

Researching livelihoods and  
services affected by conflict

# Tracking change in livelihoods, service delivery and governance

Evidence from a 2013-2015  
panel survey in Uganda

Working paper 59

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# About us



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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 (CAS). Providing better access to basic services, social protection and support to livelihoods matters for the welfare of people affected by conflict, the achievement of development targets such as the Sustainable Development Goals (SDGs) 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 Feinstein International Center (FIC, Tufts University), Center for Poverty Analysis (CEPA) in Sri Lanka, 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 Center for Contemporary Research (NCCR), and the Food and Agriculture Organization (FAO).

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# Acronyms and glossary



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<b>ACF</b>	Action Contre la Faim (Action Against Hunger)	<b>NGO</b>	Non-governmental organisation
<b>CAS</b>	Conflict-affected situations	<b>NUSAF</b>	Northern Uganda Social Action Fund
<b>CPI</b>	Coping Strategies Index	<b>ODA</b>	Official development assistance
<b>DFID</b>	Department for International Development, United Kingdom	<b>ODI</b>	Overseas Development Institute, United Kingdom
<b>DRC</b>	Democratic Republic of Congo	<b>PPSSys</b>	Probability proportional to size systematic sampling method
<b>FE</b>	Fixed effects model	<b>PRDP</b>	Peace, Recovery and Development Programme
<b>FHH</b>	Female-headed household	<b>RE</b>	Random effects model
<b>FIC</b>	Feinstein International Center, United States	<b>SDGs</b>	Sustainable Development Goals
<b>HHs</b>	Households	<b>SLRC</b>	Secure Livelihoods Research Consortium
<b>GNI</b>	Gross national income	<b>UBoS</b>	Uganda Bureau of Statistics
<b>GPS</b>	Global positioning system	<b>UHRC</b>	Ugandan Human Rights Commission
<b>GoU</b>	Government of Uganda	<b>UNDP</b>	United Nations Development Programme
<b>HH</b>	Household head	<b>UN OHCHR</b>	Office of the United Nations High Commissioner for Human Rights
<b>IDP</b>	Internally displaced person	<b>VSLA</b>	Voluntary savings and loans associations
<b>LRA</b>	Lord's Resistance Army	<b>WORUDET</b>	Women's Rural Development Network, Uganda
<b>MHH</b>	Male-headed household		
<b>MSI</b>	Morris Score Index		

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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 against a set of outcome indicators between at least two points in time. With a six-year timeframe, SLRC is well-placed to contribute to understanding how change happens over time. To this end, the Consortium has conducted 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, the SLRC survey followed a slightly different process by tagging on to existing planned or existing panel surveys.

Two rounds of data collection have taken place between 2012 and 2015 in the five countries. Despite the difficult circumstances in which the survey teams worked – all of them either fragile and/or conflict-affected – they managed to find six out of every seven people they sought to re-interview in 2015 or 8,404 out of 9,767 respondents. 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/ geographical level in each country.

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);
- their access to basic services (education, health, water), social protection and livelihoods assistance;
- their relationships with governance processes and practices.

Undertaking a cross-country, comparative panel survey at the individual level in difficult environments is not a straightforward exercise. This means that such research has limitations. In our case there are several. First, in conducting a survey there is a trade-off between collecting information that is comparable across countries and rephrasing each survey question entirely to fit the country context. The second limitation is specifically related to the longitudinal nature of our analysis. In order to use statistical analysis to identify drivers of change over time, there needs to be a substantial number of changes in respondents' responses between one survey wave and the next. For some of our survey questions, however, there was not enough change to run a full analysis on all the variables. In addition, questions cannot be rephrased or edited, despite any learning from the qualitative work or baseline survey, between the two rounds in order to take advantage of opportunity for panel analysis. Finally, the high intra- and inter-year variability characteristic of the geographic region limits our ability to draw conclusions from only two panels of data spread over three years.

These limitations signal the complexities of panel data collection and 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.



# Executive summary



In 2013, SLRC implemented the first round of an original sub-regional panel survey in Uganda. A second round followed in 2015, with the goal of producing information on household and respondent trajectories in relation to:

- relationships with and perceptions of governance processes, practices and political actors;
- livelihoods and wellbeing (income-generating activities, asset portfolios, food security, constraining and enabling factors within the broader institutional and geographical context);
- access to and satisfaction with basic services (education, health, water) and transfers (social protection and livelihood assistance).

Fieldwork was conducted in January and February 2013 and again in 2015 in 90 different survey locations. Both surveys were taken after harvest. In 2015, 1,553 of the original 1,853 respondents (84%) surveyed in 2013 were re-interviewed. The survey is representative of the Acholi and Lango sub-regions – the two sub-regions most affected by the Government of Uganda (GoU) and Lord’s Resistance Army (LRA) armed conflict, and home to approximately 3.63 million people. This report outlines our findings from statistical analysis of the Ugandan panel data.

## What does recovery look like and how can we support it?

Recovery of conflict-affected populations is frequently perceived as a relatively steady progression that can be influenced by national and international development and aid actors, whose programmes are able to target and reach sufficient numbers of vulnerable populations. Our analysis challenges this assumption. The data show great volatility (at worst) or catching-up (at best) in household recovery in northern Uganda. Over the course of the two years, households improved significantly<sup>1</sup> on almost every indicator (food security, wealth, access and satisfaction with services, perceptions of government).

However, this was not evenly spread throughout the population, and was primarily driven by households that were considered ‘worst off’ in wave one, such as those with experience of war crimes.

The improvements do not appear to have been driven by external support, which few people received. Rather, the data indicate potential problems of elite capture, whereby households with more highly educated members were more likely to receive social protection. Instead, environmental factors (such as the harvest and rainfall distribution) appear to be strongly linked to improvements, with wave one of the survey following a poor harvest and wave two following two years of average-to-good harvests. We hypothesise that even uptake of the ‘aid’ that mattered most – participation in voluntary savings and loan associations (VSLAs) – was driven more by increased resources from a good harvest that allowed households to participate, rather than it having been targeted at households in need. We find that the future for most households remains uncertain, and that external environmental shocks and stresses are a concern. Thus, more effort and resources are required to help mitigate the risk of environmental shocks and the between-year and within-year climate volatility that is ever present in this region.

## Why are we seeing disinvestment in education, particularly for girls?

The wave-two data show a significant improvement across almost all indicators of livelihoods and wellbeing, access and satisfaction in services, and perception of local and national government. However, there is one indicator that declined considerably between waves, with the change over time being statistically significant, namely the proportion of school-age children who attended school every day, which dropped from 79% in wave one to 70% in wave two.

<sup>1</sup> The use of the term ‘significantly’ throughout the report refers to statistical significance.

An increase in household livelihood diversification is positively associated with improvements in wealth, travel time to a health centre, satisfaction with health services, satisfaction with school services, and having a positive perception of the central government. However, it negatively correlates with having a child enrolled in school and, specifically for girls, there is a lower likelihood of attending school every day. It appears that households are forced to choose between investing in livelihoods or in education, between their current wellbeing and their future potential. Moreover, unlike for boys, the more shocks a household reported experiencing between the two waves, the more likely the household was to report reducing girls' school attendance in wave two – which leads to a hypothesis that investment in girls' education is far more insecure than investment in boys' education. Given the consistent significance of the level of education of the household head with better household outcomes (including greater likelihood of sending a girl to school), this finding requires more exploration.

### What explains improvement in perception of governance?

The findings presented in this report challenge the prevailing belief among donors and policy-makers that investment in the provision of basic services improves perceptions of the legitimacy of government (Carpenter *et al.*, 2012). However, our data show that, while there is a relationship between service delivery and perceptions of government, it is far more complex than is frequently asserted. The analysis suggests that just providing these basic services is insufficient. It appears that what matters most where improvements are found in people's perceptions of government actors are transparency and accountability regarding service quality and delivery, including participation in community meetings and decision-making. Thus, it is essential to invest in transparent and robust accountability mechanisms so that affected households and individuals can meaningfully participate in the delivery and quality of these essential services.

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# 1 Introduction



In 2013, the Secure Livelihoods Research Consortium (SLRC) designed and implemented the first round of a panel survey in Uganda, generating data on livelihoods and food security, access to and experience of basic services, exposure to shocks and people's perceptions of governance. In 2015, 1,553 of the original 1,853 respondents surveyed in 2013 were re-interviewed, providing a second wave of data for longitudinal analysis. This report presents the findings of the panel across the two waves. For greater detail regarding the background of the survey, how it is situated within the broader SLRC agenda, and the analytical framework used to design and analyse the survey data, please refer to the synthesis paper (Sturge *et al.*, 2017).

The SLRC panel surveys present an opportunity to go beyond cross-sectional analysis, generating information about changes in sampled populations over time, and the specific trajectories of households and respondents over the course of the study period. Specifically, the survey aims to generate information about change over time in:

- relationships with and perceptions of governance processes, practices and political actors;
- livelihoods and wellbeing (income-generating activities, asset portfolios, food security, constraining and enabling factors within the broader institutional and geographical context);
- access to and satisfaction with basic services (education, health, water) and transfers (social protection and livelihood assistance).

Regarding the first area, our approach centers on documenting and analysing people's views of governance in conflict-affected situations. It should be emphasised that we are interested here not only in the state, but also in a wider range of governance actors. As such, we consider people's perceptions of both local and central government. A geographically broad panel survey that incorporates perception-based questions enables us to investigate difficult-to-measure, subjective issues such as trust and satisfaction, and provides both a comparative snapshot and a longitudinal perspective.

Under the second topic (livelihoods and wellbeing), SLRC is undertaking rigorous, longitudinal livelihoods research using both qualitative and quantitative research methods. The aim is to understand how people make a living in particular contexts, track how their approaches change over time, and shed light on what causes change. We want to know whether people are recovering and starting to build stronger and more secure livelihoods, or are stuck in poverty or sliding into destitution. By combining

elements of both perception and livelihoods surveys, the SLRC cross-country panel survey captures both the dynamics and determinants of people's livelihoods, with a dual focus on governance and livelihood trajectories.

Linked with perceptions of governance is access to key services, and what factors determine access and experience of these services. 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). Indeed, the relationship between service delivery and state-society relations remains poorly understood. And, given the cited importance of legitimacy in state-building processes – as the *European Report on Development* (ERD, 2009: 93) notes, 'state-

building efforts are bound to fail if, in strengthening institutional capacities, the legitimacy of the state is not restored' – it is both surprising and concerning that we have so little robust knowledge about what leads to state legitimacy.

The remainder of the report is structured as follows. Section 2 provides a concise background to the country context of Uganda. Section 3 presents the survey methodology for Uganda in greater detail, describing the specific sampling methods used and the basic characteristics of the final sample. Section 4 constitutes the analytical core of the paper, respectively exploring people's perception of governance, livelihoods and wellbeing, and access to services. Section 5 discusses the findings and areas for future research, and section 6 concludes with preliminary policy implications.



## 2 The context of northern Uganda

The 20-year war between the GoU and the LRA ended in 2007 with the withdrawal of the LRA into neighbouring Chad, South(ern) Sudan, and the DRC following a truce in 2006. Over a million people were displaced by the GoU-LRA conflict, and even those who were not displaced have faced a long and difficult path re-establishing their lives and livelihoods in the aftermath of the conflict. The war destroyed schools, health centres and other infrastructure, and killed and displaced teachers, medical personnel and other essential service providers. It also weakened community and kinship networks, and eroded trust within northern communities and between the state and its citizens (UN OHCHR 2007; UNOHCHR and UHRC, 2011).

Acholi and Lango (Figure 1) – the two sub-regions in northern Uganda most affected by the decades of war, and the site of our research – continue to face immense challenges, despite millions of dollars in aid and numerous post-war development programmes. Many people continue to suffer from the loss of their homes, land and other assets, as well as the deaths, disappearances and physical and emotional injury of family members during the conflict (ibid.).

