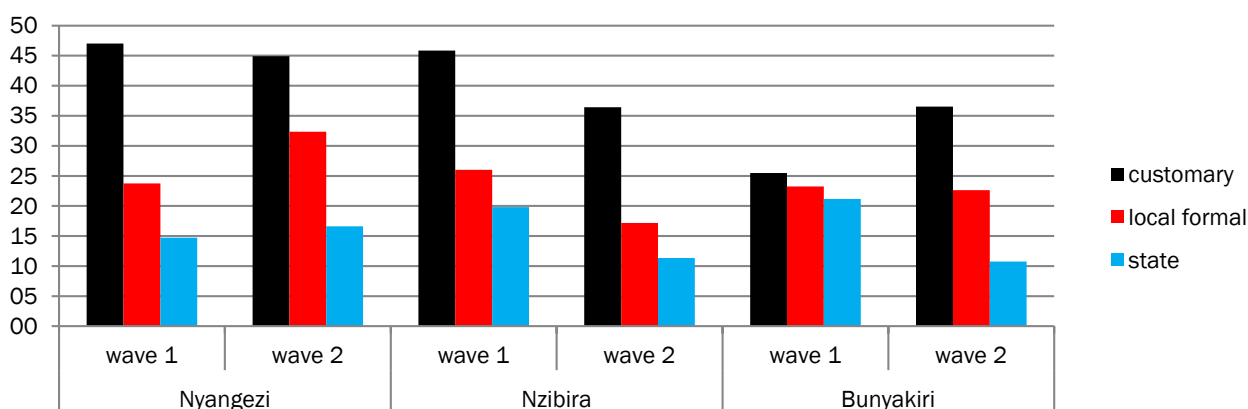
better in 2015 than in 2012 against 36% who scored them worse, which suggests a positive trend. Quite clearly, the majority of the respondents scored the central state actors significantly lower in 2015.⁶³ 52% of respondents had a worse opinion of the central government in wave 2, while 35% had a better opinion, clearly showing a negative trend.

Table 9.1: Mean perception, and share of change of governance actor index (0-100, 100 is most positive), by wave

	2012	2015	% opinion improved	% opinion worsened
Customary governance actors	39	39	46%	48%
Formal local governance actors	24	24	36%	43%
State government actors	18	13	34%	52%

Figure 9.1 indicates that in each of the research sites the customary actors were perceived more positively than the central state actors, and the local formal state actors were perceived more positively than the central state actors. However, by analysing the figures of the three sites in more detail, very different patterns emerge that contradict the sample-wide outcomes.

Figure 9.1: Perception of governance actors, by research area and wave



Respondents from Nyangezi were, besides regarding customary actors, more negative in 2012 than those from other areas, but this changed in a positive manner. While trust in customary actors remained more or less the same, local government actors were perceived substantially more positively in 2015. This might relate to the nomination of a popular district commissioner from the region.⁶⁴ Furthermore, activities carried out during provincial election campaigns, such as the connecting of Village 1 to the electricity network and draining the *marais*, might have been taken into consideration by the respondents. Contrary to the overall trend, confidence in central state actors was slightly more positive and as a result the population in Nyangezi was generally the most positive of the three regions in 2015 about all three types of governance actors.

In contrast with Nyangezi, Nzibira's perception of all actors became quite a lot worse. Bunyakiri shows an entirely different pattern: all three sets of governance actors scored about the same in 2012. In 2015 this became very different and the customary authorities in Bunyakiri greatly increased their standing while central actors nearly halved their score, to the lowest of all areas. In 2015, Bunyakiri still had below-average trust in governance actors, but a rather similar pattern to the other regions.

⁶³ Significant at 99% confidence level.

⁶⁴ As reported by the enumerators during team interviews [26].

9.2 Examining the factors that influence perceptions of governance actors

Regression analyses with the ‘perception of governance’ index as the dependent variable gives an understanding as to whether the perceptions are influenced by household characteristics, conflict and shocks, livelihood trajectories, the delivery of social services, involvement of the population and the service provider, and how perceptions vary across the three sets of actors (customary, formal local and central).

Our starting points are the analyses of the effects of the changing responses of an individual over time, namely the FE method. These analyses are supported by an analysis of change between individuals, namely RE, for time-invariant variables such as gender, education level and ethnicity. We further use correlations of descriptive statistics of some of the independent variables to better understand outcomes of the FE regressions.

9.2.1 Individual and household characteristics

A multiple regression analysis identified significant effects of several individual and household characteristics on respondent perception of government actors, as shown in Table 9.2. (A full table can be found in Annex 4 Table 135, 136 and 137.)

Table 9.2 Regression analyses: perception of governance actors vs. individual and household characteristics

	Customary ^a	Local formal ^b	Central ^c
Dependency ratio (FE)	-0.52	0.03	0.74
Household size (FE)	1.99	2.83	4.99*
Respondent gender (RE)	-3.20*	-4.19**	-1.99
Respondent age (RE)	0.12**	0.08	0.03
Respondent education level (RE)	-0.64	-0.63	-0.44
Respondent ethnicity Tembo (RE)	3.8	4.66	1.0
Displaced in 2012 (RE)	-5.53**	-1.14	-2.37
Moved village between waves (RE)	-2.02	-0.82	0.36
Migrated inside the country (RE)	-5.88	0.92	-1.81
Respondents in Nzibira (as opposed to Nyangezi) (RE)	-5.09*	-14.70***	-5.42***
Respondents in Bunyakiri (as opposed to Nyangezi) (RE)	-26.79***	-37.31***	-32.20***

Notes: Asterisks indicate whether the coefficient is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%. a) The significance levels of ‘Nzibira’, ‘household size’, ‘migration’, ‘respondent ethnicity’ and ‘respondent education’ are sensitive to model specification; b) The significance levels of ‘respondent gender’, ‘respondent age’ and ‘respondent ethnicity’ are sensitive to model specification; c) The significance level of ‘displaced in 2012’ is sensitive to model specification.

