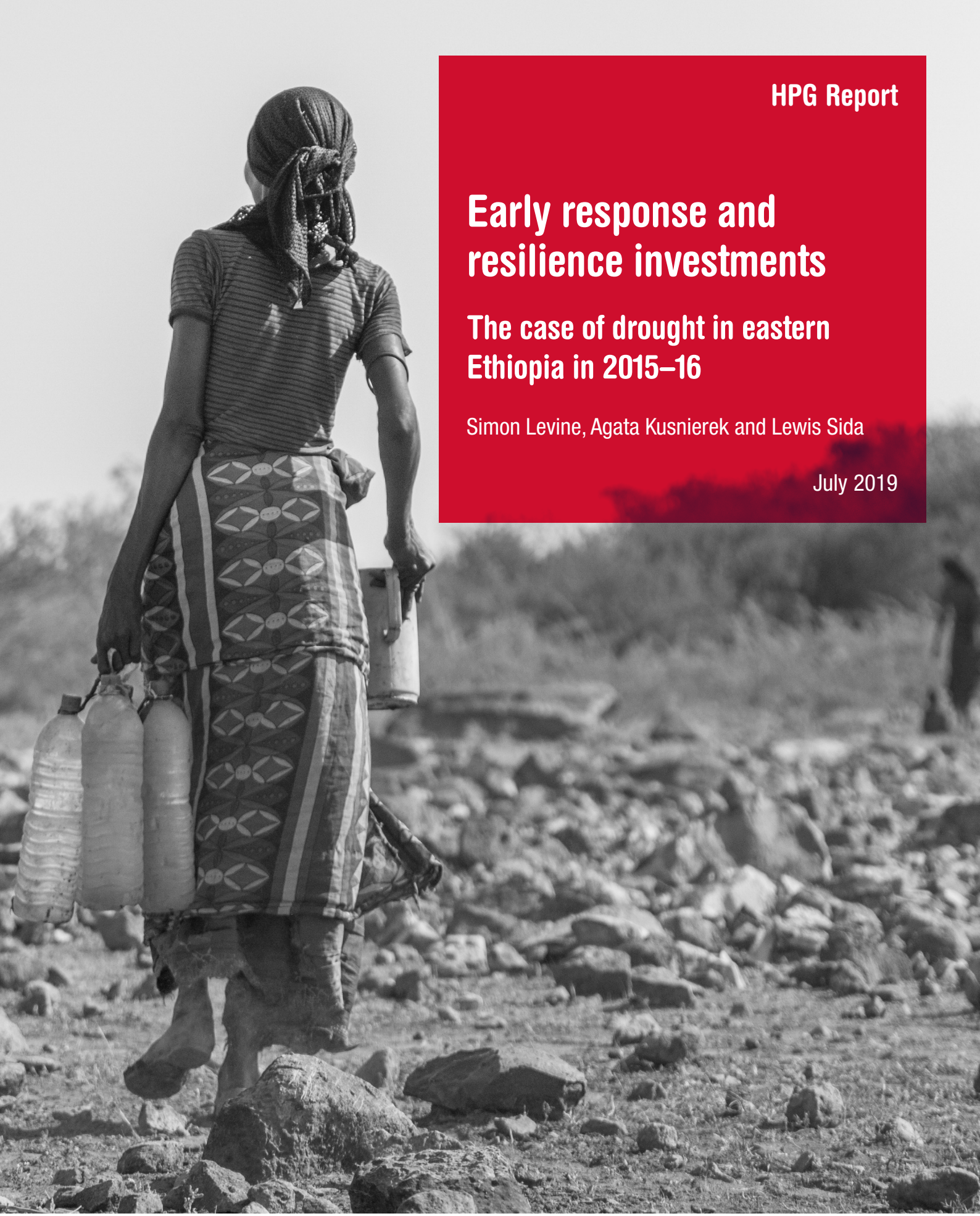

HPG Report

Early response and resilience investments

The case of drought in eastern Ethiopia in 2015–16

Simon Levine, Agata Kusnierek and Lewis Sida

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VALID EVALUATIONS

IDS Institute of Development Studies

ODI

About the authors

Simon Levine is a Senior Research Fellow at HPG, and he was working with Valid Evaluations for the thematic evaluation of DFID's multi-year humanitarian funding.

Agata Kusnierek was the specialist in survey design and quantitative analysis for Valid Evaluations.

Lewis Sida is an independent consultant and was the team leader for Valid Evaluations for the thematic evaluation.

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Thanks to DFID for commissioning the study, and to USAID for its interest and support in that process. However, all opinions in the paper are those of the authors alone and do not necessarily represent those of any of the organisations involved in the study.

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Acronyms

DFID	UK Department for International Development
ECHO	Directorate-General for European Civil Protection and Humanitarian Aid Operations
EU	European Union
FGD	focus group discussion
HEA	Household Economy Analysis
HRD	Humanitarian Requirements Document
IDP	internally displaced person
JEOP	Joint Emergency Operation Programme
MAM	moderate acute malnutrition
MFI	microfinance institutions
MYHF	multi-year humanitarian funding
NGO	non-governmental organisation
PRIME	Pastoralist areas Resilience Improvement through Market Expansion
PSNP	Productive Safety Net Programme
SAM	severe acute malnutrition
TBIA	Theory Based Impact Assessment
TLU	Tropical Livestock Unit
USAID	United States Agency for International Development
VE	Valid Evaluations
VSLA	Village Savings and Loans Associations
WASH	water, sanitation and hygiene

Executive summary

Valid Evaluations (VE) conducted a multi-year thematic evaluation of DFID's multi-year humanitarian funding (MYHF) approach in Ethiopia from 2014–2018, investigating whether MYHF helps to build resilience, enhance early action and provide greater value for money. In July 2016, following the El Niño-associated drought in Ethiopia, DFID and USAID asked VE to carry out an additional study to understand whether early humanitarian aid and previous resilience funding had helped to avoid losses of lives and assets in the affected populations.

The study's terms of reference comprised three questions:

- To what degree did delivering aid early help prevent loss of productive assets, indebtedness and other distress strategies?
- How far had investments in building resilience helped people to cope better with crisis?
- Was the flexibility of longer-term programmes effective in ensuring the delivery of earlier assistance?

The study was conducted in the same areas as VE's ongoing research for the MYHF evaluation, in Somali Region and Oromiya Region between November 2016 and February 2017. At the time of the research planning, the drought in the southern lowlands (associated with the Indian Ocean Dipole) was not yet developed, and so the research was conducted in two districts in West Haraghe Zone, Oromiya region (Anchar and Tulo covering highland and mid-highland areas respectively) and Shinille and Hadigala districts in Sitti Zone, in Somali Region. Sitti Zone is in the northern part of Somali Region, which is affected by El Niño droughts, unlike most of Somali Region which suffers in different years from La Niña-associated droughts.

Findings are drawn from the MYHF household panel interviewing (qualitative), and specific mixed-methods field research. This included a rapid scoping exercise, quantitative analysis of a survey of 960 respondents across the four study districts, and further in-depth interviewing and focus group discussions (FGDs) in the same districts.

This study is not an evaluation of the aid response to the drought: it specifically examines the contribution of early response, resilience investments and flexible development funding to coping.

The drought crisis

Both study areas had very poor rains in 2014, and much of the population was already suffering severely even before the El Niño drought in 2015 (which badly hit much of the country). Rains did not return until early 2016, making the drought particularly long and severe compared to the drought suffered by other parts of the country.

Livestock keepers reported animal mortality rising from late 2014 and peaking in early 2015. Migration was constrained by conflict, with some reported fatalities. Herders migrated forming a large concentration of livestock in a small area in Somaliland, where disease spread through emaciated herds and most animals died. Meanwhile, hunger deepened for those at home with the loss of their milk supply and the collapse of livestock markets on which they depend on for regular income to meet food and other needs.

In West Hararghe, the drought was an intensification of long trend of poor rains. Crops were very badly hit, but did not fail completely. People in the zone, though, had fewer options for coping, being less well integrated into a wider economy, with fewer alternative income sources and fewer personal or social connections outside the area to help in migration.

Early aid

The main El Niño drought-affected areas were facing steadily increasing difficulties during 2015, which became severe from September 2015 once the main harvest had failed. However, the aid response was quite late. Despite clear forecasts from April 2015 of the deepening El Niño event, an emergency appeal only geared up at the end of 2015, with the main scale up of relief aid not reaching the ground before March–April 2016. The drought in Sitti and West Hararghe began a year earlier, but the main scale up of assistance arrived at a similar time, despite

warnings about the seriousness of the situation, especially in Sitti.