**Figure 1: Acholi and Lango sub-regions**



In part due to having experienced over 20 years of armed conflict and instability, northern Uganda is one of the poorest and most marginalised areas of the country, with the lowest human development indicators. While the south of the country (where the capital Kampala is located) is the more developed and industrialised heart of the nation's economy and population, the north

is more sparsely populated, with livelihoods centered on agriculture and agro-pastoralism. According to the Ugandan Bureau of Statistics (UBOS, 2013), the north has the highest percentage of people living in poverty in all of Uganda (currently double the rates of the rest of Uganda), with far lower incomes and education levels (UNDP, 2015).

Uganda ranked 163<sup>rd</sup> out of 188 countries on the United Nations Development Programme's (UNDP) Human Development Index at the time of the second survey wave in 2015, having dropped two places (from 161<sup>st</sup>) since the first survey wave in 2013. Nationwide poverty rates have decreased slowly but steadily over the past ten years. Yet poverty is prevalent in northern and eastern Uganda, where 84% of poor Ugandans are concentrated. According to figures from UBOS, the proportion of people living below the poverty line actually increased in northern Uganda from 39% in 2006 to 47% in 2013 (World Bank Group, 2016). In terms of non-monetary dimensions of poverty, households in northern Uganda also have much lower levels of human capital, fewer assets, and worse access to services and infrastructure than households in the central and western regions (*ibid.*). Furthermore, between 2005 and 2009, two out of every three poor Ugandans who moved out of poverty fell back into poverty, which indicates how vulnerable people are to the effects of negative shocks (*ibid.*). Thus, poverty rates are really just a snapshot in time, as there is a lot of movement back and forth across the poverty line.

In 2013, official development assistance (ODA) accounted for approximately 7% of Uganda's gross national income (GNI), and in 2015 still accounted for up 6% of it (Trading Economics, 2016). From 2013 to 2015 ODA to Uganda has remained steady at nearly US\$1.7 billion per year, with much of it being used to fund large-scale development programmes under government umbrellas. In the north, this has included programmes such as Uganda's National Development Plan, and regionally targeted policies such as the Northern Uganda Social Action Fund Project (NUSAF), and the Peace, Recovery and Development Programme (PRDP). According to the GoU, such programmes have successfully met their targets and have filled gaps in public services (UBOS, 2013). Such proclamations are dubious, however, given that the north has continued to lag behind the central and western regions significantly in education, human capital and health outcomes (*ibid.*; World Bank Group, 2016). It is also notable that Uganda continues to score poorly (151 out of 176) on the global

Corruption Perceptions Index, with corruption reportedly increasing (Transparency International, 2017; Kwewaza, 2016) and costing Uganda at least US\$300 million annually (Muhumuza, 2016).

Uganda has the second youngest population in the world (78% of the population is under 30 years) (International Youth Foundation, 2011). Uganda has among the lowest rates of primary school completion globally (World Bank Group, 2016). It also has the highest rate of youth unemployment in sub-Saharan Africa. Uganda's youth (aged 15-30 years) comprise 80% of the total unemployed population in Uganda. Uganda's youth also comprise 73% of the prison population in the country, which is disproportionate to their portion of the population (International Youth Foundation, 2011).

According to government statistics, the percentage of households headed by women in the north is the highest in the country at 35% of all household heads (HHs) (UBOS, 2013). And female-headed households (FHHs) consistently rank below male-headed households (MHHs) on most indicators of development and wellbeing (*ibid.*). As we found in SLRC qualitative research, female-headed and widow-headed households experience far greater vulnerability to land disputes, asset theft, and forms of legal marginalisation (Mazurana *et al.*, 2014a; Levine, 2015).

'Uganda's formula for success is one that works when conditions are favourable, particularly in agriculture' (World Bank Group, 2016: xxviii). At the time of the 2015 survey round, overall conditions in Acholi and Lango sub-regions appeared to be better than the several preceding years, including the baseline survey wave in early 2013 (which followed two years of poor to average production from 2011). For example, production was 'below average' in 2011, with cereal prices above the five-year average in the northern area covering Acholi and Lango sub-region (FEWSNET, 2011). While conditions improved in 2012, production was still 'near average' (FEWSNET, 2012a) and prices were comparable to the five-year average (FEWSNET, 2012b). Prior to the second wave of data collection (January 2015), there were two consecutive years of good production: it was 'average to above-average' in 2013 (FEWSNET, 2013), and continued to improve in advance of the 2014 harvest, with rainfall 80-200% above normal, leading to higher production of the main cereal crops (FEWSNET, 2014). Thus, the two consecutive years of average to above-average production prior to the second survey wave contributed to greater food security in 2015 compared

to 2013. These findings could be representative of a one-time bump in household recovery, but without more years of observation it is difficult to understand whether households were already on a steady state of recovery or if the wave-two data represent an exceptional situation.

Notably, the harvest seasons in late 2015 and the first half of 2016 were very poor according to key informants. Thus, had there been a third round of the survey in early 2017, we would likely find a very different (and worse) situation than that described in this report.

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## 3 Methodology

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, two waves in 2013 and 2015. An advantage of panel surveys is that they allow for the direct study of change within, for example, a household or an individual, which is substantially different to observing an event and people's situation only at a single point in time. The present survey captured only quantitative data for this particular report, with no systematic collection of qualitative data.

The Uganda survey contained core modules that were identical across all SLRC survey countries, allowing for better comparability. These modules included:

- Livelihood sources and activities
- Food security
- Assets
- Security and shocks
- Basic services
- Social protection and livelihood assistance
- Governance

In addition, the Uganda survey included a section (in wave one only) about the household's and respondent's experience of war crimes.

The remainder of this section describes the timing and location of the survey, the data-collection process, sampling and weighing for non-response, and the analytical method.

### 3.1 Timing and location

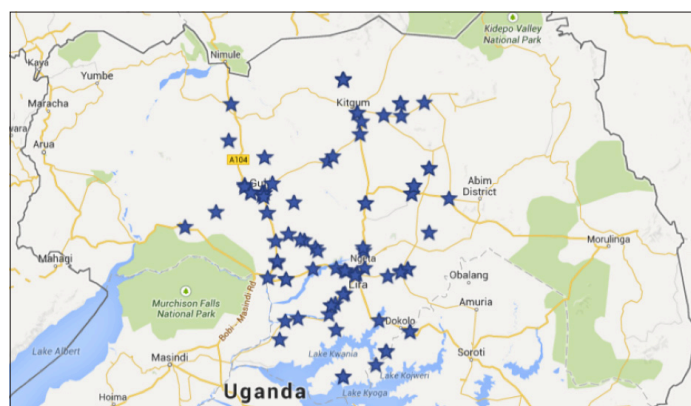
President Yoweri Museveni has been President of Uganda since 1986, and was re-elected in February 2016. The baseline survey in Uganda was conducted in January and February 2013, but where there was a three-year gap between survey rounds in the other SLRC countries, the second round of fieldwork was conducted in Uganda after only two years due to the planned election in 2016. It was judged that both the safety of the survey team and the accuracy of our findings could be at risk if we were to approach households immediately before the national elections and ask questions about people's perceptions of government.

The second survey wave in 2015 consisted of two phases: in the first phase from 5 January to 12 February



we attempted at least once to find all respondents; in the second phase between 9 March and 3 April we conducted a tracking exercise to find those who were missing. The sample is representative of approximately 1.5 million people in Acholi and 2.1 million people in Lango, for a total of 3.6 million people covering the two sub-regions (see Figure 2).

Figure 2: Map of survey area – northern Uganda



### 3.2 Data collection

In January and February 2013, a team of 42 enumerators conducted interviews in the two survey sub-regions. In the same months of 2015, a group of 40 enumerators and four team leaders carried out the second wave of data collection. Preparation for the data collection consisted of a five-day training, the purpose of which was to familiarise enumerators with the objective of the survey, the content of the survey instrument, and the use of electronic tablets for data collection. The survey instrument was programmed to run on the application Kobo Collect,<sup>2</sup> which allows data to be collected while offline and then uploaded via internet connection to the server – in this case we hosted the data on the ONA platform.<sup>3</sup> While the use of tablets involved some technological challenges – such as hardware and software problems, poor battery life complicated by an electricity-poor environment – which made the enumerators' job difficult in some cases, there were also some major advantages over paper surveys. For example, data was uploaded daily from Uganda and checked in real time by the central SLRC team in London. Feedback was then given to the survey team on enumeration quality, discrepancies in household

identification numbers between waves, and other inconsistencies, which greatly improved data quality. The use of tablets also meant that there was no need for transcription of paper surveys, thus removing one step at which human error could creep into the dataset.<sup>4</sup>

One of the main challenges we faced with second-wave data collection was the likelihood of attrition – the loss of at least some of our original sample population for whatever reason. Attrition poses a threat to the internal validity of a panel survey, so there is a need to keep it as low as possible. To this end, we were able to use some information collected in the baseline survey to help us track down respondents in the second wave, including addresses, phone number (for some respondents), the household roster (in order to describe the household to others living in the same community), and their global positioning system (GPS) coordinates.

The sample size in 2013 was calculated to equal 120% of what would be needed in order to achieve statistical significance at the study and village level and representativeness at the village level. This meant that in the second wave it would be necessary to find approximately 83% of the original respondents in order to maintain statistical power at those levels (an attrition rate of 17%). After the first phase of trying to find respondents, around 73% of the same respondents had been re-interviewed, making it necessary to employ more focused search efforts which, in the end, yielded 84% of the original sample. Given resource constraints, it was estimated that only half of the missing respondents could be tracked, therefore we randomly selected half of the sub-counties containing missing respondents in which to concentrate the search efforts. This was done to minimise the risk of bias from convenience sampling.

### 3.3 Sampling and weight for non-response

There were 1,853 completed surveys at the baseline survey in 2013 (with four additional non-responders). We were able to complete 1,553 surveys in the second wave survey in 2015, meaning that overall attrition was 16%. As Table 1 illustrates, attrition level differed by sub-region, which is the level at which the sample is representative.

<sup>2</sup> <http://www.kobotoolbox.org/>

<sup>3</sup> <https://ona.io>

<sup>4</sup> 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.

**Table 1: Attrition by sub-region**

	Number of respondents in wave 1	Number of respondents in wave 2	Attrition (%)
Acholi	917	745	18.6
Lango	936	808	13.7

In the case of Uganda, not all respondents had an equal probability of being selected in wave 1. This is because sub-counties were sampled using the probability proportional to size systematic sampling method (PPSSys), whereby larger sub-counties have a higher likelihood of selection, therefore equalising the probability of being selected as a respondent, regardless of sub-county. To account for unequal probabilities of selection, a design weight was assigned to all the respondents based on the probability of a respondent being selected from a certain sub-region, given the number of sub-counties sampled in that sub-region, and the population of that sub-county (see Annex A for a more detailed description of the sampling method).

In addition, given that 16% of the sample ‘dropped out’ (meaning that the original proportions of the sample are no longer the same), the design weight was adjusted to account for the non-randomness of attrition. To do so, the design weight was multiplied by the non-response adjustment to restore the proportions to the original sample. The result is that the households remaining in the sample take on a greater weight, the more similar they are

to those households that have dropped out (again, see Annex A for greater detail).

### 3.4 Analytical methods

The complexity of a dataset can pose a serious challenge when it comes to analysing panel data. In the present study, there are up to two observations for each respondent, and it is likely that their responses to some questions correlate over time. As such, our analytical approach has implications for the validity of our estimates.

Two models were used in order to analyse the data, namely fixed (FE) and random effects (RE) (refer to Annex B for a detailed description of the models). While we have used the FE model for all time-variant variables (such as wealth, food security, access to land, etc.), we have used the RE model for time in-variant variables (history of displacement, region, etc.) (see Annex B for a detailed description of the decision behind which model to use).

In addition to the regressions, we also draw on extensive descriptive statistics in the analysis that follows, which show, for all variables of interest, the cross-sectional mean or distribution in both waves and the number of ‘switchers and stayers’ between waves. This terminology (ours) refers to the differentiation between respondents who switched their answer to a given question between waves (‘switchers’) and those who gave the same response in both waves (‘stayers’). Switching is often further disaggregated into an ‘upward’ or ‘downward’ switch, or similar.

## 4 Findings

This section presents our findings across the three main topics of inquiry outlined in the Introduction: i) perceptions of local and national government, ii) livelihoods and wellbeing, and iii) access and satisfaction with services.