Across the different governance levels, female respondents consistently had lower scores on the perception indexes, even when controlling for a wide range of other factors. This relationship is notably stronger for local than for central government actors.

Households that were displaced in 2012 were also significantly less positive about the government, although the association is only statistically significant for customary actors. In fact, IDP households show a near six-point drop in their score on the perception of these actors. This is also true for households that migrated between the waves. Surprisingly, although there is a negative relationship between having moved between the waves, as we have seen often because of conflict, the perception of governance actors is not statistically significant.

Respondent age shows the expected relationships. Older respondents were, on average, slightly more positive about governance actors, in particular customary ones. Respondents’ years of education have no statistical significant relationship with perceptions.

If we focus on the regional differences, it is quite clear in the regression analysis that respondents from Bunyakiri are, on average, substantially more likely to be more negative about governance actors than respondents from Nyangezi. The same relationship holds for respondents who live in Nzibira but to a smaller extent.

9.2.2 Conflict, crimes and safety

Table 9.3 gives the outcomes of the regression analysis concerning violence-related context indicators.

Table 9.3: Regression analysis, fixed effects: perception of governance vs. conflict and safety

	Customary	Local formal	Central
Fighting in the area	-3.59	-1.57	-2.25
Experienced crime	-8.07**	1.6*	-5.39*
Threats reported within the village	-0.51***	-0.53***	-0.45***
Feels safe in the village	0.29	1.24	-2.25
Feels safe outside the village	3.98	5.34	-3.6
Experienced witchcraft	0.97	-1.6	-1.19

Notes: Asterisks indicate whether the coefficient is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%.

For conflict and safety, we expected that respondents who perceived an increase in armed conflict, crime and threats or a decrease in safety and security over the three years to 2015 would have worsening perceptions of governance actors.

The regression analyses only partly confirm this. Respondents who experienced conflict in wave 2 for the first time did not have a statistically significant less positive perception of any of the actors. Yet, the analysis does suggest a small consistent negative trend across the different actors.

Households that reported an increase in number of experienced crimes (these include physical violence and assaults as well as theft and cattle rustling) in the village between waves show a significant and sizable decrease in their perception of all three forms of governance, on average, holding all other factors constant.⁶⁵ The effect is the strongest for the customary authorities. This might indicate that an increase in crimes is mostly attributed to failures by customary authorities.

Digging deeper into the relationship between crimes and governance, a correlation analysis of the descriptive statistics shows that the respondents held the customary authorities primarily responsible for physical violence, assault and theft of land and assets, followed by the local authorities, although these relationships should be classified as very weak.

Perceived threats have a strong impact on the perception of governance actors. When the percentage of households reporting a threat in their village rose between waves, respondents' perceptions of all sets of actor went down significantly, on average, albeit by a small amount. This is in line with the findings above.

On the other hand, safety and security within and outside the village shows a mixed relationship with the perceptions. While the figures suggest a positive relationship with customary and local government authorities, the relationship with the central government actors is negative. However, none of these relationships are statistically significant. The finding that respondents who started to feel safer within and outside the village became less positive about central actors is at first glance counterintuitive. The central state, responsible for the army, police and justice system, would be expected to be appreciated by the respondents who perceive improved safety and security, but this is not the case. This might be

⁶⁵ 95% significance.

explained by the often-criticised behaviour of the police and army, as we have seen in Bunyakiri, where the local armed groups are seen as the main protectors.

A correlation analysis of the descriptive statistics shows that threats of physical and sexual violence correlate negatively with feelings of safety and security. Although the effects are significant they are weak to moderate (-0.43 and -0.32 respectively). The reduction in physical and sexual threats outside the village also contributed to feelings of safety and security, but the effect is smaller (-0.43 and -0.3).

The outcome of the regression on witchcraft doesn't show a significant association with the perception of governance actors. The relationships are small and inconsistent.

9.2.3 Shocks

Table 9.4 below gives the outcomes of the regression analysis with shocks-related context indicators as independent variables.

Table 9.4: Regression analysis, fixed effects: perception of governance actors vs. shocks

	Customary	Local formal ^a	Central
Experienced a climate shock/natural disaster	2.17	-6.13	1.11
Experienced a health shock or death in the family	-2.72	-5.84	-4.36
Experienced an economic shock	-8.05*	0.44	-1.45

Notes: Asterisks indicate whether the coefficient is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%. a) The significance levels of 'experienced climate shock' and 'experienced health shock' are sensitive to model specification.

We included three different types of shocks that households are confronted with in the regression analyses: environmental, health and economic shocks. The variable 'number of environmental shocks' includes animal and plant diseases, earthquakes and drought. The regression shows a confused and inconclusive result. The outcomes might be affected by confusion over the term 'drought' in the questionnaire and the relatively small impact of a large number of small earthquakes at the time of the survey. Furthermore, the combination of different shocks with vastly different impacts will also have influenced the outcome.

The relationship between perception of governance actors and increasing number of economic shocks is significant. Households that were confronted with inflation, price hikes and job losses in wave 2 but not in wave 1 show a significantly lower perception of customary actors. This is surprising as economic developments such as inflation and price hikes are hardly influenced by the local level, while customary actors are not big employers.

9.2.4 Livelihood trajectories

We expected that respondents who lived in households that did better on the two proxies for livelihoods – increased assets ownership or decreased food insecurity over time – would have improved perceptions of governance actors. However, this association does not appear to be particularly clear or consistent. The effects are small, partly counterintuitive and only in one case are they statistically significant.

Respondents who reported an increase in their MSI had a more positive perception of the local government. The data suggest an overall positive trend for the other governance actors as well, but these effects are not significant. For an increase in food insecurity (CSI), the effects are marginal and do not indicate any direction.

The lack of effects of changes in MSI and CSI is in line with the lack of effects of an increase in the number of income sources. This doesn't have a consistent or significant effect on the perception of governance actors.