Timely aid was defined, for the purposes of this study, as aid which reached people in time to meet its objectives and in time to prevent serious suffering. Early aid was distinguished from timely aid, and considered as aid given before a crisis reached its most severe in order to prevent or mitigate it. For example, if water from an emergency water trucking project arrived before other sources ran out, and in time to prevent displacement, a rise in water-borne diseases and livestock death, this would be considered timely, but not early. Emergency repairs to water points made before the drought hit would be considered early aid, as would (for example) livelihood protection to prevent asset loss. On these working definitions, early assistance would have had to reach most El Niño affected areas by late 2015, and Sitti by late 2014. It is clear from the description of the calendar above that very little emergency relief in Ethiopia was early, and even less in either West Hararghe or Sitti.

The emergency response did begin early enough to prevent mass human mortality, though not livestock due to a range of factors. The crisis took those affected by surprise, despite forecasts predicting the lack of rains. Despite investments over several years in community based early warning systems in Sitti Zone, early warning information was not shared with soon-to-be affected populations and as a result, people were unprepared. The long duration of the drought (approximately two years), especially in Sitti Zone, made it almost impossible for livestock protection measures to be successful. The evaluation calculates that to have kept animals alive and made a real difference in protecting assets in Somali region would have taken thousands of tonnes of fodder. Efforts made did simply did not match the scale needed.

Sitti suffered from huge asset losses, estimated by this study at an average of around $4,000 per household, or over $275 million for the Zone. The financial loss to West Hararghe was only a fraction of that sustained in Sitti – because the financial capital available to households in West Hararghe (where the main productive asset is land, not livestock) was only a fraction of the asset wealth previously held in Sitti.

Relief aid arrived just in time to be largely successful in preventing human mortality. However, in neither Sitti nor in West Hararghe was there any evidence that early assistance had prevented asset losses. In both zones the full scaled-up relief effort only reached the ground several months after most people were in crisis, and in Sitti after the worst animal mortality had already occurred. Additionally, while the rains returned in April 2016, resulting in the reduction of the emergency aid operation, people continued to feel the crisis at household level. Although animals began to recover, households still had no source of milk and had lost substantial income potential. Recovering income will take years, and asset recovery even longer.

In West Hararghe, there was no evidence that people affected by the drought received livelihood protection interventions. In Sitti, some livelihood protection interventions were run during the height of the drought in 2015 and in 2016, even if they were too late to be called early response. There is no evidence that such interventions, mainly in the livestock sector, led to better outcomes. This is unfortunate, because the willingness of agencies to experiment, particularly with livelihood protection interventions, must be seen positively. The lack of impact achieved in this particularly long drought will hopefully not be interpreted as a failure of the approach in general. It is clear, though, that if these new approaches are to be relevant, the need for investment in developing an overall strategic response, in planning and in preparedness is greater than has currently been recognised.

Investments in resilience building to cope better with crisis

It proved impossible to find any evidence that investments in resilience building in the previous five years had helped people to cope better with the drought in 2014–2016, mainly because these investments have not been on a significant enough scale and most people had not benefited from them. It was difficult even to find any beneficiaries of the various resilience projects. Investments tended to be patchy and small, while the root cause of the crisis is largely structural in areas of chronic under-investment. Addressing the structural causes of crisis in a more systematic way will require greater coherence in resilience investments, and a greater scale and scope of ambition generally.

Even where resilience interventions were implemented, the impact was very mixed. The most successful sectoral response was probably investments in water supply. Many (though not all) water interventions had demonstrable impact, and the evidence that a lack of drinking water (and water for livestock) was still a major difficulty for many households leaves no doubt that far more investment in water is sorely needed.

Other sectors showed fewer benefits. Investments in irrigation rarely resulted in meaningful harvests during the drought. Recipients of vocational training were unable to use their skills, often because there was no market for them or they did not have the resources to use these skills. (In one case, people were taught how to bake bread with electric ovens, even though there was no electricity supply where they lived). Village Savings and Loans Associations (VSLA) were appreciated and used, but had not been used for investments in income diversification or to help cope with the drought. As discussed, early warning and disaster risk management (DRM) committees did not help people to anticipate or prepare for drought.

The lack of impact of resilience investments in West Hararghe and in Sitti should not be interpreted as evidence that investment is not needed. Two fundamental flaws were identified in the investments that have been made. First, each short-term intervention is designed, justified, implemented and evaluated as a stand-alone project implemented at community level. Solutions cannot lie only at household and community level, but demand thinking at a much wider level (e.g. considering full market chains). It is not enough for individual project investments to be connected thematically to an overall aspirational plan: interventions and their implementation must make strategic sense and have enough coherence to bring about a viable improvement in people's lives. Second, the scale of need is far above what can be offered by these projects. It is possible that there are 'change thresholds' that constitute the critical mass needed to move from a status quo into a new and stable livelihood reality. This is suggested by the lack of tangible impact achieved by small-scale village-level interventions.

The enormous deficit of economic infrastructure, both to support the agricultural and pastoral economy and to provide complementary alternatives to it, cannot be remedied with investments on the current scale. Project documents accessed by the team often justified projects by referencing objectives that could never have been met by their limited activities, or at the scale and in timeframes proposed. This in turn hinders recognition of the need to develop a much broader strategic vision, one which is based on realistic expectations, is well costed and is adequately resourced.

Flexible funding

Another growing movement in humanitarian and 'nexus' thinking has been to harness the potential of longer-term developmental funding for early action in an emergency. Mechanisms such as crisis modifiers have been designed to provide agencies implementing longer-term projects with greater flexibility to adapt to new, acute needs. Nationally, such crisis modifiers were used on a greater scale than previously, and this willingness to integrate longer-term and short-term assistance is a welcome development.

However, analysis shows that these mechanisms had little effect on the outcomes of crises in Sitti and West Hararghe, and their potential may be more limited than was hoped. In the 2014–2016 drought, most of the crisis modifiers available were not triggered at the early stages of the crisis, and some entailed significant bureaucratic processes that delayed the delivery of early assistance by up to several months. The current model of crisis modifiers represented an important shift in thinking, but they have not yet made meaningful progress to the objective of making development funds available to prevent and mitigate disaster. Even if the deficiencies in their implementation are resolved, the limited scale of resources they provide means their value is likely to remain limited to smaller, localised events. If the kind of broader aid strategies discussed above are developed, these funding mechanisms may play a role in capitalising on early, short-term windows of opportunity, with which a major relief effort could dovetail (although this would require a very much earlier scale-up in humanitarian response as a whole).

Conclusions and recommendations

The 2014–16 drought was the most severe test possible for investments designed to help people cope with drought in the lowlands, midlands and highlands of West Hararghe and Sitti. Early response, designed to protect livelihoods and prevent suffering, would inevitably have struggled to achieve impacts in such a severe crisis. It is not surprising that neither passed this test. However, there is also evidence that resilience investments have not helped make Sitti or West Hararghe more resilient even to more normal droughts, and neither the international humanitarian system nor the Government of Ethiopia proved capable of delivering early response.

VE's main analysis of how best to support resilience is found in two papers from this study series, the overall report on Ethiopia and the final report from the multi-country study.[1] These reports include the findings from this study, together with the findings from other research strands. Lessons learned directly from this study include:

1 Sida et al. (2019) and Levine et al. (2019).

- International agencies have supported two kinds of early warning systems: the formal state system, designed to provide Federal Government and its partners with information about impending crises in time for them to respond; and community-based systems, intended to provide information to the local population to enable them to prepare for crises. Neither system worked to achieve their objectives in the 2014–16 drought. A complete rethinking is needed of the functions of each of the two kinds of systems, followed by a redesign to ensure that their structures and processes match their objectives and functions.
- Efforts to build resilience have been too limited to interventions targeted at community and household level. Far more attention is needed to the wider economic infrastructure on which the agricultural and pastoral economies depend. There is an urgent need for wide-ranging support for livestock value chains so that they can function through droughts and livestock owners do not lose the majority of their animals.
- Current mechanisms for building flexibility into longer-term programming are highly welcome, but need to be reviewed so that they can deliver on their objectives.
- Resilience investments and livelihood protection interventions both needed to be subordinate to much wider strategic plans, in order to prevent resources being used on a range of small ad hoc measures that cannot alone or collectively achieve impact.
- The questions which this study was asked to answer are themselves unfair. Building resilience and preventing crises cannot be the responsibility of humanitarian actors, including the departments of government with responsibility for relief, and it is unfair to judge them by this standard, and unhelpful for them to manage their resources to this objective.