### 4.1 What matters in relation to perceptions of local and national government?

We use two different indicators to measure respondent perceptions of local and national government:

- To what extent do you feel that the decisions of those in power at the local/central government reflect your own priorities?
- Do you agree with the following statement: the local/central government cares about my opinions?

Overall, perceptions of both local and central government improved between the two waves (Table 2).

**Table 2: Perceptions of central and local government by wave**

	Wave 1 (% HHs) <sup>a</sup>	Wave 2 (% HHs)	% difference between waves
Central government cares about my opinion (yes)	36	45	9***
Central government reflects my priorities <sup>b</sup>	12	15	3***
Local government cares about my opinion (yes)	41	46	5***
Local government reflects my priorities <sup>b</sup>	13	12	-1

Notes: a) HHs = households; b) Includes categories 'very much, to a large extent' and 'absolutely, always';  
\*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%

Approximately one quarter of respondents improved their perceptions of both central and local government over time, a little over half did not change their opinion, and between 17 and 19% had a more negative perception of the central and local government, respectively, by wave two (Table 3).

**Table 3: Changes in perception that central/local government ‘cares’ about respondents’ opinions by wave**

	Central government (% HHs)	Local government (% HHs)
No change	57	56
More positive perception of government	26	25
More negative perception of government	17	19

Using the results from the RE and FE regression analyses, we identified several key relationships, primarily between livelihoods and services and improved perceptions of the central and local government (see Annex C: Table C2 and C3).

Livelihood activities, and changes in those livelihood activities, are associated with changes in the respondent’s perception of government. Households that switched to own-cultivation or to owning a business were significantly less likely to say that the local government reflects their priorities. In addition, respondents within households where someone had migrated internally or internationally between waves had improved perceptions of both local and national government by wave two. Thus, we find that having a household member work elsewhere (where one did not before) correlates<sup>5</sup> with a more optimistic view of both the local and national government. This does not seem to be directly related to remittances, however, as households that received remittances by wave two actually lowered their opinion of the government. This association between having wider livelihood options and government perception is further corroborated by the statistically significant and positive relationship between livelihood diversification and an improved perception that the central government reflects a respondent’s priorities.

We find that changes in time travelled to and satisfaction with services often correlate with changes in perception of both local and central government across both indicators. An increase in the time travelled to reach a health centre correlates with deteriorating perceptions of the central government, while an improvement in overall satisfaction with health services correlates with an improvement in perceptions of local government (cares about opinion and reflects priorities) and central government (cares about

opinion). Furthermore, if the government or community provided water services (compared to no one), we find that perceptions of both central and local government improved over time. However, receiving social protection services (in wave two but not in wave one) correlates with a worse perception of local government by wave two. The findings suggest that, whilst there are relationships between access to and satisfaction with services, the association is far more complex than is usually assumed by donors and policy-makers.

If a household reported experiencing more problems with services by wave two than in wave one, their perception of local (but not central) government deteriorated over time. However, perceptions of local government were more likely to improve the more respondents were able to report grievances through existing accountability mechanisms. Similarly, increasing the number of community meetings (on services) that a respondent knew about correlates with improved perceptions of both local and central government by wave two. Thus, taken together, we find that an investment in service delivery alone is not enough, and that grievance mechanisms are needed to achieve improved perceptions of both the local and central government.

## 4.2 Changing livelihoods and wellbeing: what does this tell us about ‘recovery’?

Livelihoods and wellbeing are broad concepts and cannot be meaningfully captured by a single indicator or snapshot of a moment in time. Thus, we have measured it in two different ways, by looking at:

- household food security (using the Coping Strategies Index (CSI) as a proxy)
- household wealth (household asset ownership, using the Morris Score Index (MSI) as a proxy).

The CSI is a tool for measuring current access to food and quantity: the higher the score on the index, the worse off the household (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.). We calculated the overall score of the insecurity index for each household by multiplying the number of times in the previous week that each coping strategy had been used by the pre-assigned weight of that strategy, and summing the products.

<sup>5</sup> Correlation measures how changes in one variable are associated with changes in another variable.



These behaviours are given in Annex C, Table C1, which replicates the survey question.

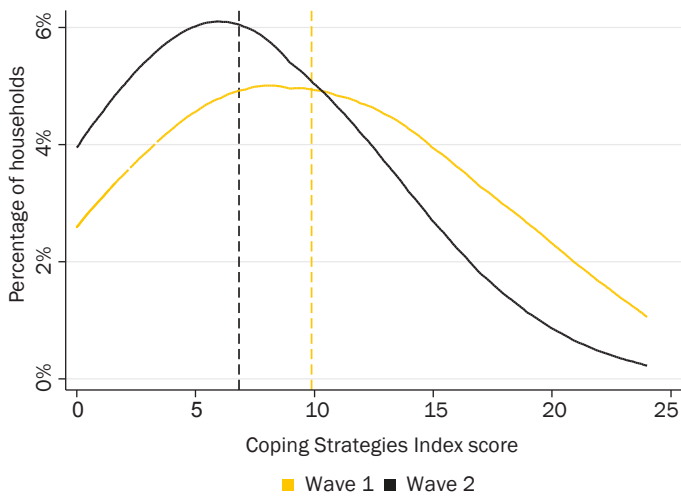
To build the second outcome indicator – household wealth – we use the MSI to measure the assets owned by the household (Morris *et al.*, 2000). The MSI is a weighted asset indicator, that weights each durable asset owned by a household by the share of households within a sample that own that asset. This means that households are considered better off when they own assets not owned by most households in the sample. The MSI includes all productive household and livestock assets within the survey. The MSI has been shown to be a good proxy of household wealth in rural Africa (*ibid.*) and has been used in many other settings too, for example in transition countries like Albania (Hagen-Zanker and Azzarri, 2010). Of course, it is also likely that relationships may exist between asset ownership and food security.

In terms of both food security and wealth, we see a significant improvement in household outcomes: both in terms of a significant increase in food security and a significant increase in asset wealth. And while the two are highly correlated, there are differences in how the positive impact is distributed across the population, and the main indicators that correlate with the difference in wealth and food security.

### 4.2.1 Food security

Food security significantly increased on average between wave one (January 2013) and wave two (January 2015) in the region, as measured using the CSI. In wave one, the mean CSI was 10; by wave two it fell by 30% to a score of 7. Thus, we find that distribution of the CSI shifted towards the left from wave one to wave two, which shows an overall improvement in food security in the sample population (Figure 3).

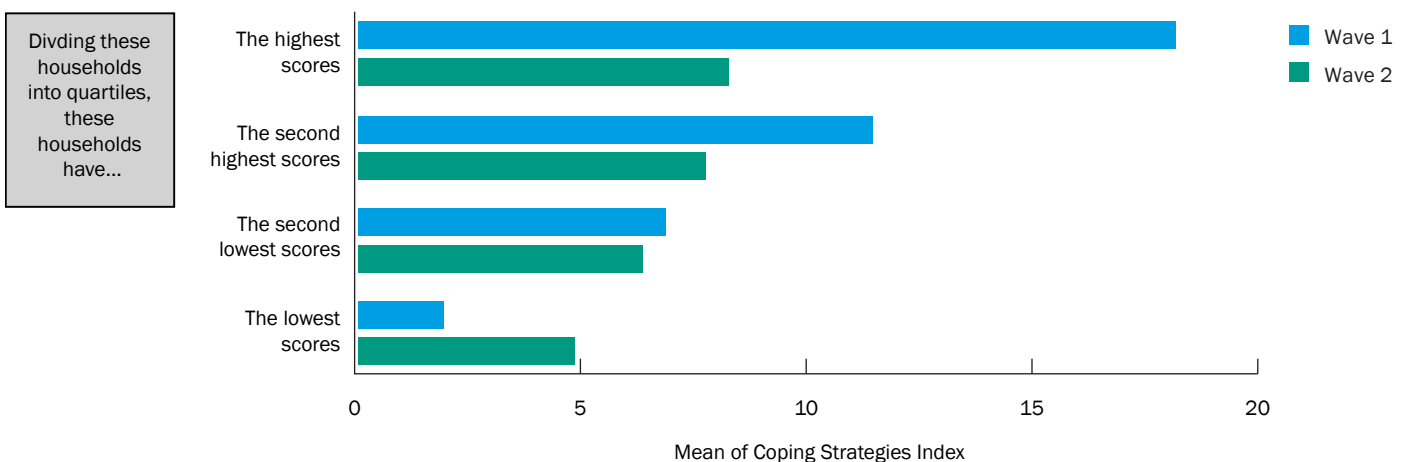
Figure 3: Food insecurity (CSI) density curve, by wave



However, it should be noted that this positive shift did not equally benefit all households. Nearly two thirds of all households (62%) reported better food security in wave two compared to wave one, while 30% saw a worsening of their food security, and 8% reported no change. The largest improvement in food security occurred amongst the households that had the highest food insecurity score in wave one (as measured by CSI) – i.e. the 25% of respondents with the highest scores at wave one (Figure 4).

Using the RE and FE regression results (see Annex C, Table C4), we are able to identify key relationships between particular variables and improved food security by wave two. Several household and household head characteristics correlate with improved food security, including: education of the household head, wealth,

Figure 4: Food insecurity by wave



owning productive assets for transportation, having a child who is working, and receiving livelihood assistance. On the other hand, number of shocks experienced in the past year or previous experience of conflict or displacement correlate with worse food security.

The more educated household members are (measured as the mean years of education of household members 15 years of age or older during wave one), the higher their level of food security in the household. Given that the mean value for CSI is roughly 10, for every additional year of mean household education, the CSI declines by approximately 1.7%.<sup>6</sup>

Changes in a household's weighted asset portfolio (measured using the natural log of the MSI) correlate significantly with changes in food security. Although the MSI is primarily made up of household assets, productive assets are included separately in the regression (Table 4). Owning either of two productive assets – wheelbarrow or bicycle – has one of the largest associations with improved food security between the two waves.

Households that gained a source of transportation or transportation for goods between waves increased their food security by 10% between the two waves.

**Table 4: Asset ownership over time**

	Wave 1 (% HHs)	Wave 2 (% HHs)
Mobile phone	53	58***
Generator	2	2
Radio	57	56
Mattress	73	81***
Solar panel	5	14***
Hand tools for digging	94	94
Hand tools for cutting	72	79***
Plough	17	21***
Powered machine	1	1
Bicycle or wheelbarrow	53	57**
Donkey	<1	<1
Motorbike	5	7***

Notes: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

Approximately half of all households reported in both waves that they had at least one school-age child within the household who was working, and an equal proportion of households (17%) switched between waves

from having a child work to not working, and vice versa. Having a child within the household work in wave two but not wave one correlates significantly with a 7.5% improvement in the CSI between the two waves.

Households not receiving livelihood assistance in wave one but receiving it in wave two show a significant increase in their food security, with a 10% improvement in CSI score between the two waves. Although we cannot demonstrate causality, we suggest that good harvests resulted in increased resources and greater participation in savings and credit groups. In wave one, 36% of households accessing livelihood assistance specifically referred to participation in savings and credit groups; in wave two, this figure increased to 51% of all households receiving livelihood services. On further qualitative investigation, no new programming around savings and credit had been implemented between waves. Thus, we hypothesise that households are more likely to take advantage of or participate in a savings or credit group when they have some additional wealth to spare. Alternatively, other factors may be at play here – for example, change in the criteria for inclusion in savings and credit programmes, or the gradual broadening of take up of financial services as they become more established locally. Thus, the same hypothesised drivers of higher food security (i.e. better harvest, more income, etc.) could also have driven greater participation in the savings and credit groups, and hence reporting of receipt of livelihood services. We touch on this more in section 5, but note that additional research is required to test this hypothesis.

The regression analysis also identifies household characteristics that correlate with worse food security. Households that did not experience a natural shock (bad weather or crop/livestock disease) in wave one but experienced one in wave two saw a 16% decrease in their food security score, on average, between the two waves.