Table 9.5: Regression analysis: perception of governance actors vs. livelihood trajectories

	Customary	Local formal ^a	Central ^b
MSI	1.82	5.28**	1.57
CSI	0.19	0.17	-0.08
Household engaged in own cultivation to sell	1.32	-4.99	0.57
Household engaged in casual labour	-3.42	-1.93	2.51
Household engaged in own business	-4.80	-7.27**	-4.96*
Household engaged in private or public sector job	2.05	4.44	0.03
Number of income sources	0.15	1.93	-0.95

Notes: Asterisks indicate whether the coefficient is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%. a) The significance level of 'household engaged in private or public sector job' is sensitive to model specification; b) The significance level of 'household member engaged in own business' is sensitive to model specification.

Also, the regression statistics (Table 9.5) for changes in livelihood activities do not provide a clear picture of effects. Focusing in on the different livelihood activities that members of households are engaged in, there is only a significant trend among households with a member owning a business. The regression shows that households that did not own a business in 2012 but did by 2015 are, on average, significantly less satisfied with the local and central state government actors than households that are not engaged in a business.

Not surprisingly, households with a member that became engaged in a private or public sector job suggest a small positive trend, although the relationship is not statistically significant. The finding should be interpreted with care as very few respondents obtained a public sector job between both waves and the N is therefore small.

9.2.5 Basic services

Whether improved access, increased use and improved perception of the quality of basic services leads to improved perception of government is one of the key research questions of the SLRC.

The regression analysis (Table 9.6) shows that in the case of this sample, access to services in terms of distance does not have a significant effect on perceptions of governance actors for water, health services and education services. As noted above, the choice of research areas may have influenced this outcome and so the result might be different for areas with lower population concentrations away from the main roads.

Table 9.6: Regression analysis, fixed effects: perception of governance vs. social services

	Customary	Local formal ^a	Central
Return journey to water source	0.0	-0.07	0.03
Water clean and safe	6.0	-4.43	-7.17**
Payment for water	1.27	1.23	1.29
Problem with water service	-3.4	5.68	-1.49
Return journey to health centre	-0.01	-0.02	0.05
Satisfaction with health	7.14*	5.57	6.92**
Government does everything to improve health services	2.55	5.75	-0.66
Experienced a problem with health service	-15.31**	-11.41*	0.57
Government runs health service	3.21	-4.59	-4.97*
Return journey to school	0.08	0.1	-0.02
Satisfaction with school	4.46	0.91	3.72
Experienced a problem with education service	2.85	-2.19	0.24
Government does everything to improve the education service	-3.5	4.47	9.63*
Government runs the school	7.3	4.47	1.48

Notes: Asterisks indicate whether the coefficient is statistically different: *significant at 90%; ** significant at 95%; *** significant at 99%. a) The significance level of 'problem with the health service' is sensitive to model specification.

With regard to satisfaction with the quality of the services, the outcomes vary depending on the service. For health there is a very clear trend. Respondents who reported being more satisfied with hospitals, on average, improved their perception of customary actors and central government actors significantly by more than seven points. (Although the analysis also suggests a positive trend for local government actors, the effect is not significant.) So, an increased perception of quality has a statistically significant positive effect on the perception of certain governance actors. Related to this, respondents who believe that the government does everything to improve health services are on average more likely to have a significantly more positive perception of central actors.

Respondents who reported a problem with the health services in wave 2 but not in wave 1 had, on average, less confidence in governance actors, especially local government and customary authorities. This relationship is very strong as they score the actors between 11 and 14 points lower. This is quite a significant finding when bearing in mind that most respondents state that problems with the health services reduce their confidence in the central government (50% of respondents in 2012 and 77% in 2015 stated this) (Table 116 in the Annex). Furthermore, in 2015 around a third of respondents in the sample experienced a problem with a service.

In terms of education, the FE regression analysis shows that respondents who reported that they were more satisfied in wave 2 than in wave 1, on average, do not score governance actors significantly higher than the respondents who did not become more satisfied with education over time.

The regression outcomes for water do not provide a coherent picture. Particularly counterintuitive is that respondents who became more positive about water cleanliness over time in fact scored the central state significantly more negatively.⁶⁶

Although there is no general pattern emerging from the regressions on basic service provision, the analysis of survey data provides an important finding. The most conclusive finding relates to satisfaction with the health services: there is a large and significant relationship between satisfaction with health services and the perception of certain actors (customary, central). This pattern is reinforced by the

⁶⁶ We considered whether they believe the government runs the service as valid factors that could influence people's perception of the government, however, in the regression analysis the N is too small to tell a coherent story.

outcomes on problems: experiencing problems with this service has a strong negative effect on perceptions of both customary and local government actors. The evidence for education is, however, very weak and unconvincing. For water services the outcome is mixed, but this might be understood in terms of the formal government not being a major actor in the provision of water.

9.2.6 Humanitarian assistance

As shown in the regression Table 9.7, respondents who received livelihood support in 2015 but didn't in 2012 are not statistically significantly more positive about any governance actor.

Table 9.7: Regression analysis, fixed effects: perception of governance actors vs. humanitarian assistance

	Customary	Local formal	Central
Any social protection or livelihood assistance	2.86	-0.14	1.05

9.2.7 Participation

The regression analyses show that there is no significant relationship between the numbers of meetings respondents are aware of or have attended and perceptions, as shown in Table 9.8.

Table 9.8: Regression analysis, fixed effects: perception of governance actors vs. participation

	Customary	Local formal	Central
	FE	FE	FE
Number of meetings about basic services	-0.29	-0.15	0.95
Number of meetings attended	0.28	-0.55	-0.92

9.3 Perceptions of governance actors in the specific contexts of the research areas

Many aspects define the perception of governance actors and only a few have been included in this study. The RE regressions analysis shows that perceptions were most positive in Nyangezi, followed by Nzibira. In Bunyakiri, respondents scored the state up to 31 points lower than respondents in Nyangezi, on average.