1 Introduction

1.1 Avoided losses background

VE has implemented a multi-year thematic evaluation of DFID's MYHF approach in Ethiopia since April 2014, to investigate whether MYHF helps to build resilience, enhance early action and provide greater value for money. The evaluation team has been following the lives of households in Sitti and Gode Zones in Somali National Regional State (or Somali Region), and in West Hararghe Zone in Oromia National Regional State (or Oromia Region), together with two refugee camps in Somali Region.

Immediately following the El Niño-induced drought of 2015–2016, DFID and USAID asked VE to carry out an additional study to understand whether early humanitarian aid and previous resilience funding (whether provided by the Federal Government of Ethiopia or donors) had helped to avoid losses of lives and assets in the affected populations. This additional study was carried out between November 2016 and February 2017 in Shinile and Hadigala districts in Sitti Zone and in Tulo and Anchar districts in West Hararghe Zones.

1.2 Purpose of the study

To contribute insights into the role of aid in helping people cope with crises, the study had three areas of enquiry:

- Early response and the degree to which delivering aid early helped prevent loss of productive assets, indebtedness and other distress strategies.[2]
- How far investments in building people's resilience helped them to cope better with crisis.
- Whether the flexibility of longer-term programmes was effective in ensuring the delivery of earlier assistance.

1.3 Sitti Zone

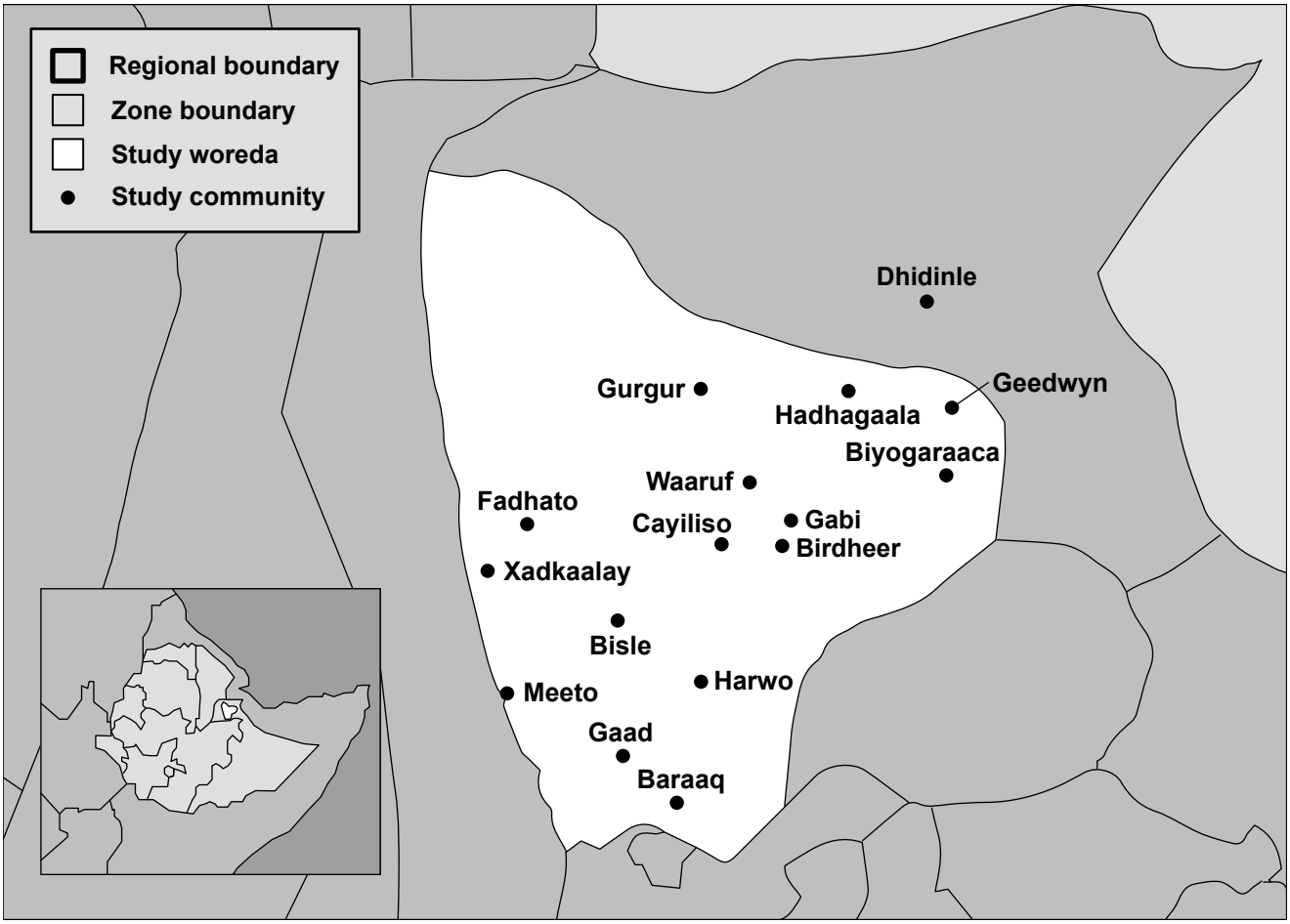
Sitti Zone in the north east of Somali Region, extends from the borders of eastern and western Hararghe Zones in the south west to the Djibouti national border in the north east, Somaliland to the east, and to Afar in the west. Sitti Zone is a complex economic mixture of marginalised and remote pastoralism, semi-urban agro-pastoralist economies and historical international trade links (legal and illegal). The population clan affiliations help it to access four urban economies in three countries – Dire Dawa (Ethiopia), Djibouti, and Boroma and Hargeisa in Somaliland. Even though it is bisected by the Ethio-Djibouti railroad and the major Dire Dawa-Djibouti highway, Sitti has recently been difficult to access freely because of insecurity.

Sitti has experienced frequent, and often severe, droughts over the past 30 years, including in 1984–1985, 1990, 2000, 2003, 2008 and 2011. As with much of the arid lands of Somali state, the pastoral economy has seen increasing poverty and concentration in the ownership of livestock (Aklilu and Catley, 2010). There has been a trend over many years towards agro-pastoralism and gravitation around kebele[3] centres, which provide minimal access to services and opportunities for livelihood diversification. This has been driven by both push and pull forces: impoverishment, characterised by the increasing concentration of livestock ownership; population pressure on the rangeland, exacerbated by increasing enclosures; droughts; and, on the other hand, the presence of aid in the more urban areas, and active government policy to encourage settlement. The Zone receives regular food aid and, for the last decade, a significant percentage of the population has been receiving assistance from the national social protection programme (the Productive Safety Net Programme (PSNP)). Development or resilience-building activities in Sitti Zone have been limited, despite the economic vulnerability of the population to drought.

2 When coping strategies no longer work, people may turn to strategies with longer-term negative consequences that 'undermine future means of livelihood, dignity or nutritional status, increase long-term vulnerability, or are illegal or not socially acceptable' (WFP, 2005: 39). Coping strategies, on the other hand, are ways of getting through a crisis without longer-term harm.

3 The kebele is the lowest administrative unit in Ethiopia, usually comprised of several villages, often several kilometers apart.

Figure 1: Study villages in Sitti Zone



1.4 West Hararghe Zone

West Hararghe combines extremes of terrain, climate and livelihoods, ranging from high-altitude to semi-arid, middle-highland, rain-fed agriculture and arid, lowland agro-pastoralism.[4] Bordering Somali and Afar states and East Hararghe and Arsi Zones, West Hararghe has few major towns, the nearest large economic centre being Dire Dawa some 200km from the main Zonal town, Chiro. It has a limited, if growing, feeder road infrastructure. Though the new Ethio-Djibouti high speed rail link passes through Me'isso district, it is not regarded as being of long-term economic benefit by the local population.

While settled agriculture produces staples and vegetables for household consumption and market sale, a large proportion of the rural population depends upon the cultivation of the drug khat[5] as its main cash crop. West Hararghe suffers from endemic chronic and acute malnutrition in the under-five population. As in Sitti Zone, services are limited and access to water in remote rural areas is poor and drought-prone. Food aid is frequently distributed to much of the population beyond those receiving support from PSNP. However, development or resilience-building investments have also been very limited. NGO presence is sparse, except in times of severe need (notably 2002, 2008, 2011 and 2015–2016) when short-term nutrition programming has been the focus of response.