Finally, the regression analysis shows that even in a good harvest year (see section 2), there is a lasting impact of the war on household food security. Having someone in the household who experienced a war crime and having a history of displacement both significantly correlate with lower levels of food security. However, households that had experienced war crimes saw a larger increase in their food security between waves compared to those households that did not experience such crimes. Thus, despite their initial vulnerability, households that had

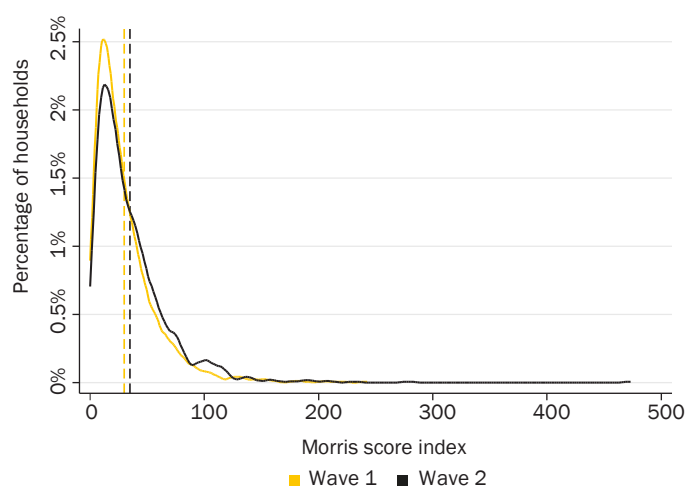
<sup>6</sup> We use this approach to gauge the level of change in food security for the remainder of this section.

at least one member report a war crime in wave one appear to have closed the food security gap somewhat on those households that did not report a war crime. Further waves of the survey are required to see whether this improvement is sustained under different harvests, however.

#### 4.2.2 Wealth

Similar to food security, wealth significantly improved across the two waves for the population as a whole (Figure 5) and within each sub-region. The MSI increased by 17% from an average score of 30 in wave one to a score of 35 in wave two.

Figure 5: MSI by wave



More than half of all households (52%) saw more than a 10% increase in their MSI between waves. And while a similar average increase in MSI over time was observed for all but the wealthiest 25 percent of households at wave one, it is worth noting that, unlike food security, no great equalisation occurred across the groups. The correlation between what quartile group a household was in at wave one and their position at wave two is 0.48 for wealth and 0.25 for food security. Thus, we see that when it comes to wealth, there is less movement up and down the distribution, especially when compared to the more fluid distribution of food security. Put another way, approximately half of all households that were in the top 25% wealth group in wave one stayed there in wave two, just as half of all households in the bottom 25% wealth group stayed in the bottom 25%.

Using the FE regression results, we identify several variables that are associated with improved wealth between the two waves (see Annex C), including household demographics, access to livelihood

opportunities and support, and better food security. On the other hand, the previous experience of war crimes correlates with worsening food security between the two waves.

The more static nature of wealth, as compared to food security, is visible by the statistical significance of the relationship between almost all household demographics and wealth. Female-headed households (FHHs) had a significantly lower wealth status across both waves than male-headed households (MHHs), by 2%. On the other hand, households with higher levels of education (at baseline) had significantly higher wealth across both waves, by an average of 0.5% for each additional year of schooling on average among household members. Household composition also plays an important role in relation to wealth, with those that increased their household size between the two waves also significantly increasing their wealth by 1% for each additional household member.

Households that increased their collective number of livelihood activities between the two waves also increased their wealth over time. For each additional reported livelihood activity in wave two compared to wave one, the MSI increased by 2.6%. As with food security, livelihood assistance correlates with positive changes in wealth, with households that reported receiving livelihood assistance (including access to village savings and credit groups that capture financial services more than livelihood assistance) in wave two but not wave one improving their MSI by 1.6% over time.

Wealth seems to be relatively unaffected by the experience of shocks, compared to food security. Only changes in the number of crimes experienced (verbal threats, theft, burglary, etc.) negatively correlate with changes in wealth, as households that experienced more crimes in wave two compared to wave one also saw a decrease in their wealth status over time. This makes intuitive sense, considering that, in this survey, wealth is a measure of asset ownership, and households that experienced crimes may have lost assets as a result.

Both the food security and wealth regression analyses show that the two measures of wellbeing (CSI and MSI) increase together, and that change between the two waves in one variable significantly correlates with change in the other variable as well. The two indices also share some similar associations: education of the household head, livelihood diversification, and access to livelihood assistance all correlate with an

improvement in CSI and MSI scores. However, given that wealth (measured in physical assets) is more static than food security (measured in consumption) because people tend to reduce food consumption before selling assets (see Carter and Lybbert, 2012, for an example from Burkina Faso), the association between these household characteristics and wealth are smaller than the association with food security.

### 4.3 Access to and satisfaction with services: what drives change?

We are interested in which factors determine access to an experience of services. Because the survey covered a large range of services (basic services such as health, water and education, as well as livelihood support), we have used simple, relatively blunt proxies for access. In the case of health, education and water, we consider round-trip journey times (in minutes) to health centres or hospitals, primary schools and water sources. Given the importance of health in a post-conflict context, we also explore questions regarding access to health services for routine and serious problems, however. For education, we explore school attendance separately for girls and boys. In addition, we consider overall satisfaction with the service provided (for health and education), and whether respondents perceive their water as clean and safe. The remainder of this section discusses our findings for each service in turn.

#### 4.3.1 Health

We have considered four indicators of access and perceptions of health services: i) minutes to a health centre, ii) access to health services for routine problems, iii) access to health services for serious problems<sup>7</sup>, and iv) satisfaction with health services. All three of the access indicators (i-iii) show a statistically significant improvement between the two waves, but there is no statistically significant difference in satisfaction (iv) (Table 5).

The largest proportion of households that reported an improvement in any of the health-related variables presented in Table 5 is in the reduction in travel time to

**Table 5: Access and perception of health by wave**

	Wave 1	Wave 2	Difference (% points)
Minutes to a health centre	125	100	-25***
Access to health services for routine health problems (%HHS)	83.9%	87.5%	3.6***
Access to health services for serious health problems (%HHS)	76.9%	80.6%	3.7**
Satisfaction with health services (%HHS)	77.1%	76.6%	-0.5

Notes: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%

a health centre.<sup>8</sup> However, improvement was not equally distributed across all socioeconomic levels. Instead, we observe the greatest difference in time travelled to a health centre between the two waves amongst the 25% of households who had the longest journeys in wave one (Figure 6). By wave two, these households reported a 50% reduction in the time to reach a health centre.

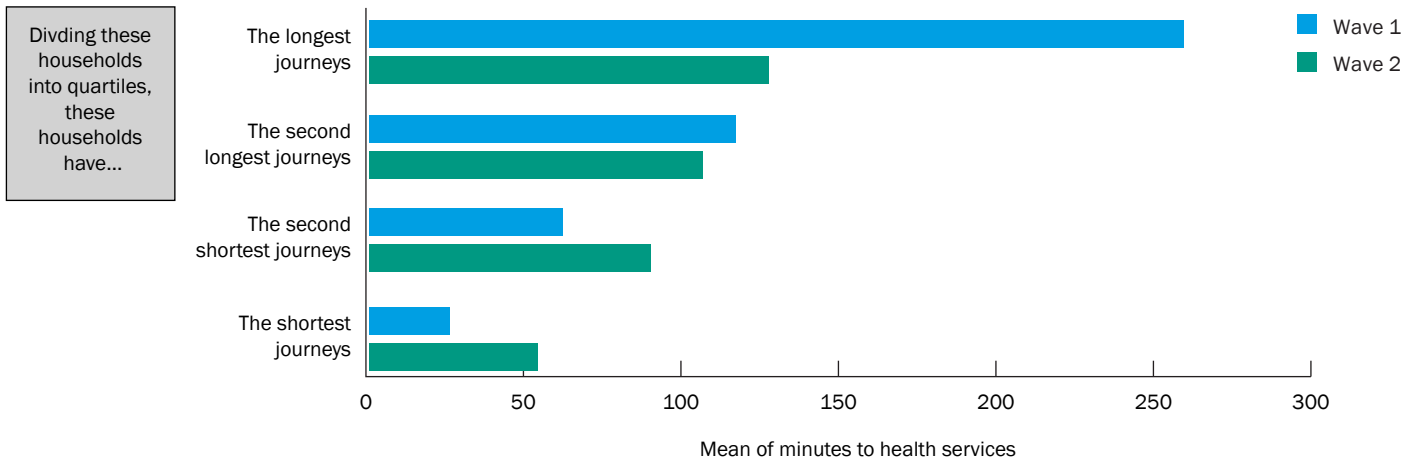
It is difficult to identify why there are improvements in time required to travel to a health centre. The data is calculated only for households that said they did not switch health centre between waves, therefore one possible explanation is that households have greater income and hence can afford transportation to the health centre. There is evidence to support this theory in that households that reported having access to remittances in wave two also showed the greatest decline in their travel time to the health centre (discussed below). Another possible explanation is methodological – travel time is a self-reported indicator, and hence deviations in this indicator at different reporting times are likely. Respondents who over and underestimated travel time at the baseline (i.e. the bottom and top 25%) could have provided equally problematic responses in wave two, thus, smoothing out differences. The consistency of this trend across the outcome variables suggests that these findings are not coincidental; however, more research is needed to explain them.

<sup>7</sup> The outcome variable here is access to services, which is defined as 1 if the household reported any type of access, even with poor availability of treatment, and defined as 0 if the household said they did not have access due to distance or cost of treatment. Question: 'Please tell me which of the following BEST describes your household's access to health care services for Serious illness or injury?' Coding: 1 if respondent replied 'we can access and treatments are available', 'we can access and the treatment we need is usually not available', 'we can access but there is low quality service', and 0 if the respondent replied 'we cannot access because we cannot afford the health care' or 'we cannot access because of distance/transport issues'.

<sup>8</sup> A difference of five minutes or less was counted as 'no change'.



Figure 6: Time to a health centre by wave



We observe a statistically significant rise, overall, in the percentage of households reporting that they could access the health centre for routine and for serious health problems. However, only 12% and 16%, respectively, reported an improvement, while 9% and 12%, respectively, reported a decline in access (Figure 7). A similar proportion of households (16%) reported an improvement as reported a worsening in overall satisfaction with the health services that they accessed.

Using the RE and FE regression analyses, we identify several key relationships with improved health access and satisfaction between the two waves (see Annex C).

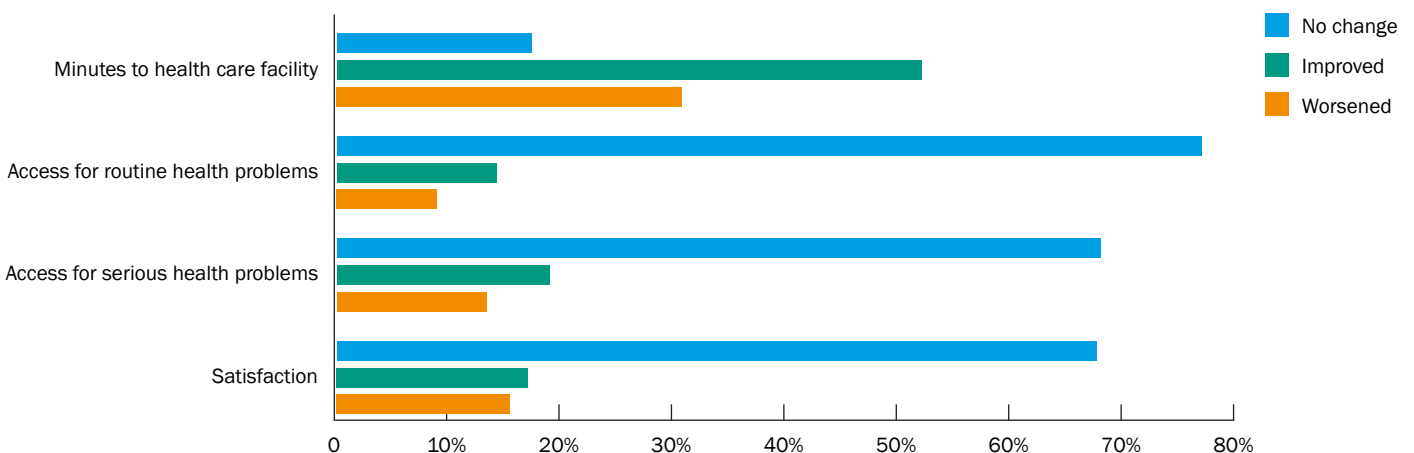
Surprisingly, the four health indicators do not always significantly correlate. The one relationship we observe in the regression analysis is that an improvement in satisfaction with medicine and equipment between the two waves also positively and significantly correlates with improved access for routine services. When looking at

variables that relate to changing satisfaction, the largest correlation is with satisfaction in individual aspects of health services, including: number of personnel, availability of medicines and equipment, and waiting time. Of all three, satisfaction with the availability of medicine/equipment has the largest coefficient, meaning that it is most strongly linked with a change in overall satisfaction with health services.