As noted throughout the report, Nyangezi is in many aspects more privileged than other regions in the research: there is no fighting, levels of crime and threats are low, perception of safety is high and scores on MSI and CSI are relatively high, although CSI increased recently. This hasn't changed much between the waves. Satisfaction with health was in line with the sample average and hardly changed. Satisfaction with education was average and increased greatly. The area has hardly seen any displaced people and did not receive substantial livelihood assistance. Perceptions of governance actors did not change much between the waves except for local government. Apart from the changes in perception of local government, the perceptions of governance can be readily explained by the findings of the survey.

In Nzibira, armed conflict decreased moderately but remained high, while crime levels decreased substantially. The number of threats, however, increased greatly and safety inside the village continued to be perceived poorly (largely unchanged), while outside the village safety was perceived as poor but slightly improved. Although MSI improved, the improvement was relatively small and the CSI did not improve at all. The perception of the quality of health services decreased greatly and that of education even more. The area has a large number of IDPs and the highest percentage of respondents receiving livelihoods assistance, though this dropped substantially by 2015. The perception of all governance actors decreased greatly and the perception of the central state reduced to nearly half. This is largely in line with the results of the outcomes analysis, with the exception of the reduction of crimes, which would have had a positive influence on the perception of governance actors.

In Bunyakiri, armed conflict decreased moderately but remained above average; crime showed a mixed picture, remaining very high, with theft and cattle rustling increasing slightly but physical attacks decreasing greatly. Threats, especially physical and sexual violence within and outside the village, decreased enormously between waves and safety within and outside the village improved greatly. MSI and CSI both improved substantially. Satisfaction with health services improved greatly, as did satisfaction with education. Bunyakiri has as many IDPs as Nzibira and received slightly less and a slightly faster reduction in livelihood support than Nzibira. The perception of governance actors in Bunyakiri was the lowest of all sites, but this changed substantially between the waves. The low perception of authorities is in line with having the highest levels of armed conflict and crime and lowest levels of safety and security. The decreasing levels of physical violence and threats would have been expected to generate a general improvement in perceptions of actors, but in fact this only applies to the customary authorities. So, we can only partially explain the change in perception of governance actors with the survey data.

9.4 Discussion of the findings

Perceptions of governance actors are influenced by a large number of factors. Beyond what we found in the survey data, issues that were often mentioned during the fieldwork certainly influenced the perception of the respondents: the broken election promise to provide free education for the first four years at primary school, the invisibility of elected leaders, the non-realisation of initially high expectations after elections, continuous corruption, and so forth.⁶⁷

In this section we elaborate on the outcomes of regression analyses and relate these with the findings of the differences in perception on governance actors in the three different research sites. Broadly speaking, changes in perceptions between waves are influenced by:

- 1 Different forms of violence, crime and perceived threats in the living environment of the respondents
- 2 The provision of basic services, most notably health services.

The data reveal that there are also factors that do not appear to have an effect on people's perceptions of governance actors in this sample:

- 1 An increase in fighting in the area and increased sense of safety and security (which even had a counterintuitive significant impact on the perceptions of state).
- 2 The experience of environmental and health shocks.
- 3 Positive changes in livelihood indicators, in particular the Morris Score Index, did not have a large and coherent positive effect on people's perception of state legitimacy. This outcome is to some extent challenged by the finding that economic shocks (price inflation and jobs losses) had an impact on perceptions of customary authorities, suggesting the importance of livelihood opportunities when it comes to determining state legitimacy.
- 4 Humanitarian assistance provided to those who did not receive it before did not change the recipients' perceptions of actors.

The above does not automatically imply that these factors do not have any impact at all; it only implies that changes between the waves did not have what could be defined as an 'immediate impact' on the perceptions of governance actors. We must keep in mind that periods of time are important aspects of panel surveys. This survey chose a three-year period and it could be that this is too short to show real changes. The respondents might think little of smaller or short-term changes and only change their

⁶⁷ As reported by the enumerators in team interviews [25, 26].

perceptions if changes occur over a longer period of time. It seems likely that many changes are relatively small and therefore do not affect the opinions of the respondents.

9.4.1 The influence of changes in violence and security on the perception of governance actors

Conflict, crime, threats and safety and security – although they are different indicators, each having their own influence on people’s perception of governance actors – are inter-related and influence each other. The survey results show that research sites with a high degree of armed conflict also have high levels of crime and threats, and low levels of perceived safety and security within as well outside the village, as is the case in Nzibira. In contrast, in areas without armed conflicts, levels of crime and perceived threats are low and safety and security within and outside the village substantially higher, such as in Nyangezi.

From this perspective, we observe that the differences in conflict-related contexts influence levels of confidence in governance actors. Comparing respondents who have experienced armed conflict, crime, high perceived risk of threats and low safety and security with those who have had the opposite experience, we see that the former group is expected to have overwhelmingly more negative perceptions. We also observe that reporting decreased fighting and increased safety in the area in the period between the waves doesn’t significantly impact the perception of governance actors. This could have different explanations. Firstly, it could have been influenced by the still very high levels of armed conflict in the two conflict-affected areas where armed conflict decreased (with over 60% of the population still experiencing armed conflict between waves). Respondents might not have continuous fighting in the area but know that the situation is far from stable and fighting might well return as it did regularly in the past. Secondly, changes in the intensity of the fighting and the impact of the situation on the civilian population have not been established in the survey, even though these contextual differences can clearly impact the actual experience of having conflict or armed groups in the area.