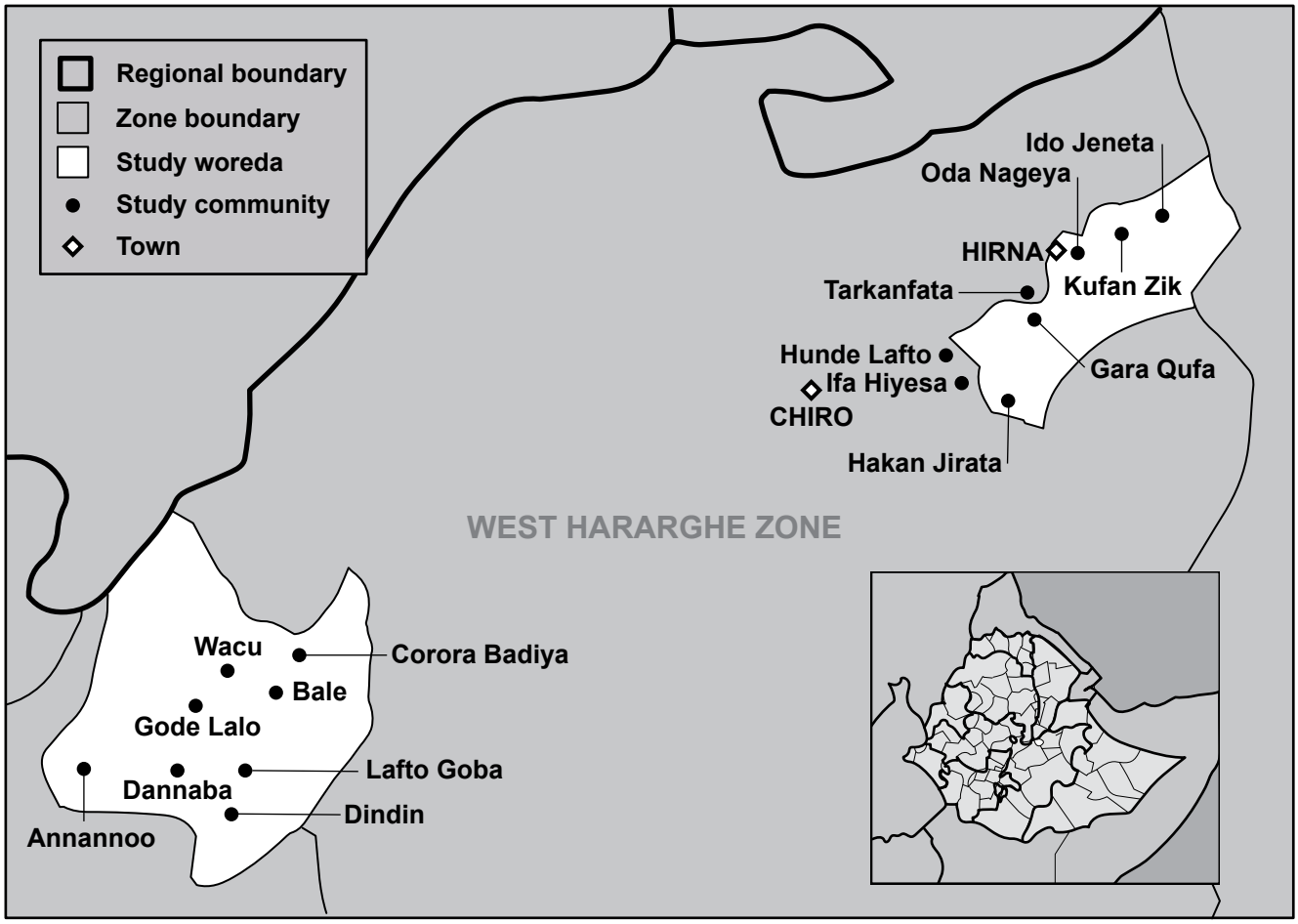
1.5 Methodology

This report is based on two main sources of information. VE has been conducting a thematic evaluation of MYHF since 2014, including in Sitti and West Hararghe Zones, carrying out regular face-to-face individual interviews with a panel of

4 See FEG (2008) at www.heawebsite.org

5 The leaves of the plant Catha edulis are chewed legally in Ethiopia, but it is an illegal drug in most of the European Union (EU) and in the US. Its two amphetamine-like active ingredients are cathinone and cathine, the former classified as a schedule 1 drug in the US. Addiction to, or psychological dependency on, khat is widespread across the Horn of Africa and in Yemen.

Figure 2: Study villages in West Hararghe Zone



informants to follow the changing fortunes of around 80 households in each zone. This has given very rich information in real time about the development of the crisis people's responses. That understanding has been combined with a supplementary study, focused specifically on the three research questions above. This separate study used a mixed methods approach, combining quantitative and qualitative techniques. A rapid initial stage of three FGDs in each zone was used to inform the detailed design of further qualitative interviewing and in designing the survey instrument.

The intention was to conduct comparative research, in villages that had received early aid (which had been considered as September 2015) and in others that had received aid later, in April 2016, as a control. This clear distinction did not prove possible, partly because of insufficient information about actual delivery dates in different villages. It had also been intended to use the survey to compare kebeles that had received developmental investments of one of three types (asset creation, income generation and water infrastructure) with control kebeles that had received no such investment. This plan had to be abandoned because, after several months of enquiry from government offices, operational agencies and their donors, it was still impossible to find out what interventions had been implemented where. As a result, the survey did not include questions about resilience-building investments, and a sampling methodology that targeted investment recipients could not be used. The FGD facilitators simply had to be prepared to investigate whatever investments they discovered, if any.

Based on the information available, four kebeles were selected in Shinile and Hadigala districts in Sitti Zone, and in Tulo and Anchar districts in West Hararghe Zone, ensuring a wide coverage of the survey including the more remote and less accessible parts of the districts (see Figures 1 and 2 above). The districts in West Hararghe were from the middle and higher altitude parts of the Zone, since arid, lowland areas were being studied in Sitti. Kebeles consist of several villages; for this study, one village was selected from each kebele. Two FGDs were held in each selected village, and a survey conducted with between 28 and 35 respondents, for a total of 480 completed interviews in each zone. Because of a lack of reliable and comprehensive sampling frames, respondents were selected by random walks. GPS coordinates were taken on the tablets used to administer the

survey, allowing for some oversight of the spread of interviewees. Any available adult in a selected household was interviewed.

Of the two FGDs in each village, one took a quasi-goal-free approach to look at coping during the crisis (i.e. did not raise any specific interventions with participants)[6] by developing a crisis calendar with participants. The second FGD examined specific interventions (including relief aid) using theory-based enquiry (i.e. developed in advance a causal model by which the intervention worked and investigated in detail each link in the causal chain from intervention to impact),[7] also using a crisis calendar. The FGDs were also used to quantify as much as was possible, to complement the statistical treatment of data generated by the survey.

Fieldwork was carried out in two phases. An initial rapid scoping exercise was conducted in November in Sitti and in December in West Hararghe. Subsequently, the in-depth research and survey were carried out in December 2016 in Sitti, and at the end of January to early February 2017 in West Hararghe.

This primary research was supplemented with key informant interviews, at zonal, state and federal level, and with a study of documentation, including project documents and other research studies.

The survey assessed various previously identified parameters, either from the scoping study or from other documentation, as being symptoms or indicators of stress. These included the reduction of meals for adults and children, the sale of assets (the sale of breeding animals in particular), livestock mortality, removing children from schooling, indebtedness, forced migration and engaging in various coping strategies such as income-generating activities or searching for wild foods.

The survey also contained subjective self-assessments by respondents about how well they coped, compared both to their own expectations and to others in the communities. It had been hoped to use these parameters to create an overall measure of how well people had coped or how much they had lost in the crisis. It would then be possible to see how much more or less people had lost when they received different kinds of aid at different times, and to relate the coping ability to other factors, such as the dependency ratio in the household, how much land they owned, etc. The data from the two zones could then be combined to see if there were any general findings. It was intended to use the qualitative research to substantiate the findings, both through simple triangulation and, especially by using the theory-based approach, to investigate the mechanisms by which aid had brought about different outcomes.

It proved impossible to construct such an overall measure of coping or loss because there were no significant correlations between the symptoms of coping with stress: household strategies varied and they suffered from losses in different ways. This is a fundamental challenge to assessment methodologies based on the reasonable assumption, one also used in planning this study, that one form of suffering or loss can be taken as an indicator of stress generally. One would expect, for example, the prevalence of households that had sold large numbers of livestock or accumulated larger amounts of debt to be a general indicator of stress (due either to greater drought intensity or higher vulnerability); it would also be expected that these symptoms would tend to be correlated with other signs of coping or stress (e.g. reducing meals, selling other assets, migrating). However, findings showed that households that suffered in one way were not more likely to exhibit another symptom of stress. Therefore, it would be meaningless to combine the various parameters into a single score.[8] Instead, parameters are analysed independently in a detailed accounting of the different losses sustained by households during the drought (see Section 4), and data from West Hararghe and Sitti have had to be analysed separately.