Living in an urban area correlates with better healthcare access. Households in urban areas reported journey times to health centres that were 33 minutes shorter, on average, than households in rural areas. Living in an urban area not only means shorter travel time, but also better access to care for serious health problems (where we observe positive responses that are twice as frequent compared to routine health problems).

Wealth also appears to play an important role in access to health services, although our hypothesis on this requires

Figure 7: Access to and satisfaction with the health centre, over time



further testing. While there is no statistically significant relationship between asset wealth and time to a health centre, there is a statistically significant relationship between receiving remittances and time to a health centre (for which we find one of the largest regression coefficients for journey time to a health centre). If a household went from not receiving remittances in wave one to receiving remittances in wave two, their reported journey time to reach a health centre decreased by 35 minutes between waves (a difference comparable to living in an urban versus rural area). Given that these households did not report changing health centres between the two waves, one hypothesis is that access to remittances makes transport to the health centre more affordable. However, as noted above, more research is necessary to determine the mechanism behind this relationship. Furthermore, these households also reported an improvement in their access to care for serious health problems, which most likely illustrates an ability to pay for the higher cost of these services.

The importance of wealth is further highlighted by the significance of informal fees in the ‘access to health services for serious health problems’ regression analysis. Households that started paying informal fees between waves were also more likely in wave two to report that they had access to a health centre to treat serious health problems. This has important implications for the ability of households to get the services that they need, given the additional and – more importantly – informal fees that households must pay if they need treatment for serious health problems.

The provider of the health centre mattered for both access to care for serious health problems and satisfaction with the health services, but not in consistent

ways. In terms of access, households that switched from using a government health centre in wave one to those run privately or by any other institution in wave two were significantly less likely to report being able to access health services for serious health problems by wave two. In terms of satisfaction levels on the other hand, households that switched to a government-run institution in wave two were significantly less likely to be satisfied with the service.

Having a household member who had experienced a war crime correlates with households reporting that they do not have access to a health centre due to cost or distance for both routine and serious health problems. Considering that these are the same households that are more likely to have both routine and serious health problems, this significant relationship is highly problematic.

### 4.3.2 Water

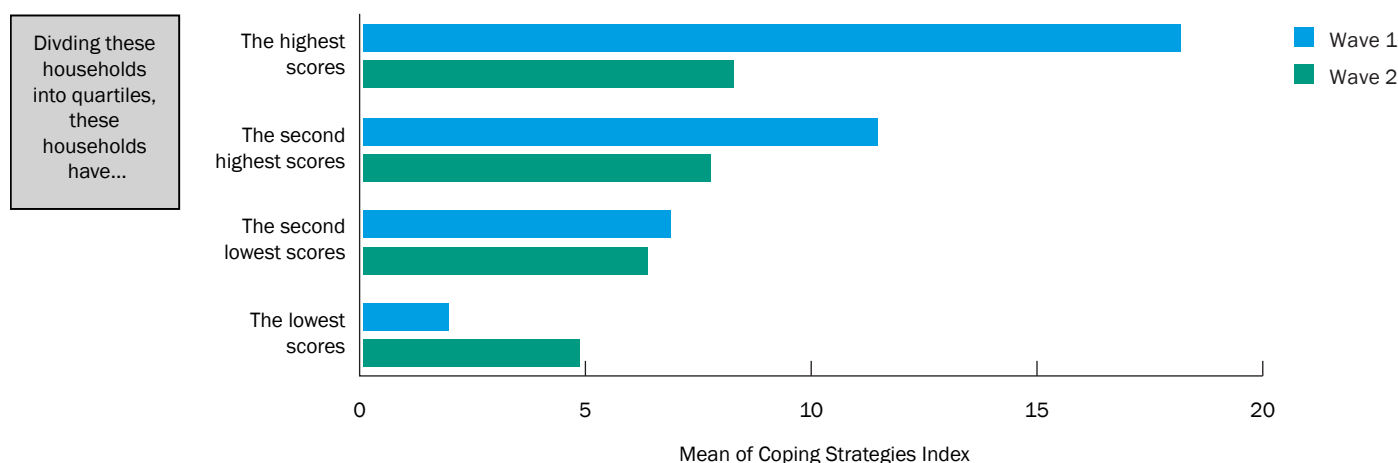
We look here at two indicators of access to and perception of water quality, namely: minutes to a water source, and satisfaction with water services. We observe a statistically significant improvement for both measures between the two waves (Table 6).

**Table 6: Water access and satisfaction by wave**

	Wave 1	Wave 2	Difference
Minutes to a water source <sup>a</sup>	43	34	-9***
Water is clean and safe (according to respondent, %HHs)	73%	80%	7***

Notes: a) A difference of less than 5 minutes was coded as ‘no change’; \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

**Figure 8: Journey time to water by wave**



Forty-six per cent of households reported an improvement in the time travelled to a water source between waves, compared to 16% of households that reported an improvement in the quality of their water and switched to reporting that their water was ‘clean and safe’. However, the only group reporting an improvement in access to water was households that reported the longest distance to travel in wave one (bottom 25% in Figure 8). Please refer to the previous section on health for a discussion on this phenomenon.

From the RE and FE regression results we find that a few variables are associated with improved water access and quality between the two waves (see Annex C: Tables C9 and C10). Living in an urban area correlates with shorter travel times to a water source by an average of seven minutes. The provider of the water source (as reported by the respondent) also strongly correlates with perceptions of the quality of the water. Households that switched from using a water source that was run by no one to one that was run by the government (or where the management switched) also reported a statistically significant improvement in their water quality between the two waves.

### 4.3.3 Education

Here, we consider three education indicators: school access, satisfaction, and attendance. We observe a positive, statistically significant change between waves in satisfaction with primary school, with respondents being more likely to report that they are satisfied in wave two compared to wave one. However, there was no difference in time travelled to school, and a statistically significant decline in the proportion of boys and girls that were reported to attend school every day (Table 7).

**Table 7: School access, attendance, and satisfaction by wave**

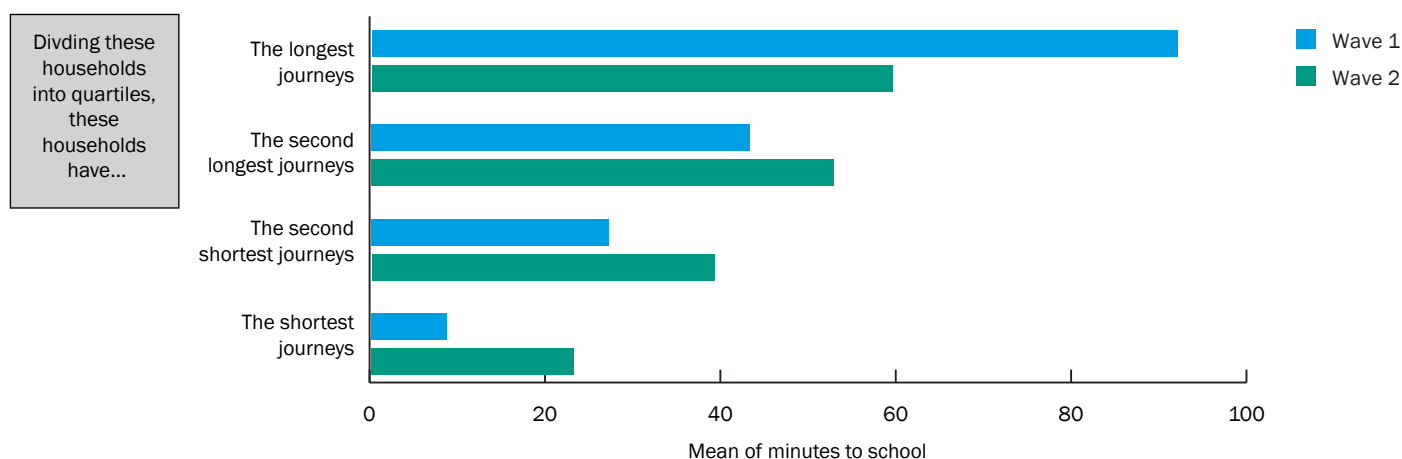
	Wave 1	Wave 2	Difference
Journey time to school <sup>a</sup> (mins)	54	51	-3
Satisfied with school (%HHs)	72%	80%	8***
Boys attend school every day (%HHs)	79%	70%	-9***
Girls attend school every day (%HHs)	79%	70%	-9***

Notes: a) A difference of less than 5 minutes was coded as ‘no change’; \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

A similar proportion of respondents reported a reduction in their travel time to school (33%) as those reporting an increase (41%). While we see no statistically significant improvement on average, when we look at time to school in wave two compared to wave one, we see a familiar pattern: households that had the longest distance to travel in wave one are the only group that reported a statistically significant reduction in travel time, on average, between waves (Figure 9). This offers further support to our hypothesis that the gap between the poorest households and others has become smaller over time.

The proportion of households that switched from not being satisfied to being satisfied with school services (21%) is double the number that switched from being satisfied to being dissatisfied (11%) in wave two. At the same time, almost a quarter of households (24%) that reported in wave one that their girls attended school every day switched their response in wave two to no longer attending school every day. For boys, 20% of households

**Figure 9: Journey time to school by wave**



switched their response to no longer attending school every day by wave two (Figure 10). Of all the variables that proxy for service access, quality and satisfaction, school attendance is the only variable that shows a statistically significant decline between the two waves.

From the RE and FE regression results we can identify several variables that relate to improved school access and satisfaction between the two waves (see Annex C).

Of the four school variables, only satisfaction and journey time correlate – the farther the school, the less satisfied respondents were with the quality of the school. As with all other services, living in an urban area correlates with significantly shorter journey times to school (by an average of 16 minutes) and greater levels of satisfaction. However, we find no relationship with school attendance.

Education level of the respondent significantly correlates with whether girls attend school every day, but has no relationship with boys' attendance. We interpret this finding as showing a greater investment in boys' than girls' schooling by less educated households, while more educated (and richer) households have resources to enable all children to attend school regularly.