While fighting in the area might not necessarily have affected the respondent’s life directly, the experience of crime does affect the household or household members directly and is consequently very likely to affect the respondents’ perceptions. The same goes for feeling unsafe in the village or when going somewhere outside the village. The outcomes on crime and threats in relation to armed fighting tell us that the more directly the variable affects the respondent’s life, the more immediate the impact on their perception of governance actors. Further, it tells us that objective factors such as fighting and crime are not the only potential influence, but psychological factors also have effects. A perceived threat might even have a longer-lasting impact on perceptions of governance than actual events themselves (Van der Bracht *et al.*, 2016). The situation in Bunyakiri tells us that fear can change independently of objective factors like armed conflict and crime, and can in fact be determined by other factors such as the parties involved in the conflicts, their behaviour and the nature of the crimes. Where armed conflict and crime levels remained very high but physical crime and fear of physical and sexual violence went down, perceived threats went down. This was the case in Bunyakiri and, as observed throughout this report, had large effects on the lives and livelihoods of the population: many of the livelihood and basic services indicators improved substantially in the area.

The perceptions of safety and security show a contradictory effect on perceptions of central government. Respondents who reported increased safety and security within the village between waves, were, on average, less positive of those actors. Negative changes (more armed conflict, crimes, threats) were likely to have a different effect on perceptions than positive changes (increased perceived security) because, as has been suggested elsewhere, confidence and trust are easily destroyed but not easily recovered (McLoughlin, 2014). The findings can be interpreted as follows. We did not see the increased feeling of safety and security reflected in perceptions of governance; respondents still had doubts over whether the improved safety and security was more or less permanent and therefore did not reward governance actors with increased confidence and trust. Considering the events of recent

decades, with armed conflicts coming and going but never far away in South Kivu, combined with high levels of crime, corruption, illegal taxation, etc., it is likely that it will take years before increased safety results in trust being restored in governance institutions and actors. In Bunyakiri, for instance, security and safety increased substantially with the expulsion of the FDLR but was followed by fighting between the national army and the local armed groups. The substantial reduction of experiences with physical violence and the threat of physical and sexual violence are not attributed to the state but to the customary authorities and *Raia Mutomboki* groups. Many chiefs also played a very active role within the movement. *Raia Mutomboki* attacks inflicted considerable losses on the FDLR, which prompted retaliation. When mass killings by the FDLR took place close to a FARDC camp and not far from a MONUSCO camp, the population felt that neither the FARDC nor MONUSCO (and thus the central state) were trying to protect them, and therefore perceived them negatively (Stearns *et al.*, 2013).

As discussed, the very limited influence of livelihood indicators on perceptions of governance is surprising as it might be expected that when citizens improve their livelihood trajectories, these actors would be rewarded, either immediately or in the longer term. This was not found to be the case. While an increased MSI score (indicating asset ownership) was linked to improved perceptions, changes in the other livelihood indicator (CSI, food insecurity), were not. Simultaneously, debts and loans increased and these were mainly used for the purchase of goods. The non-significance of other livelihood indicators is probably related to the high vulnerability levels that persist despite the increase in assets.

Having someone in the household start their own business as an income source has a negative effect on the respondent's perception of local and central government actors. This can be understood by the government actors' behaviour, creaming off business income through systems of local and state taxes, licences and corruption. Transporting goods to or from Bukavu and marketing products encounters numerous taxes, levies and road blocks that can only be passed after paying formal and informal market fees.

9.4.2 The influence of changes in basic services on the perception of governance actors

The regression analysis confirms but nuances the positive effect of service delivery on the perception of governance actors. It confirms that respondents who perceived the quality of health facilities as improved between the waves were more positive about all levels of governance. But what is true for health is not for education. Those who saw an improvement in education services did not have an improved perception of actors. Respondents repeatedly explained that they felt disillusioned by the broken promise of free primary education.

For water, such a relationship was not found. This is not surprising as the government is hardly associated with the water sector while health and education are. This indicated the importance of government involvement in service provision to be a key issue. Understanding why health provision stands out in relation to governance perceptions, at least in this context, requires further research.

From the above it can be seen that impact of the different services can't be assessed under one category (basic services) but need to be assessed separately, with health especially having a stronger influence on the perception of governance actors. This is not dependent on their actual role in the provision or funding of the service.

9.4.3 The influence of livelihood support on the perception of governance actors

Providing livelihood support where this support was not received before had no immediate effects on respondents' perceptions of governance actors. This surprising outcome requires further research.

9.4.4 The influence of individual characteristics

The finding from the regression analyses that female respondents have a lower perception of governance actors is certainly not surprising in the context of the DRC. Their low socioeconomic status

in South Kivu's rural society, their experiences during the conflict and their limited participation in local, provincial and national political processes compared to men (as largely confirmed by the outcomes of this survey and described more in detail in Chapter 10), can explain why women have less trust than men in all levels of government.

That the displaced have a lower perception of governance actors is equally unsurprising as they live mainly in areas with higher levels of fighting, crime and threats (Nzibira and Bunyakiri), all factors that influence the perception of actors negatively. The particularly negative perception of the customary actors could be the result of many being newcomers in the host communities and therefore having fewer connections with the local leadership and perhaps even being excluded from decision-making, as suggested by IDPs' limited participation in community meetings. As 75% of the households that were temporarily displaced between the waves moved because of conflict, it could be expected that this group would also have a statistically significant negative relationship with governance actors, but this was surprisingly not found to be significant.

The effects of age are as expected. The elderly respondents are slightly more positive about governance actors. This is in line with the position of the elderly in many rural communities where they are by tradition more listened to; furthermore, local chiefs often have elderly men as their advisers. In some places we noticed generational conflicts where the younger generation did not accept the traditional privileges and powers of the older generations and consequently had a more negative perception of customary actors. This is reflected clearly at the village level. In Nyangezi, in Village 2 the perceptions of respondents of customary authorities decreased, in contrast to other villages in this region, and this was probably influenced by a tough succession conflict between two brothers of the deceased chief.⁶⁸ A similar decrease in the confidence in the customary authorities was found for Village 6 in Nzibira, but in this case no information was found that could explain this.

⁶⁸ This conflict was mentioned often during the survey interviews and clearly very much on the minds of the respondents; sometimes even murders in the village were related to this conflict.