6 Truly goal-free evaluation is fully blinded, in that even the researchers do not know the specific objectives of what is being evaluated. See Scriven (1991).

7 For more details on theory-based impact assessment or programme theory-based evaluation, see White (2009) and Funnell and Rogers (2011). An example of one of the causal chains used by this study is included in Annex 4.

8 The theoretical, methodological challenges presented by this will be discussed in greater detail in a later paper.

2 Overview of the crisis

Much of the Ethiopian highlands and the east of the country was hit by a severe drought in 2015–16, associated with the El Niño event of 2015, and this drought received a huge relief response both from the Government of Ethiopia and the international community. It would be misleading, though, to understand the drought in either Sitti or West Hararghe simply as a natural disaster caused by a sharp climate shock associated with the El Niño. In the area at the north of Somali region and the east of Oromia, rains failed from 2014, and the drought was severe before El Niño had even begun. Both Sitti and West Hararghe Zones should enjoy two rainy seasons a year, shorter rains in March–April and longer rains between July and September/October.[9] Sitti enjoyed good long rains in 2013, but this was itself seen as a respite year following the generally poor rains since 2011.[10] In some parts of Sitti in 2014, the short rains were very poor and the long rains failed completely – though other parts received reasonable rains. Around half of the population was thus already in crisis by the end of 2014, particularly in the south and east of the study area.[11]

The crisis developed at different times in various parts of Sitti Zone, largely due to the weather, but modified by other local variations such as availability of ground water and alternative opportunities in the local economy. (This latter factor partly explains why some kebeles closer to the main road reported that the onset of suffering occurred later). The differences within the Zone are striking. In mid-2014, livestock were already starting to die in parts of Hadigala, when much of the area was not yet suffering great stress. Lack of drinking water in some villages in the West of Shinile district was forcing people to move either into the centre of the kebeles or into neighbouring kebeles to seek assistance in the dry season even before the first widespread rain failure in July 2015.

In 2014, herders returned home with their animals after the normal seasonal migration in the June–July dry (Hagaa) season, in the expectation that rains would refresh the pasture in August. When it became clear that these rains were failing, culling of calves began in some places, for example Fedhato, to reduce the burden on their lactating mothers and help keep them alive. Animal mortality already began to rise.

The crisis was still relatively localised. However, the degree of suffering was well known locally. A huge aid effort was mounted by the (Issa) clan kinsmen of the people of Sitti, particularly by the business community and civil servants centred around Dire Dawa. Food aid was distributed on a massive scale relative to the resources available to those private citizens, with two or three months of food given to many people in different kebeles across the Zone in late 2014/ early 2015. This was long before the government and international relief aid effort was fully scaled up. The regional state asked for extra assistance for the Zone only after the failure of the long rains in September 2015 in Sitti, several months after reported cases of children dying from drought-related conditions in Shinile district with the failed short rains in April 2015. Some relief aid was delivered, particularly of water, to treat severe acute malnutrition and, in one or two areas, to treat cholera.

The drought caused many herders to take their livestock further afield than normal migration patterns. Ethnic conflict prevented many from travelling into Oromia,[12] but there were reports of pasture in Somaliland. People started moving there in

9 The earlier rainy season is called diraa, guu, badhessa and belg in Sitti Zone, Somali Region generally, West Hararghe and nationally in Ethiopia respectively. In much of the country these are the shorter rains. The later, and often longer, rains are respectively called karaan, deyr, ganna or kremt. For simplicity, this study will refer to the diraa and badhesssa seasons as the short rains, and the karaan and ganna seasons as the long rains, though this does not imply any relative duration of actual rainfall in the relevant years.

10 Draft HEA baseline (FEG, forthcoming).

11 In Gurgur, Gabi, Gaad, Cayliso, Biyogaraa, Baraq, Harwo and Xadhikalay, only a quarter or less of the population reported that the crisis had already begun in 2014 (source: VE survey). In Birdheer, Bisle Dhidinle, Fadhato, Hadigala, Meeto and Geedwyn, over two thirds of the population reported that they had been in crisis in 2014, except in the last kebele, where this was reported by more than three-quarters of the population (source: VE survey, differences are statistically significant).

12 The VE study team was told of several people killed in conflict as they attempted to migrate to Oromia with their livestock.

late 2014, and this movement increased following the failure of the April 2015 short rains. The huge number of arriving people and animals quickly resulted in the pasture being finished, and disease ran through the animals, already weak from the journey of almost two weeks. Food was donated by the people of Somaliland which prevented human mortality, but by the middle of 2015, many had lost almost their entire herds. All this happened before the El Niño drought had even begun. The crisis had taken people by surprise. The most severe droughts are known by local names: this one is called the sudden, or unexpected, drought.

In West Hararghe, the onset of the drought was seen as a continuation, and intensification, of an existing trend over several years of poor and unpredictable rains. In September 2014, one informant was already saying:

> *'Over recent years, we have lost two months from each rainy season. Now the rain is not coming at the right time: it starts late and finishes early. We prepared the land for planting at the start of the short rains [March 2014], but then they stopped, so we had wasted our time. … I don't know what tomorrow will bring, but all I do know is that the rains are changing, they are less and they fall at the wrong time'* (VE interview, September 2014).

The crisis in West Hararghe is thus less clearly delineated and is perhaps better understood as a deepening of a chronic crisis, rather than as a short-term natural disaster. There had been poor rains for several years before El Niño. The short rains then failed again in 2014, and though there was some rain in the long rainy season (July–August 2014), the pattern of poor and irregular rains continued in 2015 and 2016.[13] Although many spoke of the rainy seasons failing completely, most people managed to get some harvest. Many owned a few livestock that they were largely able to keep alive by feeding them straw that they were able to harvest from their fields even when the grain harvests failed.

West Hararghe is relatively remote economically[14] and there were few alternative income sources for people to draw on to cope with the loss of their harvests. Some looked for daily labour, though this was hard to find; a few tried to engage in some petty trade; and some left to find work in Addammaa, Awash, Matahara or Malagaa, though this was relatively rare (see below). The most striking thing about the crisis in West Hararghe is how little happened that was unusual.

There is no grand explanation of how people survived. There was some human mortality due to the drought, though it was limited: aid clearly played a key role in the number of deaths being as low as they were.[15] Most did not do very much differently compared to any other year; aid supplemented the little that people had to keep them going. West Hararghe receives food aid frequently in addition to PSNP, and both are widely shared. The timing of aid can be somewhat erratic, and there are several reports of food aid being delayed from one year to another. Ironically, delays sometimes meant that food aid finally arrived when most needed, even though the programme had been planned before there was any thought of a crisis. Beyond PSNP and Joint Emergency Operations Programme (JEOP) food aid, assistance is very limited in West Hararghe, particularly outside the project areas of the only two international NGOs with any consistent presence.

2.1 Assistance

This study is not an evaluation of the aid response to the 2014–2016 drought. It is specifically a study examining the contribution of early response and resilience investments to coping. This report therefore does not attempt to detail the entire aid effort or evaluate its overall impact. It must nevertheless be acknowledged that the national effort in particular to the 2015–16 El Niño drought, by the Government of Ethiopia and its international partners, was enormous. The government's own contribution to the aid effort was noted by many in the aid community as being exceptional. Nationally, the scale of the challenge was huge, and Sitti and West Hararghe were just two small areas among many that needed assistance. Mortality from the crisis was low, and the aid effort undoubtedly contributed in avoiding

13 Irregular rains can be almost as bad as no rain for arable farmers. The long rains began in 2015, but there was then a long dry spell followed by very heavy rain in September, which caused a lot of crop damage and very poor harvests (source: VE interviewing from MYHF thematic evaluation).

14 West Hararghe's role in the khat trade is no more an indicator of its overall integration into a mainstream national economy than is the dependence of parts of Afghanistan on poppy production, remote parts of Pakistan on cannabis or inaccessible parts of Colombia on coca leaf evidence that they are broadly integrated into a global economy.

15 Unfortunately, it is not known what those numbers are. Deaths are not recorded as being due to malnutrition if there is some other, more politically acceptable infection or proximate cause that can be given instead.

mass mortality. That effort, particularly involving food aid, therapeutic feeding, health interventions (around measles and cholera) and water, sanitation and hygiene (WASH), is not the subject of this study, but will undoubtedly be evaluated by others. This report looks at the degree to which it was possible to avoid emergency by giving aid before human suffering reached crisis proportions.