Livelihood diversity is an important indicator of school satisfaction, but we find the opposite relationship with girls' attendance (only). Households that increased their livelihood diversity between the two waves also reported a statistically significant increase in their satisfaction with the school over time. However, those same households also reported a statistically significant decrease in the frequency of girls' attendance between the two waves. In this way, livelihood diversification had the largest negative and statistically significant coefficient in the regression

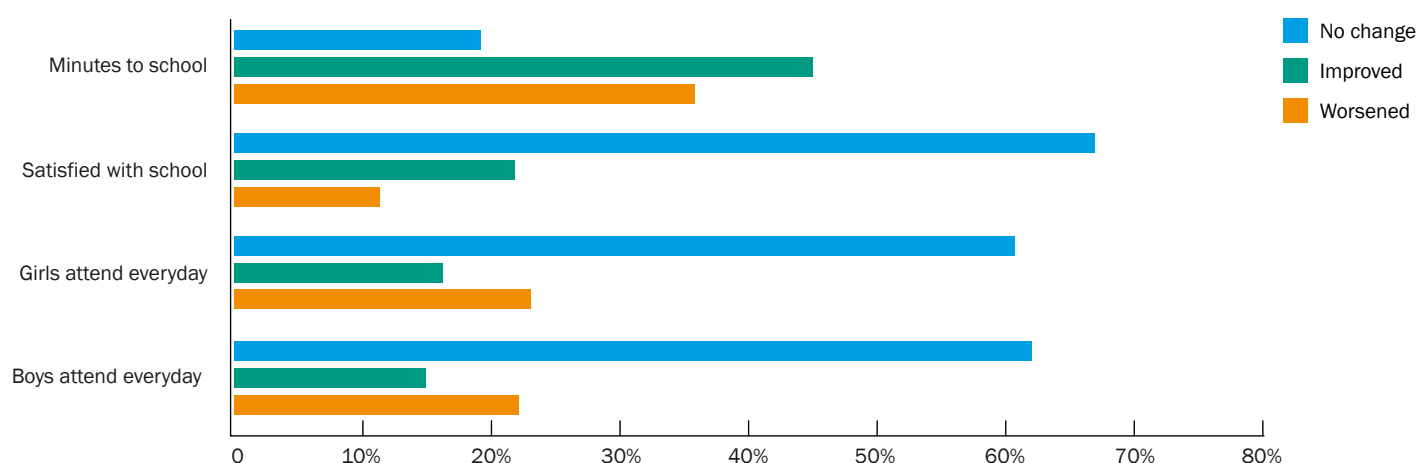
in relation to girls' attendance. No such variation is observed with regards to boys' school attendance (see section 5.2 on livelihood diversity and education for more discussion of this). One hypothesis is that households are more likely to take a girl out of school in order to take advantage of additional livelihood opportunities, putting greater priority on the education of boys within the household. We discuss this in greater detail in section 5, however more research is needed on this hypothesis.

While changes in the number of crimes experienced had a statistically significant and negative relationship with changes in boys' and girls' school attendance between the two waves, changes in experience of shocks only affected girls' school attendance. If a household experienced an increase in shocks between the two waves, girls' school attendance significantly declined between the two waves; if a household experienced an increase in crimes, on the other hand, both girls' and boys' school attendance statistically significantly declined over time. However, one encouraging finding is that if a household had a member that had suffered a war crime, that household was more likely to have a girl enrolled in school and who attended every day (Mazurana *et al.*, 2014b).

#### 4.3.4 Livelihoods assistance

We focus here on changes in receipt of social protection and livelihood assistance services. The social protection variable is an amalgamation of several types of support, including: food aid or free household items, school feeding programmes, old-age pension, feeding patients in hospitals, retirement pension, and 'other' social-protection transfers. The livelihood assistance variable includes seeds, fertiliser, pesticide, tools and extension

Figure 10: Education 'switchers' and 'stayers' over time



services, agricultural extension, including training and marketing, seed money for revolving funds (savings and credit),<sup>9</sup> non-agricultural servicing, including training and marketing, and ‘other’<sup>10</sup> projects intended to help with livelihoods.

Only 8% of households received social protection and 19% received livelihood assistance in wave two. While the prevalence is low, the number of households that reported receipt of social protection doubled between the two waves and is statistically significant (Table 8).

**Table 8: Social protection and livelihood assistance by wave**

	Household received it in wave 1 (%)	Household received it in wave 2 (%)	Difference (% points)
Social protection	4%	8%	4***
Livelihood assistance	16%	19%	3**

Notes: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

Twice as many households gained social protection transfers as lost them between the two waves (Table 9), although the proportion of both remained very small; notably, this increase was driven by a significant change in Lango sub-region only. Similarly, the proportion of households gaining livelihood assistance by wave two was larger than the proportion losing it, and a significantly larger proportion of households went from not receiving livelihood assistance in wave one to receiving them in wave two in Lango, compared to Acholi.

**Table 9: Changes in receiving social protection and livelihood assistance between waves**

	Social protection (% HHs)	Livelihood assistance (% HHs)
No change	90	73
Started receiving services in wave two	7	15
Stopped receiving services in wave two	3	12

Not all social support services increased at the same rate and across regions, and while not all statistically significant, three of the five services actually decreased,

namely: food aid, school lunches, and feeding patients in hospitals. Of the individual services, the proportion of households that received pensions and ‘other’ social protection transfers<sup>11</sup> statistically significantly increased in Lango, while in Acholi we observed a statistically significant decline in feeding patients in hospitals.

In terms of the livelihood assistance variable, the largest increase in participation was observed in Lango with participation in credit and savings groups, where almost twice as many households reported participation in such groups in wave two as in wave one (see a more detailed discussion on VSLAs in section 5). No such growth was observed in Acholi, although we have observed a statistically significant increase in the proportion of households receiving non-agricultural services in this sub-region. Besides the growth in credit and savings groups observed in Lango, we also find a statistically significant decline in receipt of seeds and fertiliser, agricultural extension services, and ‘other’ livelihood assistance.

We have identified several variables from the RE and FE regression results that relate to increased access to social protection and/or livelihood assistance (see Annex C).

We find that more educated households are statistically significantly more likely to receive social protection services, across both waves. This could be perceived as a ‘red flag’ that social protection services are not being provided to the most vulnerable, but more research is needed to understand this association. In addition, our analysis shows that households that increased their wealth between waves were also statistically significantly more likely to report that they also received livelihood assistance by wave two, having not received it in wave one. The same association is found between an improvement in food security between the two waves and receiving livelihood assistance in wave two and not in wave one. These findings have implications for whether there are problems of elite capture and targeting within livelihoods assistance programmes.

There is some evidence that certain types of livelihood assistance are targeted at vulnerable households, however. For example, experiencing a natural or economic shock in wave two, but not in wave one, correlates with

<sup>9</sup> The initial provision of seed money for credit savings can fall under livelihood assistance, however, once the group is up and running, future members work on the basis of self or mutual help, and thus can also be described as having better financial access.

<sup>10</sup> Including: mosquito nets, police, borehole support, secondary education support, tree planting, and provision of animals (cattle, poultry, goats, and birds).

<sup>11</sup> The only other social support provided was NUSAF.

households reporting receipt of livelihood assistance in wave two and not wave one. Furthermore, households that had experienced a war crime are statistically significantly more likely to have also reported receipt of livelihood assistance services. This can be partially explained by the fact that VSLA-related activities were being carried out by the NGO War Child, and in some

of the districts most affected by the war – thus both increasing the likelihood of direct targeting as well as greater random inclusion of war-crime households. In addition, Caritas Australia in Lango region and Action Contre la Faim (ACF, Action Against Hunger) in Otuke district both targeted households exposed to domestic violence during the period between our survey waves.



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## 5 Discussion

In this section we discuss the key findings described in previous sections and present several hypotheses that invite further research. First, we talk about the volatility and instability of the observed ‘recovery’ across all of our indicators. We then go on to discuss both the positive and negative associations with livelihood diversity, before finally looking at the role of participation in savings and credit groups and household wellbeing.

### 5.1 The volatility and instability of ‘recovery’

On the whole, we observe significant improvement across almost all indicators between the two waves, meaning that the sample average changed to a statistically significant extent. This equates to:

- significantly increased food security
- significantly increased wealth
- significantly reduced travel time to a health centre
- significantly higher likelihood of being able to access a health centre for routine or serious health problems
- significantly reduced travel time to a water source
- significantly higher likelihood of reporting that water was clean and safe
- significantly increased satisfaction with school services
- significantly higher likelihood of receiving social protection and livelihood assistance.

There are some regional differences in terms of where the increases are statistically significant, but a positive picture of improvement is observed overall between the two survey waves.

It is important to understand what type of households experienced the greatest benefit, however. For all of the continuous variables (food security, wealth, and travel time to health, school and water services), we have been able to explore the magnitude of change by household status at wave one. What the data show is that the majority of the improvements that we see overall can be thought of as ‘closing the gap’: that is, the households that showed the greatest improvement by wave two are those that were worst off in wave one. Moreover, we find that the large difference in the status of households that represent the bottom 25% (in food security, wealth, and travel time to health, water, school) is what is primarily driving the significant differences in the population between the two waves.

Of all the main outcome variables, wealth shows the most even distribution across all households. For the remaining

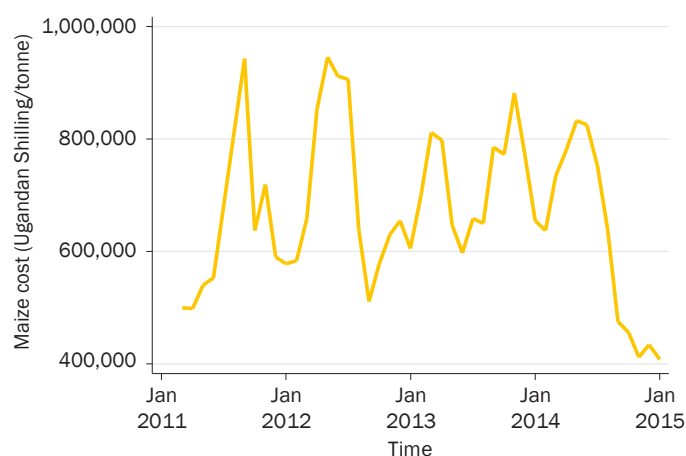
variables, population changes were driven by the households that were worst off in wave one. The idea of ‘closing the gap’ is very appealing, and implies a levelling of conditions (especially if the growth observed between the two waves continue into the years that follow). However, the wave-two data were collected following two consecutive years of good harvests, and cannot be assumed to represent the years to come. Thus, we hypothesise that what we might be seeing in the data is the high level of variability that the majority of households – and particularly the most vulnerable households – experience from year to year.

For example, when correlating the household quintile category (i.e., the top 25% versus the bottom 25%, etc.) at wave one (with cut-offs) with the household quartile category at wave two, we find a low level of correlation. We find that the highest correlation is for wealth (0.48), followed by travel time to health and school (0.34),<sup>12</sup> travel time to a water source (0.29), and the lowest correlation is for food security (0.24). Thus, households in our sample population show a very low level of stability from year to year, moving between different categorisations of wellbeing, with the greatest variation apparent in their levels of food security.

This variability is most apparent for households within which at least one person had experienced a war crime. On the one hand, these households consistently have worse food security in both waves and lower access and utilisation of health services; however, they also exhibit far greater improvement in food security between the two waves. Thus, we hypothesise that these households experience the greatest volatility in their livelihoods and wellbeing between good and bad years.

The overall positive difference between wave one and wave two is most likely driven by the fact that the wave-two data follow two consecutive years of good to very good harvests. This, in turn, can increase labour opportunities, lead to surplus production, and reduce market prices (Figure 11), which subsequently have a positive impact on overall household wellbeing and access to services (possibly due to having more cash on hand). If true, this shows the impact of a large covariate positive shock (i.e., good rainfall and a good harvest). The World Bank’s 2016 *Poverty Assessment Report for Uganda* also finds that good weather and favourable prices in food and commodity markets resulted in real

Figure 11: Wholesale maize market prices in Lira (January 2011-2015)



Source: FAO (n.d.) Food Price Monitoring and Analysis Tool

crop-price increases, which resulted in poor households reporting higher household consumption and lower poverty (World Bank Group, 2016).

These findings suggest a hypothesis of volatility in household wellbeing and access to services based on within- and between-year variability. More research is needed, but if this hypothesis holds, it has enormous implications for a household’s ability to plan for the future and its resilience against shocks.

## 5.2 Livelihood diversity: short- versus long-term resilience-building

We focus here on changes in household livelihood portfolios between the two waves, and how they correlate with wealth, and school attendance and enrollment. First, we look at how the livelihoods portfolio might be changing, before presenting data on school attendance and enrollment, and the RE and FE regression analysis of livelihood diversity on school enrolment. Our analysis also draws on findings in the wellbeing section (4.2) and the services (4.3) (specifically education, 4.3.3) section.

When looking at changes in household livelihoods we find that households were statistically significantly less likely to report own cultivation as their main livelihood activity in wave two compared to wave one, and statistically significantly more likely to report casual labour or petty trade as the main livelihood activity in wave two (Table 10). Approximately 10% of households switched out of the

<sup>12</sup> Correlation scores can range from -1 to 1, with 1 or -1 being perfectly correlated and 0 not being correlated at all.

own-cultivation category and switched into the casual-labour category (as their main livelihood activity) between the two waves. But it should be noted that the distinction between waves is not what households practise, but what they consider their *main* source of income; in both waves, 95% of households reported practising own cultivation to some extent. Thus, in wave two, approximately 11% of households considered casual labour or petty trade to be their largest source of income, compared to own cultivation. This change is not associated with improved food security (as observed by the lack of significance in the FE model), but rather it shows how households respond and react to changing circumstances.