10 Gender, headship and displacement

Women and girls, female-headed households and displaced families are generally considered to be vulnerable and disadvantaged compared to men, boys, male-headed households and non-displaced families. This study therefore opted for a gender- and displaced-sensitive approach and to separately investigate the realities of disadvantaged families as much as possible. We want to contribute to the discussion about and formulation of policies to improve the position of these households. However, as information was collected either at household level (e.g. for assets, food insecurity, use of health services) or respondent level, it was not always possible to collect both gender-specific and household-head-specific information for all themes. Despite this, the data presented throughout this survey report confirm the disadvantaged position of female-headed households and displaced families, as highlighted in this chapter.

10.1 Gender

Much has been written about the disadvantaged position of women and girls in the DRC, and poverty and vulnerability among women and FHHs has been extensively researched. This ‘feminisation of poverty’ is often linked to gender imbalances in cultural and legal rights, labour markets, poverty-reducing capacities, and social capital (Chant, 2004). The persisting insecurity in DRC has generated much international attention on sexual violence and many reports and studies often focus on violence and sexual violence (Douma and Hilhorst, 2012; Eriksson Baaz and Stern, 2013; Lwambo, 2011). The DRC ranked near the bottom of the Gender Equality Index for 2015, placed 149th out of 155 countries (UNDP, 2015). Gender inequalities exist in all sectors, such as education, access to resources and political empowerment (Davis *et al.*, 2014; Gouzou *et al.*, 2009, 2014; Weijs *et al.*, 2012). With widespread violence against women, the picture gets even grimmer, making the DRC one of the most challenging countries for women and girls to live in. The scope of our research limits us to a simplistic approach looking at the duality of gender, and yet we do acknowledge the heterogeneity of all households and women’s poverty.

The survey data indicates that FHHs in the sample are statistically significantly worse off when it comes to asset ownership than MHHs, but that FHHs are not more food insecure. The number of households that became female-headed since 2012 was too small to be able to assess the effects of such a change on household assets and food security in the regression analysis. Overall, fewer FHHs than MHHs reported owning land and a dwelling in wave 2 (the gap was much smaller in wave 1). Furthermore, housing quality (materials used for construction) was slightly poorer for FHHs than for MHHs.

The survey analysis did not find any reason to believe that FHHs have worse access to basic services. Very few gender-specific analyses can be made with the survey data on health services. The few available data indicate that women were statistically significantly more satisfied with the health services than men. With regard to access to education, girls in our sample remained disadvantaged. Despite the equal school enrolment figures in our research areas (also found by Gouzou *et al.*, 2009, but contested by UNDP, 2014 and Davis *et al.*, 2014) girls are disadvantaged when it comes to school attendance; they are more likely to be turned away from school than their brothers due to unpaid fees. Female respondents in our sample are substantially less educated than men; almost half of the women are illiterate or had no education whatsoever, as opposed to a quarter of male respondents. For water and education there were no substantial differences in opinion between men and women with respect to quality of the services provided.

As we saw in the previous chapter, women's perceptions of all governance actors in our sample were significantly more negative than those of men. Although the exact reasons require further research, some insights can be gained from the literature and our findings on participation of women in community meetings. Various authors emphasise that, generally speaking, women have little formal decision-making power and play a limited role in the patrimonial system (Gouzou et al., 2009; Humphreys, 2008; Lwambo, 2011). This may be the result of the systematic exclusion of women from political decision-making during the Mobutu regime and by the gender inequalities upheld in customary ideas and practices (Gouzou et al., 2009). The weakness of the state is seen as contributing to maintaining unequal customary power and norms (Weijs et al., 2012). In addition, churches are believed to legitimise current gender inequalities in DRC (Gouzou et al., 2009). The disadvantaged position of women and underrepresentation of women in most domains and especially in all levels of governance could be one of the reasons why women feel more negative about governance. This is reflected in our survey data as well, as women are less aware than men of community meetings and participate less in them. Although the numbers are more positive for FHHs than for female respondents, FHHs also are less likely to know about and attend a meeting than MHHs.

In the previous chapter we found that there is a strong relationship between satisfaction with the health service and perceptions of governance actors. As women were in fact statistically significantly more satisfied with health services, this contradicts their more negative perceptions. It is suggested that their perceptions might not be so strongly determined by satisfaction with health services but by other factors instead.

An interesting picture unfolds when looking at the differences in the receipt of humanitarian aid by household headship. In wave 1 there were no differences between male and female-headed households, but in wave 2 more FHHs reported that they received humanitarian aid, and food aid in particular, than MHHs. So, for FHHs the decrease in humanitarian assistance in the three years to 2015 was substantially less than for MHHs.

Violent attacks on women, men and children continue to be a severe problem in eastern DRC and men and women fear killings, sexual violence, kidnapping, torture and random arrests (Oxfam, 2012; 2014), but women feel generally more insecure and more threatened than men, as shown in the survey data. Yet, the data from this panel survey demonstrates a more nuanced trend than is often represented. Fear is not an exclusively female issue; men are also victims of physical violence and feel threatened, particularly outside the village. Furthermore, while most recent studies (Davis, et al., 2014) report similar or increasing levels of violence against women, the majority of women in the sample reported an improved security situation in the years preceding the survey in 2012 and one in four reported a further improvement in security in the years between waves. This is also reflected in the data on threats. The levels of perceived threats of sexual violence are still extremely high but they have dropped drastically between waves. Within the village, 5% of women perceived sexual violence as a threat in 2015 and 15% when travelling outside the village. This was 34% and 32%, respectively, in 2012. The positive changes in the Bunyakiri area especially are striking.

As the regression demonstrates, crime and perceived threats have a negative impact on the perception of governance and, as the descriptive statistics show, women in our research sites experienced more crime and felt more threatened than men. Crime and threats are clearly factors that affect the lower perception of governance actors by women.