There is no clear record in any one place of all the forms of aid that were flowing in to either Sitti or West Hararghe. This corresponds with the somewhat erratic and ad hoc nature of how aid as a whole was managed – each agency manages its own aid stream in its own way. In Sitti Zone, assistance was slow to arrive, with the main bulk being delivered after July 2016, with some backlogs running into late 2016. Regular PSNP programming was not linked to a drought appeal and so arrived every year, but distributions in 2016 were delayed by backlogs in procurement during 2015. (Funds for the start of PSNP 4 were supposed to be available from July 2015 to start distributions in January 2016. These delays were more serious because in 2015 all distributions finished by June, when PSNP 3 finished.

Three things are striking. First, in each zone, over two thirds of the population say they had been in crisis before any emergency appeal had begun. Aid was only properly onstream at least six months after the crisis was fully developed (and in parts of Sitti, only a year later). Second, the number of people who reported receiving aid was always much lower than the number who said they were in crisis, and in neither zone did the numbers ever reach 50% of households. This is surprising. Third, the flow of aid reduced more quickly after rains returned in March/April 2016 compared to the rate at which people felt the crises ended. In Sitti and West Hararghe, seven and 12 months respectively after the peak of people saying they were in crisis had passed, over half of households still report being in crisis. (In areas where the household depends heavily on livestock, it is surprising that people report the crisis being over within a timescale of months following a return of rains, when it is clear that milk production would not be back to normal, let alone herds being rebuilt. People used their own perception or definition of crisis, which presumably included some psychological element: once hope of recovery was restored, did they already define the crisis as over?)

The last 10–15 years have seen a significant increase in the attention given to livelihood protection in the humanitarian sector. This shift in thinking has been driven especially by experience in agro-pastoral and pastoral areas, where a drought causes a short-term loss of income (e.g. a failed harvest, loss of milk production) and enormous loss of productive wealth, with the potential for loss of over half of all livestock in a serious drought. In Sitti, a number of agencies in 2015/16 used such approaches, with interventions like targeted distributions of fodder, vouchers for purchasing veterinary care and support to livestock marketing. However, these were fragmentary and, in general, late, occurring only after peak animal mortality.

Another innovation in the past decade is the establishment of mechanisms in longer-term programmes to enable some funds to be diverted towards a response if a crisis should develop or threaten during the period of implementation. These are often called 'crisis modifiers', after USAID's terminology, but they were also used by EU and DFID during 2015. Their use is discussed in detail below (see 5.1); overall, they were not triggered very early, they were often subject to procedural delays at the height of the crisis and were able to generate only very limited funds in relation to the scale of need.

In both Sitti and West Hararghe Zones a recurrent theme identified throughout the period between October 2014 and December 2016 (in interviewing by VE both for the thematic evaluation and this study) was the major deficit in potable and irrigation water source development, and the paucity of long-term (resilience) investments in general. Government spending is limited in both Sitti and West Hararghe. Other medium-term development investments in Sitti were limited largely to the USAID PRIME and DFID Pastoral Development Programmes and, more recently, the EU/ECHO RESET initiative and the PSNP social protection programme. In West Hararghe a similar situation pertains, with CARE International and World Vision International being the only international agencies engaged in medium-term programmes in certain districts.

3 Lasting impact of the crisis

This next section quantifies, as far as is possible, the longer-term impacts of the crisis by examining the economic loss of productive assets and the costs related to the debt burden, lost education and any negative impacts from migration. Most of the quantitative evidence comes from the survey, which included detailed questions to examine each of these different parameters of loss.

Livelihood profiles have been established for all the research areas by the Government of Ethiopia using the Household Economy Analysis (HEA). The most recent published profile for Tulo and Anchar Districts in West Hararghe is FEG (2008). Shinille and Hadigala Districts in Sitti Zone fall under LZ2 (pastoral) and LZ3 (agro-pastoral) in FEG (2007 and 2015). These HEA baselines come from a breakdown of the population into different economic groups or 'wealth groups' as identified by the communities concerned (wealth groups are usually defined on the basis of asset ownership). The survey data permitted the classification of each respondent household into one of the wealth groups for their livelihood zone.[16] Three wealth groups were used in West Hararghe ('poor', 'middle' and 'better off') and four in Sitti ('very poor', 'poor', 'middle' and 'better off'). It must be stressed that any use of the terms very poor, poor, middle or better off in the rest of this report relates specifically to the wealth groups as described in the livelihood profiles referred to, and applied as in Annex 3. There is no implication of any independent judgement on the nature of relative poverty or wealth.

Field research for this study was undertaken after the drought was over, but not necessarily after the crisis. Some people were starting to recover, but it was too early to assess how recovery would progress for different people, or what the impact of the then-looming next crisis would be. The study looked at different parameters to analyse the damage caused by the crisis, and how it might impact households in the short- and medium-term. These parameters were: assets lost; levels of debt incurred; non-economic costs (education and migration); and people's own subjective assessment of the recovery period. It was beyond the scope of this study to assess, or even document, the personal suffering endured (e.g. suffering from hunger and despair, seeing relatives sick or dying), though psychological effects of the crisis may well have a longer-term impact on economic recovery, as they affect future motivation, investments and other decision-making.

3.1 Lost assets

There were only two main assets in West Hararghe and Sitti: livestock and land. In West Hararghe, most people had a little of both, while in Sitti some households had arable land but most relied only on livestock.

3.1.1 Sitti Zone

It is very hard to confirm the extent of livestock losses because there is no independent way of verifying people's claims about their own losses, which they may have reason to exaggerate. Qualitative interviewing and survey responses certainly substantiated each other regarding the broad picture of livestock losses, and these can be viewed as fairly reliable, since reports include detailed anecdotes about people trying to protect their herds, where they moved to, and where and when animals died. However, qualitative fieldwork could not give an accurate or precise estimate size of losses for different people and surveys do not give reliable information. The figures below do not claim to be exact, but the study team is confident that they present a reasonably reliable picture.

According to survey response, the average (mean) loss of livestock during the drought was 77%. This is calculated by dividing the aggregated reported herd at the time of the survey (in Tropical Livestock Unit (TLU)) by the reported pre-crisis herd (in TLU).[17] The median loss is slightly higher, with 45% saying their current herd was 20% or more of the size of the pre-crisis herd. Reported herd loss was much lower

16 HEA profiles present a typical description of households in each wealth group rather than giving strict definitions with upper and lower limits. The criteria used in this study for categorising each household on the basis of survey data are described in Annex 3.

17 Tropical livestock units are a way of aggregating animals of different species, based on their relative weights. A camel is 1, cattle are 0.7 and goats and sheep are 0.1.

for those who had smaller herds. Survey results show that the 'very poor' reported losing just over 60% of their herds (in TLU), 'middle' households reported losing over 80% and the 'better off' reported losing 85% of their total herd. This is corroborated by FGD reports. Those who had fewer animals were able to protect some of them using food aid, bought food, and collecting a variety of vegetation, including even prosopis.[18] Larger herds were forced to migrate, and it is fair to trust the numerous stories of people returning from Somaliland either with a handful or no animals left alive. This finding runs counter to conventional thinking that smaller herds are less mobile and typically suffer the highest losses, while the better off with larger herds are better able to keep their animals alive.

Even when food prices do not increase greatly, as, perhaps unusually, they did not in the 2014–2016 drought, the terms of trade between food and livestock typically become much worse for livestock keepers during a drought, because of the crash in animal prices. A large increase in animal sales to buy food is therefore expected to play a role in herd depletion. This study did not find this to be the case. Pastoralists normally sell animals to finance their lives, and overall sales were no higher during the drought for all except the better off, for whom there was perhaps a small increase, despite livestock typically losing 60–70% of their market value.

This is largely due to the complete collapse of the market for animals by the start of 2015, when animals were already in weak condition and often not physically able to walk the long distances to market. Almost all herd depletion thus occurred because of mortality, combined with the loss of normal reproduction to replace normal levels of sale.

All estimates in this study use deliberately conservative figures of herd loss. Even allowing for exaggeration, it is reasonable to accept that herd losses for those living in Sitti were at least 60%, and only 6% of better off and middle households reported having losses this low. (There is no implication that herd losses might not be greater than 60%. Figures as high as 80% would be credible in some places.) Only 11% of the 'very poor' and 8% of the 'poor' reported still owning herds with less than 40% loss from pre-crisis levels, and this figure will be used below for these two groups, again with no implication that losses could not have been considerably higher. However, by using conservative figures it will be possible to illustrate a credible, best case scenario level of loss. It is stressed that the following calculations are intended to be indicative only, to give an informative picture of the rough scale of reported losses.