**Table 10: Main income source by wave**

	Wave 1 (% HHs)	Wave 2 (% HHs)
Own cultivation	87**	84
Own business, public or private sector	5	4
Casual labour, petty trade, or other	8***	11

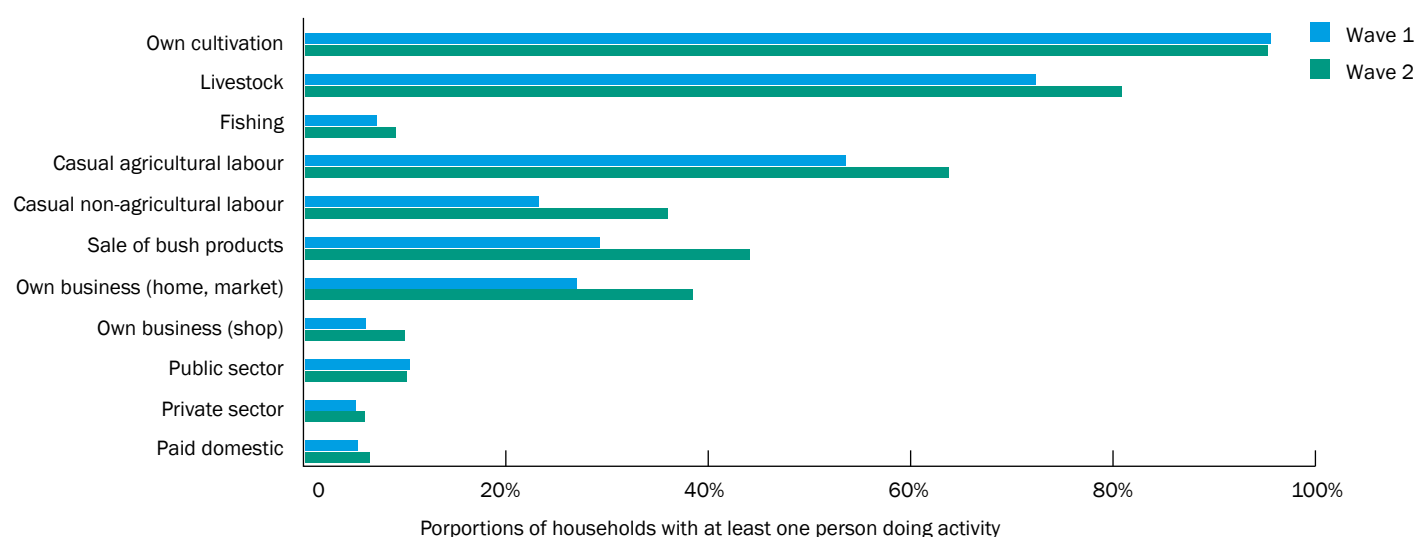
Notes: \* significant at <.1, \*\* significant at <.05, \*\*\* significant at <.01.

A similar trend is observed when looking at individual livelihood strategies. Respondents were statistically significantly more likely to report in wave two that at least one member of their household practised a livestock-related livelihood activity, fishing, casual agricultural labour, casual non-agricultural labour, sale of bush products, own business at home or in the market, or own shop (Figure 12). Almost all households (95%) had at least one member who practised own cultivation, with no statistically significant difference between the two waves.

At the same time, the proportion of individuals working in casual labour (both agricultural and non-agriculture), livestock, sale of bush products and own business (home/market or own shop) also statistically significantly increased between the two waves. However, the proportion of individuals working in own cultivation statistically significantly declined. Thus, we see a shift of household members from own cultivation to other labour opportunities, while still retaining at least one household member working in cultivation. This is clearly reflected in the livelihood diversification variable, where households practised an average of 3.6 livelihood activities in wave one, while that figure statistically significantly increased to 4.2 livelihood activities in wave two. More than half (53%) of all households increased their livelihood diversity, and about one third (35%) reported decreased livelihood diversification. Considering that 95% of households had at least one person practising cultivation in both waves, livelihood diversification here primarily captures additional livelihood opportunities outside of own cultivation.

Livelihood diversification positively correlates with several positive outcomes in the regression analysis. Households that increased the number of livelihood activities practised between waves also increased their satisfaction with their school and health centre, reduced their travel time to a health centre, were more likely to think the central government reflected their priorities, and increased their wealth as measured by the MSI. However, as discussed in the section on education (4.3.3), an increase in livelihood diversity between the two waves also statistically significantly correlates with a reduction in the frequency of primary school attendance by girls and overall school enrolment of all children. We find no

**Figure 12: Proportion of households with at least one member practising livelihood activity, by wave**



relationship between livelihood diversity and frequency of attendance at school for boys.

Our measure of school attendance only applies to primary-school-aged children. Using the household roster data, we find that school enrolment of children between the ages of 5 and 18 years (inclusive) statistically significantly fell between the two waves. A closer look at enrolment shows that this decline is most visible for children over the age of 10, thus more directly affecting enrolment for older primary students and secondary students (Figure 13). In both waves, girls were statistically significantly less likely to be enrolled in school in the first place, but boys and girls saw a similar decline in enrolment on average over time.

When we look at the relationship between livelihood diversity and enrolment of all children between the ages of 10 and 18 years, we see that if a household increased its livelihood portfolio between waves, they were statistically significantly less likely to also report that all children were enrolled in school in wave two (Annex C: Table C16) (the regression was only run for households with children in that age group).

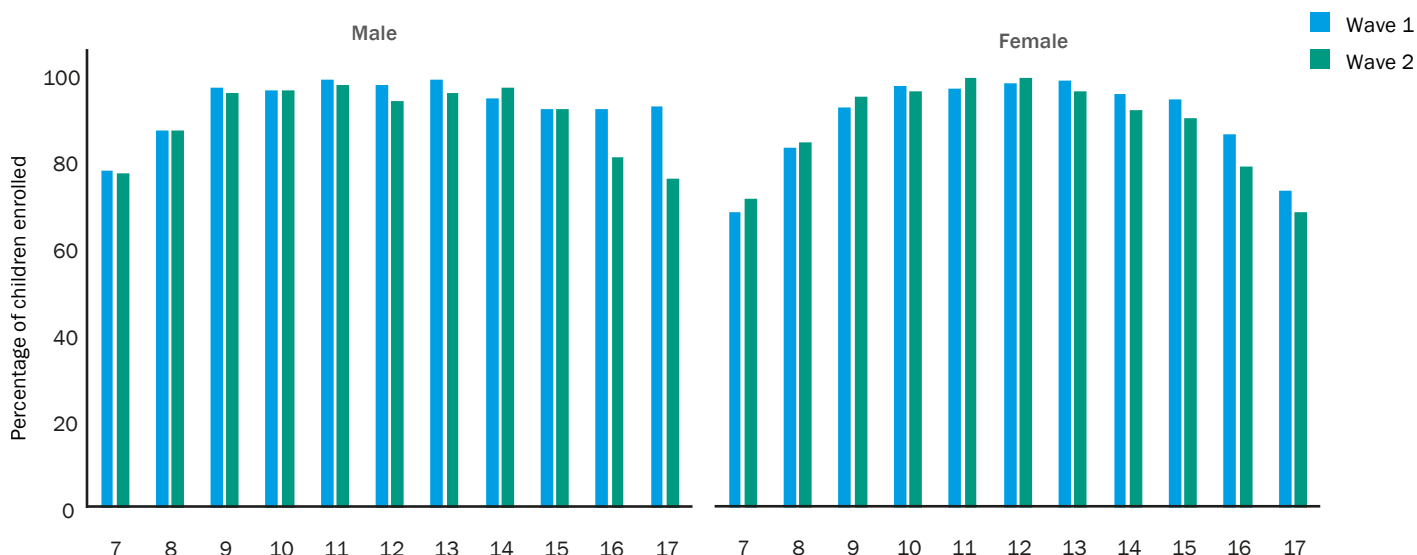
There is no evidence in the data that a larger proportion of children were working in wave two compared to wave one. Moreover, the data show that if a household did not have a child working in wave one, but did in wave two, they were statistically significantly more likely to have all children (between the ages of 10 and 18, inclusive) enrolled in school by wave 2. The data show that 100% of children aged 14 and older were reported to have

some kind of livelihood activity in both waves. There is also no evidence in the data that children are taking on more diverse livelihood activities, or that the enrolment of primary-school children is affected over time by greater livelihood diversity. Thus, one hypothesis is that as adult members of the household move into additional labour opportunities (which they statistically significantly did between the two waves), children are left to expand their responsibilities at home. This might translate into lower frequency of attendance by girls in primary school and lower school enrolment rates of all children over the age of 10. In other words, in years with more labour opportunities, education – particularly higher levels within primary school and secondary education – might be put on hold to enable the household to capitalise on these opportunities. More research is needed in order to test this hypothesis, however.

### 5.3 Village savings and loan programmes and changes in wellbeing outcomes

In this section, we focus on the significant relationship between participation in savings and credit groups (*Bol Icap* in Luo), meaning voluntary savings groups, or more specifically VSLAs and household wellbeing (as measured by the CSI and MSI). We draw on findings from the regressions run under livelihoods and wellbeing, services, and additional regression analysis only looking at VSLA participation (Annex C: Table C16) in order to understand how (if at all) these services improve household wealth and food security. In addition, we draw on qualitative work carried out in June and July of 2016 around VSLAs for this study.

Figure 13: School enrolment by age and gender



This focus on VSLAs, including the additional qualitative work, is a result of the significant relationship identified between livelihood programming and household wellbeing. However, upon unpacking the livelihood assistance variable, we have identified that the largest and only statistically significant difference over time is in VSLA participation. Thus, to better understand the relationship and possible direction of the association, qualitative data collection was carried out in 2016 using focus group discussions and key informant interviews with purposive sampling. Villages were selected in sub-counties that had the largest increase in savings group participation between the two waves, which included the sub-counties of Alito, Adwari, Aduku, and Agwata. In order to identify villages for focus group discussion in the sub-counties, key informant interviews were carried out with Concern Worldwide and War Child VSLA officers. In total, three villages and two focus groups per village were selected for a total of 24 focus groups. Each focus group had an average of eight participants, and lasted approximately 60-90 minutes. Because most VSLAs specifically target women, no stratification by gender was done. However, focus groups were stratified by old versus new members to better understand the growth of VSLAs between the two waves and possible relationship with food security.

The majority of the largest increases in VSLA participation between the two waves occurred in areas that already had a relatively large proportion of households involved in savings and credit in wave one (Table 11). For the majority of sub-regions that saw an increase in participation of 5% or more, the initial value (at wave one) was 8% or higher.

Our qualitative research shows that these initiatives were originally supported by NGOs in the area. Specifically, ACF established VSLAs between 2010 and 2013 targeting women in Oyam, Otuke and Nwoya (we did not collect data in Nwoya). Oyam and Otuke both show some of the highest initial rates in reported participation and increase in participation between the two waves. In addition, some other NGOs (War Child, Concern Worldwide) are also currently working to help establish VSLAs in Otuke and Kole (the two districts with the highest increase in savings group participation). There are also reports of spillover of learning around VSLAs, with households taking up this activity in different districts and/or in the same districts but not having had the initial and formal training from the NGO. Thus, the increase in participation in VSLAs is likely driven by the presence of existing groups, NGOs setting up new groups, and spillover effects to other areas.