10.2 Displacement

Displacement cannot be overlooked in a context of conflict or indeed the 'no peace, no war' situation in the DRC in which 2.7 million people have been displaced (OCHA, 2014). As of September 2015, South Kivu had about 322,000 IDPs, although this number dropped drastically from March 2015 when it had more than double the amount (OCHA, 2015). The majority of IDPs in the DRC have been in this situation for years, experiencing displacement numerous times, some of them since the 1990s (Beytrison and Kalis, 2013). The impact tends to become worse with each wave of displacement. Being displaced constrains livelihood options and has impacts on food security, migration patterns, access to services and probably government perceptions for those who are directly affected and also for their host communities. Some community leaders have expressed their fear that the presence of IDPs leads to food insecurity and instability in their region (ibid.).

Of the survey respondents in 2012, 18% had been displaced at least once for a period of time. The impact of the armed conflict and violence on displacement can be seen clearly from the differences between the research areas. As many as 39% of all respondents in Nzibira and 45% in Bunyakiri have been displaced at least once while in Nyangezi less than 1% of the respondents were from a displaced household. Households continued to be displaced between waves: as many as nearly 11% of all respondents had to move with their household temporarily in this period while another 2% moved and stayed elsewhere because of the continuation of armed conflict. From those households that had already been displaced before 2012, 31% were temporarily displaced again, while only 11% of the initially non-displaced households were displaced between waves. This shows the highly vulnerable position of the displaced families and a tendency for protracted displacement. There is a marked difference between the ethnic groups: while only 18% of all respondents are of Tembo origin, 23% of all displaced families are Tembo. In other words, 51% of all Tembo families were displaced, double the share for any other ethnic group.

Our survey indicates that displaced households are disadvantaged in many respects. Displaced households (although slightly more educated on average) scored lower on wealth compared to non-displaced households and were substantially more food insecure. Fewer displaced households own land, compared to non-IDP households, fewer rent land or use communal land and fewer own a house. Consequently, the displaced are more dependent on working for others for their income and thus are more involved in casual labour as well in selling goods. Our data do not suggest that displaced households have less access to basic services. In fact, IDPs have a shorter distance, on average, to basic services, than non-IDP households.

Displaced households have a worse position in relation to governance processes, as IDPs were much more likely to be excluded from community meetings on health, education and security because they were not invited. IDPs attended fewer meetings than non-IDP respondents. These factors might well have contributed to a more negative perception of governance actors, as discussed in the previous chapter. It is, however, worrying that the mean score given by IDP households dropped quite substantially between waves by around 11 points (out of 100). The perception of customary actors is improving, though, catching up with non-IDP households.

The displaced were not more likely to receive humanitarian assistance than non-IDP households in 2015. Livelihood support overall dropped significantly, from 51% of the displaced families receiving any support in 2012 to only 34% in 2015.

Yet, our survey data indicate that the position of displaced families improved relatively over time. They have been catching up in terms of asset and home ownership with non-displaced households and are improving even more in terms of food insecurity. With regard to participation in community meetings on health, education and security, a trend of integration is suggested, perhaps reflected too in the displaced respondents' improving perceptions of customary actors.

11 Discussion and conclusion

The SLRC panel survey looks closely at livelihood trajectories, service delivery and perceptions of governance actors after periods of conflict. Based on the findings that emerged from the analysis, we draw several main conclusions. It must first be noted, however, that changes in livelihoods and in trust in governance actors are both long-term processes that require longer-term research than the three years between the surveys. To that end, a third round of the survey in 2018 would reveal longer-term trends and provide a much stronger foundation for the findings from this survey.

1. **The socioeconomic conditions of the survey sample population have slightly improved, yet extreme vulnerability continues.**

As the DRC's Human Development Index has increased slowly since 2002, improved socioeconomic conditions in South Kivu were expected. The small improvement in livelihood indicators and an increase in use and quality of basic services in three research areas in South Kivu suggest a similar trend. This must be nuanced as not all indicators improved: food insecurity has hardly reduced and households have accumulated more debts. Between waves, some groups improved on these factors while others got worse. Just as for the country as a whole, the socioeconomic conditions in the research areas remain extremely challenging.

While the survey set out to identify factors that influence changes in livelihoods in conflict-affected contexts, few such factors were found. The data do not suggest increasing productivity as the increase in assets relates little to productive assets. Constraints such as animal and plant disease, over-exploitation of land and internal displacement continue. Changes in income sources and labour profiles could be interpreted to indicate more diversification and commercialisation of production, which in turn could suggest a better functioning of the markets.

2. **Some factors that explain changes in livelihood trajectories could be identified but they are insufficient to explain the overall change in livelihood trajectories in the sample.**

The regression analyses of the survey data provide little hard and conclusive evidence of factors that influence livelihood trajectories. They confirm common knowledge that female-headed households and households that have been internally displaced – both increasingly common in the sample – are disadvantaged in terms of livelihoods.

Analyses of the data by area suggest that high levels of armed conflict, crime, threats and insecurity result in poor livelihoods, and especially that a reduction of threats and insecurity leads to improved livelihood indicators. The findings are however not sufficiently consistent and are mainly not confirmed by the regression analyses.

3. **There is more involvement in market production and income diversification.**

The analysis identifies more involvement in production for markets and in private business as well as diversification of income sources as having a positive effect on assets but no effect – or a negative one – on food insecurity. These developments might indicate the better functioning of local markets offering more and better opportunities for households. Other factors that might have explained the slight improvement in livelihood indicators – for example, an increase in productivity through investments in productive assets, a decrease in factors hampering production, etc. – were not found.

4. Increasing food insecurity increases the demand for health services.

Respondents who become more food insecure visit health services slightly more often. This is as expected as several of the major health problems in the DRC are related to malnutrition. Additionally, the relatively high costs of health services might even increase food insecurity as fewer funds remain available for food supply.