Although people usually under-report their wealth to strangers, it is possible that the tendency to stress personal losses may mean that reports about pre-crisis herd sizes are more reliable than may often be the case. In fact, these numbers corresponded well with the most recent HEA profiles (FEG, 2015). At pre-crisis prices, the value of herds of the population could be estimated as follows:

- the very poor (15–20% of the population) owned around $800 worth of animals;
- the poor (30–40%) owned around $2,500;
- the middle (20–25%) owned around $5,500;
- and the better off owned around $14,000.

An approximation of minimum financial losses to each group are given in Table 1.

To estimate the total asset loss in Sitti, it is necessary to use a weighted average of livestock mortality, considering the size of herd for each group and the relative size of each wealth group in the population. Although the study sample was not designed to be representative of the non-urban parts of the zone as a whole, there is no reason to believe that it is skewed or biased, and it is probably good enough to give a useful estimation, especially in the absence of other data or calculations. The 2014 population of the zone is estimated[19] at 550,000, or around 75,000 households, of which 14% were classified as urban. The conservative estimates of herd reduction above ('best case scenario') give a weighted average of 56%, or a value of around $4,200 per household. If the sample is reasonably representative of the non-urban population in the Zone, it suggests that the overall value of loss of livestock for Sitti Zone alone was over $275 million. This implies that the financial loss for Sitti Zone alone was equal to the entire state budget of Somali Region for 2013, or the entire state budget for Sitti for 10 years (assuming total public

18 Prosopis juliflora, or mesquite, is a highly invasive thorny shrub introduced to the area by aid agencies that is proving difficult to eradicate. It not only occupies large areas of irrigated land, but has created huge impenetrable barriers to accessing pasture and watering points, provides refuge for wild predators and is poisonous if ingested in large quantities by livestock.

19 Based on projections from the 2007 census.

Table 1: Minimum financial losses to each wealth group

	% of sample	Pre-crisis value of herd (US$)	% loss (reported)	% losses (best case scenario)	Financial loss per household (assuming best case)
Very poor	18%	800	64%	40%	$320
Poor	36%	2,500	74%	40%	$1,000
Middle	23%	5,500	82%	60%	$3,300
Better off	23%	14,000	85%	60%	$8,400

Note: definitions of wealth groups taken from Livelihood Profile (FEG 2015). Actual herd size averages taken from Valid Evaluation 2017 survey data. All herds converted to TLU, and valued at 4,000 ETB per cattle equivalent (0.7 TLU). $1 = 22 ETB.

expenditure in Somali Region is distributed equally per capita across the state).[20]

3.1.2 West Hararghe

Because land as a productive asset is not generally lost in drought, unlike livestock, levels of asset loss were much lower in West Hararghe than Sitti. Despite several reports in village FGDs that, out of hunger, people had resorted effectively to mortgaging their land (i.e. accepting payment up front for several years' rental on their fields), this was not confirmed by survey respondents, with just seven people reporting having rented out land as a crisis measure for more than one year, and three of these renting land out for three years. It is likely that individual responses are more reliable here and reasonable to conclude that FGDs have truthfully reported what occurred, but have idealised this into a general response, rather than recognising that these were exceptional cases. The same pattern occurred for other distress sales, with FGDs reporting that people 'survived by selling assets' (that is, other than livestock), but only 2% of survey respondents reported having sold any possessions (apart from livestock). Although worrying that even two people reported having to sell their houses in order to eat, any calculation of lost assets across the population can disregard losses from either land mortgages or the distress sale of other possessions.

Livestock losses were smaller in West Hararghe. Livestock holdings are more geared towards regular sales, which as a proportion of the herd are about twice the size of sales in Sitti for each wealth group. (The poor sell about twice as much as the better off in % terms in both zones). During the crisis, sales increased considerably, especially for the better off. The poor increased sales by around 50%, but the sales of the middle and better off were at 200% and 400% of normal respectively. This was the primary driver of herd depletion. Mortality was relatively low: fewer than 50% of livestock owners lost either a cow or a goat. As in Sitti, this is understandable, as those with fewer animals were able to protect them better, and in West Hararghe the rains did not fail as completely as in Sitti. If total asset reduction is considered as excess sales[21] (i.e. sales during the crisis less normal sales for that period) plus mortality, then total animal losses were on average 0.4 TLU for the poor, 1.2 TLU for the middle and 3 TLU for the better off. For the different wealth groups these can be respectively valued at around $110, $350 and $850 per household. It is obvious that the financial loss to West Hararghe was only a fraction of that sustained in Sitti – but it must be remembered that the financial capital available to households in West Hararghe was only a fraction of the asset wealth previously held in Sitti. (This is partly because the productive capital of farmers in West Hararghe is land, which is not easily commoditised in Ethiopia.)

These calculations of financial asset loss do not represent the full economic cost of the crisis for households as they do not consider lost income. For West Hararghe, this is largely due to poor or lost harvests and some loss of income from agricultural employment. For most people, these harvests recover immediately, as few people reported being unable to plough their land because of distress sales of ploughs or oxen. Loss of income from future livestock sales has not been calculated. In Sitti, where income from

20 Total SRS budget was 5.2 billion ETB (c. $280 million @ $1=18.5 ETB) in 2012/2013 (World Bank, 2016). This equates to $53 per capita at a state population of 5.3 million, or $29 million for the population of Sitti Zone.

21 In one sense, selling an animal for money should not be considered a loss. However, excess sales represent the loss caused by the drought from both the increased need to buy food due to drought and, in particular, the huge reduction in sale price of animals. Qualitative interviewing found that neither pastoralists nor agro-pastoralists had used an expectation of drought to sell extra animals before prices collapsed. These excess sales thus form part of the erosion of assets that was caused by the drought.

livestock is more critical, average lost household income from herd multiplication and milk production has conservatively been calculated at just over $1200 p.a.[22] This loss will progressively decline over the coming years, assuming favourable conditions.

3.2 Debt

Debt is often expected to be one of the lasting impacts of crises. This study raised some questions of how far debt should be seen (only) as a negative cost of crisis, and how far the ability to borrow money for multi-annual consumption smoothing should be appreciated as an important part of coping.

An understanding of crisis indebtedness must start from an understanding of borrowing patterns outside of crisis. Borrowing is a common part of household economic activity in both zones, though in Sitti it is both more prevalent (30% of households borrow normally compared to 20% in West Hararghe) and at greater levels: normal pre-crisis debt levels of households which borrow were mean/median of $135/$90 in Sitti compared to $90/$45 in West Hararghe. Borrowing cannot be seen simply as a result of poverty stress, because rates of borrowing and levels of debt are broadly similar across wealth groups. The way debt is integrated into economic life is also seen where money is borrowed. In Sitti, most borrowing is in the form of buying on credit from traders, with just one third from family and clan, and much less again from any form of microfinance institution (MFI). Interviewees talked of reluctance to engage with MFIs, because their terms are not seen as favourable (including cost of borrowing, the repayment period and the need to begin repaying immediately, or in other conditions). In West Hararghe, over half of borrowing is from friends and family, and borrowing from VSLA is also as common (except for 'better off' households), following a number of initiatives by NGOs over recent years to create various associations.

The drought increased borrowing to some extent – though only around half of households in both zones reported having higher levels of debt than normal at the time of the survey (December 2016). Additional debt was relatively modest for most people, though particularly in West Hararghe. There, additional borrowing was an average of $45 per household (an increase of 50% over normal borrowing), and most people (87%) said they would be able to repay the loan in less than one year. In Sitti, debt was a little higher, at around twice normal borrowing rates (an additional $85 per household on average) and 75% in Sitti said that they would repay this within two years. These levels of debt are considerably less than those reported in Oromia by AKLDP (2016), where additional borrowing due to the drought was on average $150 per household, although this is in line with the proportional increase in normal levels of borrowing reported by AKLDP (op cit) of 65%.

In West Hararghe more people owed money to family and friends, and fewer had borrowed from VSLA. The terms and conditions of VSLA, including the need to start repayment immediately and to pay interest, do not favour it as a recourse for emergency consumption, only for investment. Again, crisis borrowing cannot be interpreted simply as a failure to meet needs, because in both zones borrowing rates and amounts were similar for all wealth groups, with slightly higher levels of debt for the 'better off'.

There is another reason to be cautious about using debt as an indicator of suffering from the drought. As discussed, the parameters considered in the survey as indicators of suffering or difficulty in coping included levels of indebtedness, skipping meals, loss of assets, distress sales, taking children out of school and a subjective assessment of how well they had coped. There was a lack of consistent correlation between these parameters – people who experienced one parameter were not necessarily more likely to experience the others (see Annex 1).