**Table 11: Participation in village savings and loans associations, by district and wave**

Sub-region	District	Wave 1 (%HHs)	Wave 2 (%HHs)	Difference
Lango	Kole	8	25	17***
Lango	Otuke	22	35	13
Lango	Apac	3	14	11***
Lango	Dokolo	8	18	10*
Lango	Oyam	8	18	10***
Lango	Alebtong	20	26	6
Lango	Lira	13	17	4
Acholi	Gulu	1	5	4**
Lango	Amolatar	5	9	4
Acholi	Amuru	2	5	3
Acholi	Lamwo	1	3	2
Acholi	Nwoya	2	2	0
Acholi	Kitgum	3	2	-1
Acholi	Agago	1	0	-1
Acholi	Pader	6	2	-4

Notes: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

Most of the communities that show the greatest increase in participation in a VSLA – the main driver of the livelihood assistance variable – had received formal training prior to 2013, though there is some indication that new programmes also began in 2014 (prior to wave-two data collection). Furthermore, while we found in our later qualitative work that NGOs provided information and in some cases tool kits to start a VSLA, most groups formed on their own and required significant individual initiative, willingness, and capability rather than outside intervention.

In our qualitative interviews group members described some of the characteristics of individuals that could participate in a VSLA. This included people with ‘good morals’ and social standing, having an invitation to join, attending community meetings (separate from the VSLA), a basic level of literacy, having a business mindset, good leadership skills, employment, preferably married, at least 18 years of age, ‘hardworking and responsible’, and physically and mentally sound. Hence, most VSLA participants are a self-selected group with a greater disposition for business and entrepreneurial ventures.

From the livelihoods and wellbeing section of the survey data we see that households that went from not receiving livelihood assistance in wave one to receiving



livelihood assistance in wave two significantly increased their wealth and food security over time, controlling for all other variables. From the qualitative interviews, households reported using their VSLA savings to purchase seeds, invest in an existing or new business, investment in agricultural production (e.g. pesticides and herbicides; farm tools such as an ox plough and oxen) for better harvest yields, purchase or rent, and to purchase livestock. All of these represent an investment in livelihoods in order to increase productivity. Thus, it is not surprising that participation in a VSLA correlates with an increase in wealth and food security.

At the same time, the data show that households that increased their food security or wealth over time were also significantly more likely to report changing from not receiving to receiving livelihood assistance support between waves, specifically in relation to VSLA participation (Annex C: Table C16), controlling for all other variables. This relationship is also reflected in the qualitative work: one group member said that in a deficit harvest, individuals involved in subsistence agriculture

cannot participate in a VSLA group because they simply will not have the funds to do so. Further, if a group has inadequate savings, this limits members' access to loans and the group is forced to break-up. However, in a good harvest, households have greater access to resources and, hence, are able to allocate a small part of their savings to the VSLA. Finally, most communities reported that groups are required to pay yearly subscription fees of 10,000 Ugandan shillings (US\$3.50)<sup>13</sup> to the sub-county, once again implying the need for some access to funds prior to joining a VSLA.

Taken together, we hypothesise that participation in a VSLA is a somewhat self-selective process for individuals whose situations would likely improve in a good harvest even without a VSLA; but that they also allow for investing in new and existing livelihood opportunities and hence drive the relationship between participation and improved food security. However, it should be noted that some initial funds might be required, and hence it is precisely the households that show improvement between waves that were able to join a VSLA.

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<sup>13</sup> January 2015 exchange rate.



## 6 Conclusions and implications

### 6.1 Aiding livelihood recovery

Our findings present a series of challenges to conventional thinking around livelihood recovery for war-affected populations.

**The idea that recovery after conflict is a relatively steady (albeit slow) upward progression overall is not necessarily supported by our research.** And the data do not allow us to make this assertion, given the variation in harvest and precipitation between the two survey waves. Indeed, we find evidence pointing to volatility at the household level in this post-conflict setting, particularly among those households that are worst off.

Irrespective of whether the wave-two or wave-one data captures exceptionally good or bad harvest years or an existing trajectory of recovery, **the variation in household outcomes – particularly for the most vulnerable – is striking.** The results of our study complement findings from the World Bank Group (2016) that between 2005 and 2009, two out of every three poor Ugandans who moved out of poverty fell back into poverty. And while people's lives today in northern Uganda cannot be compared with the horrors of living through the war in camps for internally displaced people (IDPs), even those we consider relatively 'successful' in our study live lives of misery, poverty and high levels of instability (Levine, 2015).

In good harvest years, we see the worst-off households (the lower 50% in terms of our outcome variables) significantly improve across a range of variables, which is positive. **We hypothesise that what we are seeing is catch-up, where households improve their wellbeing (food security, wealth) and access to services to levels that are comparable to those of households that are (relatively) better off.** However, we believe that, because shocks and stresses have such a strong bearing on household wellbeing outcomes, the future for most households remains highly uncertain and unpredictable. **What we find looks more like persistence in coping, rather than a steady upward trajectory of recovery.** Thus, we need to adjust our understanding to one that recognises the inherent fragility, uncertainty and intrinsic instability of post-conflict recovery.

Our data show this **volatility particularly in the case of households that have experienced war crimes** in which a family member was physically or emotionally disabled. The legacy of disability and chronic poor health due to the war is substantial and only recently documented. Both our surveys and qualitative work on the war-wounded find that individuals who reported experiencing a war crime carry

a larger physical and mental-health burden. Based on findings from the baseline survey and previous research (Mazurana *et al.*, 2014c; 2016), we find that war-crime-affected households are significantly more likely to have a physical or emotional disability. It is more likely that the disability limits their ability to work and provide for their family. Subsequently, these households are significantly more sensitive to the impact of shocks than households without this underlying vulnerability. They are more likely to need health support, and yet, despite this greater burden, they have significantly worse access to health care (Mazurana *et al.*, 2014c; 2016).

Furthermore, **our study challenges the idea that recovery among conflict-affected populations is significantly influenced by national and international development and aid actors**, whose programmes are able to target and reach sufficient numbers of vulnerable populations. In fact, we find in survey wave one (Mazurana *et al.*, 2014a), wave two, and in our qualitative livelihood study (Levine, 2016), that aid has largely been insignificant in people's lives. Indeed, few people actually received social protection or livelihood assistance of any kind, and those that did reported it did not have much, if any, effect. When aid was received, the survey and the qualitative livelihood study find that it primarily went to the wealthiest and most food-secure households, potentially indicating a problem of elite capture. Providing aid to the best-off households undermines people's trust in local and national institutions, damages social cohesion, and does little if anything to help the vast majority of poor people move forward in their lives (Mazurana *et al.*, 2014a; Levine, 2016).

In wave two of the survey and the subsequent qualitative research on VSLAs, **we hypothesise that the 'aid' that seemed to matter most -- participation in VSLA programmes in Lango sub-region only -- was driven by increased resources from good harvests** that enabled people to participate in VSLAs, in some cases with initial support from NGOs and government programmes. The fact that people learned from VSLA trainings and that knowledge was disseminated to areas where no NGOs were running VSLAs is encouraging. Though it is also worth noting that the practise of mutual savings and credit circles has been an integral part of the local economy and society for decades in both Lango and Acholi. We hypothesise that a key factor in the increased participation between wave one and two is that the good harvests provided the resources necessary to join VSLAs.

**Given the volatile and precarious nature of 'recovery', support for households in post-conflict situations must**

**be consistent and sustained.** One-off support showed essentially no impact in the qualitative livelihoods study. Rather, 'people need support which removes, reduces or mitigates some of their risks or which gives them a degree of certainty and predictability that they will be able to meet some of their needs over the medium term' (Levine, 2016: 33). Furthermore, the data shows that **yearly environmental factors (e.g., a good harvest versus a poor one, rainfall distribution and amount, etc.) appear to be the main determinants of whether households show post-conflict improvement or decline, rather than any type of outside support.**

### 6.1.1 Implications

Our qualitative livelihoods (Levine, 2016) and war-wounded research studies (Mazurana *et al.*, 2016) find that the three main areas that people spent money on that depleted any reserves or caused them to fall into debt are health care, education and marriage/bride-price/death/funeral expenses. The first two areas – health care and education – are state services where the state and development partners could make a significant contribution towards reducing households' risk (i.e., health-related costs and shocks) and constant need for (relatively) large amounts of cash (i.e., education costs). While important investments have been made in these sectors, they are mainly in the form of infrastructure.

**Much more is needed in terms of a scale-up of services, in some cases specialised medical services, and support for user fees** to remedy the effects of over two decades of war in northern Uganda and to assist in people's economic and personal recovery. Such support could make important contributions towards the stretched financial situation that households find themselves in when they have to pay school fees or treat chronic medical problems, and would enable them to shore up against the plethora of other shocks they face that undercut their recovery. This support would enable them to have the means to begin planning for a future, instead of remaining in the near-constant state of coping in which we find them in our surveys.

### 6.2 A good year... to pull girls out of school

Early 2015 was a good year for harvests, increased food security, improved access to health care and water, improved satisfaction with educational services, and increased livelihood diversification. Yet it was not good for children, especially girls, staying in school. When we compare data from wave one and wave two, we find that there was actually a **significant decline between waves**

**in the proportion of boys and girls that were reported to attend school every day.** In general, girls' education appears to be more precarious. To illustrate, if a household increased its livelihood portfolio between the two waves, the frequency of girls' attendance significantly decreased, though the same did not hold true for boys. For each additional livelihood practised in the household above the mean between the two waves, the odds ratio for girls attending school every day is 0.32, meaning they have about one third of the chance of attending school full time, compared to when the household has one fewer livelihood. Additionally, when households experienced more shocks, this was also negatively associated with girls' school attendance.

One encouraging finding is that if a **household had a member that suffered a war crime, the household was more likely to have a girl enrolled in school and who attended school every day.** This is noteworthy, as our war-crimes households tend to be among the most vulnerable households in a variety of measurements. It is also notable that wealth on its own has no relationship with school attendance, so this association captures something specific about the experience of war-crime households and investment in girls' education. Clearly, more research is needed to understand why and how these very vulnerable households continue to keep their girls in school, even when non war-crime households are showing a fall in school attendance.

### **Implications**

The proportion of children attending school every day significantly dropped from 79% to 70% between the two waves, which raises concerns. While the drop is significant (and the same) for both genders, only girls' attendance correlates with changes in livelihoods and experience of shocks. Thus, we hypothesise that **households are maximising girls' labour to take advantage of increased opportunities for livelihood diversification in the household, and are therefore sacrificing long-term human-capital development for short-term gain or coping.** The concern is that once out of school, girls are unlikely to return to continue their education. Efforts need to be made to ensure that families continue to prioritize keeping both their girls and boys in school, and don't take them out either to cope with shocks or take advantage of increased livelihood opportunities. More investment in supporting school user fees in primary and secondary is necessary.

Wave one and wave two of the survey clearly indicate that **education level of household heads significantly correlate**

**with wealth, food security, and access to and quality of basic services,** with more educated households faring much better. Furthermore, our surveys find that the average education level in the household significantly correlates with whether girls attended school every day, with more educated households investing in their girls' education (there was no statistically significant relationship for prioritising boys' education). Thus, **failing to educate girls** now means they are more likely to end up in households with low levels of education, which **perpetuates continued cycles of poverty**, where their own daughters are under-educated and have limited livelihood opportunities.

### **6.3 Basic services and perceptions of governance**

Our findings challenge a major policy belief in peace-building and state-building: that through state provision of basic services, the citizenry will increasingly view local and central governance as more legitimate, which will help to both legitimise and stabilise the state (see Carpenter *et al.*, 2012, for a review). So strong is this belief, that donor governments invested US\$36 billion worldwide in 2014 in the provision of basic services in conflict-affected and fragile states, in part in an explicit attempt to stabilise those nations (Denney *et al.*, 2015).

However, **our data show that, while there is a relationship between service delivery and perceptions of government, they are far more complex than is frequently asserted.** The analysis suggests that just providing these services is insufficient. Where improvements are found in people's perceptions of government actors, what matters most for this appears to be transparency and accountability regarding service quality and delivery, including participation in community meetings and decision-making.

### **Implications**

First and foremost, basic services should be invested in because they are life-saving and life-changing. But for those seeking to stabilise and bolster fragile states – and to help engender improved perceptions of the citizenry towards local and central governance through the use of basic services – **it is essential to invest in transparent and robust accountability mechanisms and frequent community meetings so that affected households and individuals can meaningfully participate in the delivery and quality of these essential services.** Funds should be set aside to ensure that it is not simply the delivery of basic services that is carried out, but attention to the process of that delivery.

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