5. Not all armed groups are seen the same way by the population.

While levels of armed fighting and experienced crimes remained very high in one research area, the threat of physical violence (especially sexual violence) dropped and perceived safety and security improved substantially after different groups took over control of the area. The survey suggests that there are differences between armed groups with respect to the type and frequency of crimes committed against the civil population. Where levels of physical violence and perceived threats decreased, we note substantial positive changes in the lives and livelihoods of the population.

6. Life in conflict-affected areas is not exclusively defined by the effects of the conflict, but also by environmental and other shocks.

Besides conflict there are other shocks, such as health shocks, natural hazards and economic shocks that determine livelihood trajectories. Plant diseases are said to be a major problem in all areas, with as many as 80% of households reporting them in one of the areas.

7. The substantial reduction of livelihood support isn't justified by conditions in the province.

Many humanitarian agencies have closed down their programmes, which is reflected in a very large reduction in livelihood support. This reduction is not explained by the improvement of security and livelihood indicators, which has been limited. The survey findings demonstrate that South Kivu is still a highly unstable province with decreasing but still very high levels of armed conflict, crime and insecurity, combined with a high number of IDPs. Food insecurity is substantial and continues, putting increasing constraints on poor local production. Livelihood assistance delivery is entirely dependent on external actors, just as the health sector is dependent on external support for drugs supply and staff remuneration, and water services depend on investments to improve water quality.

8. A (post-)conflict context is not homogenous; there are large variations between areas.

While overall armed conflict and crimes decreased and socioeconomic conditions slightly improved, there are substantial variations between research areas in terms of conflict, crime and socioeconomic development. The province is not homogenous and the overall sample base trends therefore do not necessarily reflect realities in different parts of the province.

9. Use of basic services is high and users have a positive and improving opinion of the quality of basic services.

The assessment of the quality of the services by respondents is positive. This is most likely an effect of the major internationally funded investment in improving the very poor infrastructure and services that existed after the war. The reduction of external funding, in combination with increasing demand caused by fast population growth, has resulted in worsening perceptions of the quality of facilities and, in the health sector, drug supply. Appreciation of basic services may worsen in the years to come if the government doesn't increase spending.

The high costs of accessing basic services are considered as the most negative aspect of the services, but costs were not the main reason for changing service provider; distance was. And despite the high costs, use of basic services is high – and for education even very high, especially among people of Tembo ethnicity who mainly live in one of the most violent areas.

10. Women, girls and female-headed households are worse off but the picture is more nuanced than generally assumed.

Female-headed households possess fewer assets than male-headed households although they are not more food insecure. Women have similar access to health and education services as men, although girls are disadvantaged when households cannot afford education costs and are more often forced to leave school. Women and female-headed households are disadvantaged in political processes. Most importantly, women feel more insecure than men: insecurity inside the village and when travelling remains a challenge for women and girls, especially in areas of armed conflict and crime.

The survey found that men in these areas also feel highly unsafe and are often victims of physical crime, including sexual violence. The differences between women and men with regard to experienced crimes and perception of safety are much smaller than is often suggested. Furthermore, contrary to some other studies, the survey data observed an improvement in women's security in both waves. The survey findings suggest that the conflict in South Kivu is disproportionately framed around sexual violence against women. A more gender-sensitive approach provides a more balanced understanding of violence, including sexual violence. The survey findings should not be considered as the new truth on violence against women in the DRC but rather as a possible starting point for further reflection and study of the ways in which sexual violence is articulated in international discourse and development programming in South Kivu.

11. Many households have been displaced and many forced to move from relatively unsafe to safe places and back, with negative effects on their socioeconomic position.

The survey found an extremely high number of households that have been displaced at least once in the areas directly affected by conflict. Many of these households continue to move from their original homesteads to safer places and back, depending on the changes in the security situation. The survey confirms that internal displacement has undermined socioeconomic conditions, access to resources for recovery, and access to the political process. It is not surprising that IDPs have a lower perception of government actors, especially customary leaders. The survey also found that the gap with non-displaced households has been reducing over time, which suggests a degree of integration into host communities.

12. Perceptions of all governance actors are low, and for central state actors it is even decreasing.

Perceptions of governance actors appear to worsen with increasing distance. Among our proxy indicators of legitimacy, the perception of the central state ranks the poorest. There are clearly many factors that define state legitimacy and basic service provision is only one. Considering gender inequalities, it is not surprising that women's perception of governance actors is significantly more negative than men's.

13. Supporting basic service provision, especially health services, has a positive effect, independent to the institution that delivers the service.

The analysis of survey findings demonstrates a significant positive relationship between appreciation of all levels of government and health service provision. While the services are to a large extent delivered by non-government entities, the population either assumes that the government delivers or at least holds the government responsible for the quality of the delivery. This implies that the intended effect of strengthening state legitimacy by investing in basic service delivery will be achieved independently of whether the government or another organisation delivers the service. However, it also implies that a perceived decrease in quality has negative effects for the way in which people feel about the government; increased demand owing to population growth, combined with a reduction in support to the health sector, will likely have a negative effect on such perceptions.

14. Long-term conflict, crime and fear affect people's perceptions of governance actors negatively, while changes in livelihood indicators have hardly any effect.

It is not surprising that in areas where populations experience long periods of fighting – with all its negative effects such as higher levels of crime, fear and displacement – people have a lower perception of governance actors compared to other areas. The effects do not have to be immediate and linear because trust 'comes on foot and disappears on horseback', meaning positive developments such as increased security might not immediately result in an improved perception of authorities.

15. It is important to go beyond the direct measurable indicators of violence and consider impacts on families and individuals.

To understand respondents' perceptions in a context of violence it is important that it is not only measurable indicators, such as the number of armed conflicts or crimes experienced, that are monitored or studied. The focus should be on the impact these have on the respondents and their families in terms of perceived threats and their feelings of safety and security. Perceptions are determined not only by what has occurred, but also by the lasting impact that it has had on people.

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