Two-step cluster analysis was undertaken to explore how various factors could be interpreted together. This procedure reveals sub-groups by dividing the sample into 'clusters', which are internally as homogeneous as possible but externally as different as possible on the chosen parameters. Using this procedure, we have identified three clusters of households (see Annex 2). One cluster (about a quarter of the respondents) was least likely to have cut back on meals, to have migrated, to have sold female animals, and the most likely to say they coped fairly well. This group also had low levels of debt and could be considered the cluster that had coped best. However, the rest of the

22 Assuming 56% herd depletion, but considering also the change in herd composition. Herders protect adult female animals as much as possible, and breeding animals make up a higher percentage of herds than before the drought – an increase from 57% of all the animals in an average herd to 69% for cattle, and from 53% to 65% for shoats (source: Valid Evaluation survey, 2016). Milk is usually consumed rather than sold, and was given an equivalent monetary value here of 50% of the reported pre-crisis market price in Sitti Zone, from Valid Evaluation interview data 2014–2016.

population was split equally between a group who borrowed heavily and another who did not. In Sitti, both other clusters had to cut back on meals, but the group which borrowed thought they had coped about the same as others, whereas the cluster that borrowed less was most likely to believe it had coped very badly and worse than others. In West Hararghe, the picture is even less obvious: the cluster that borrowed believed it had coped the best of all. The ability to borrow is an important part of coping for many. This kind of analysis cannot be over-interpreted but, because a simple story cannot be told, it corresponds with the way in which debt was unrelated to wealth groups. It would be wrong to argue that borrowing is simply a positive opportunity, a coping strategy that prevents the need for negative, distress strategies; however, the straightforward message of 'debt as bad' cannot be told, either.

3.3 Other

3.3.1 Education

Children drop out from school during crises for a variety of reasons: schools close, children have to go to work to find food, children become sick or malnourished, families cannot afford school fees/compulsory school materials, or they are forced to migrate. The 2016 HRD showed that the risk to children's education was very much on the humanitarian agenda, giving an estimate of 1,287,444 school-aged children and adolescents already 'unable to access quality education opportunities as a result of drought'. Pastoral areas were particularly highlighted.

'Schools in drought-affected regions have closed due to pastoralists moving with their children in search of water and pasture. Moreover, in almost all affected schools, high absenteeism has been observed as children walk long distances to assist parents in fetching water; inadequate feeding limits the capacity of children to stay in class' (2016 Ethiopia HRD).

If children cannot return to school after an absence (for any reason), the crisis can potentially cause long-term damage to people's lives.

The evidence from both Sitti and West Hararghe is that additional school absenteeism or drop-out was relatively low during the drought, partly due to school feeding interventions. Patterns varied slightly between Sitti and West Hararghe. Fewer children dropped out in Sitti, which was mainly seen in schools in outlying areas[23] that closed when teachers deserted schools. Drop-out was plausibly related to the household level impacts of the crisis in 4% of households[24] (i.e. sickness/malnutrition, lack of money, need to work), though this probably overestimates the impact of the crisis, since there is presumably some absenteeism from sickness etc. in normal years. (No baseline data existed, so this was ignored.)

The link between drop-out and economic stress is clouded by the fact that drop-out rates were highest for households in the better off wealth group, and the reasons given were not about needing to herd animals – all cases of sickness or malnutrition in the sample were from better off households. Most children are now back in school, with less than 3% of households reporting that not all their children had returned. (Again, this overestimates the drought's impact because some or all of these children may have left school before September 2016 anyway.) We heard no reports of children who temporarily dropped out having to repeat a year.

No schools closed in the study kebeles in West Hararghe but drop-out was much higher (at 14% of households), all for reasons that are plausibly drought-related; about half was due to sickness or malnutrition and drop-out was twice as common among 'poor' households and in villages further from the centre of the kebele. (The caveat that the figures might overestimate the drought impact because of the lack of baseline data of 'normal' sickness and absenteeism, see above, also applies here.) The pattern of return is also more worrying in West Hararghe than in Sitti. A third of drop-outs had not returned to school (i.e. in 5% of households), and of those who returned, most had to repeat a year. The pathway through school was thus disrupted in the long term for a child in 12% of households.

Across the two zones, these figures may be considered as relatively moderate, especially when considering the normal rates of enrolment in school. Other causes for drop-out from education, even in primary school, have more impact than the drought, and secondary education attendance is low in Sitti and West

23 From the study kebeles, schools closed in Bisle, Biyogaraaca, Cayiliso, Gaad and Harwo.

24 All percentages here refer to the proportion of households who had children in school before the drought. Households with no school-age children or whose children had not been in school anyway have been excluded from the sample. 80% of households in West Hararghe, but just 67% of households in Sitti, reported having children in school before the drought, though only 6% and 5% respectively reported having no children in the household. (This question did not refer to school-age children.)

Hararghe. Although the VE data cannot be directly compared with the HRD 2016 estimate, the figure of 1.29 million is around 10% of the national primary school population, suggesting that West Hararghe may be roughly in line with the national picture as estimated by HRD 2016, and that Sitti may have been impacted less – though this could be attributable both to interventions to keep children in school, and normally low rates of schooling.

This assessment relates to the immediate impact on school attendance: it is not an estimate of the loss to an individual (or to a household) caused by a child missing school. It is impossible in a study such as this to assess the impact of loss of schooling on the lives of those children as they grow up, or on their families. Such a study would need to examine the quality of education in Sitti and West Hararghe, and the benefits derived from more years' schooling in an area where so few children progress to higher education or who further a professional career through education.

3.3.2 Migration

Migration is common in Somali Regional State and goes beyond movement with livestock by pastoralists. One in five households in the survey sample already had one or more members living away from home before the crisis. There was a huge increase in migration during the crisis, with over a third of households experiencing additional migration, mainly to Djibouti and Dire Dawa, either to seek work or to stay with relatives (or both). Most had not returned at the time of fieldwork – in this period unreturned migration was 150% of the pre-drought level.

The impression given by qualitative interviewing was that migration was a common coping strategy in West Hararghe, but this was to some extent contradicted by the survey data, which showed much lower levels of migration than would naturally be inferred from the descriptions in FGDs. The study zones in West Hararghe are much less integrated into a migration economy, with previous levels (at 9% of households) less than half that of Sitti, migration rates during the drought much lower (at only 6% of households), and fewer people per household moving (rarely more than one person). Migration was almost entirely domestic, with just one person from the sample of 480 households moving to Dubai, and three-quarters had already returned. The FGDs recounted some stories of migration to the Gulf through human trafficking. One village spoke of 20 young men and 'many females' using these routes, and costs were very high, with families selling all their livestock, and even houses, to pay.

It is beyond the scope of this study to say how far migration should be seen as economic integration, representing livelihood opportunities that are badly lacking in West Hararghe; or whether it should instead be considered a distress ('negative coping') strategy, and counted as a cost of the crisis, which to some extent accords with the FGD in West Hararghe, where people spoke of the arrival of aid having prevented further migration.

4 Early aid and avoided losses

There were several difficulties in tracing any impact of early aid on avoiding losses. Aid is a perennial way of life for parts of Ethiopia, including Sitti and West Hararghe Zones. The PSNP social protection programme reaches most households (82% of the survey population) in Sitti Zone, and over a third of households reported being registered in West Hararghe. Routine six-month rations of emergency food aid (through the government or JEOP) continue to be given frequently. Although not all households are targeted by either emergency aid or PSNP, in practice aid is generally shared out, which may defeat the intention of targeting but ensures that everyone receives something to help them survive. Aid is not always distributed on time, so aid given early in one year may in fact be delayed aid from the previous year (VE researchers found a three-month backlog of food, reported to be for PSNP, in warehouses in some of the kebeles visited in November 2016/January 2017).

A further difficulty in comparing more and less timely aid was that differences between kebeles were far from clear. Some variations in the timings of aid were picked up in the survey, but these were less consistent and of a shorter duration than indicated by informants before the study and even by the initial rapid scoping study. There was also little consistency within villages as to when aid was received. Some of this may be partly due to difficulties in exact recall.

Using VE survey data, villages were classified as being one of three groups: early, middle and late receivers of aid according to when the majority of survey respondents said they started to receive it (using the median response). Statistical analysis was then used to determine whether receiving aid earlier or later affected people's outcomes.

There is no evidence from the survey linking earlier aid to better livelihood outcomes in either West Hararghe or in Sitti. (It should be remembered that the study did not attempt to evaluate the direct impact of emergency aid in saving lives or reducing morbidity, and no conclusions can be drawn about the effectiveness of early aid in achieving these aims.) Overall, there was no correlation between aid and asset protection, as there were no significant differences at all in livestock mortality, in livestock sales, or in sales of other assets. In fact, there are no strong correlations between any outcome variables, and most of the statistically significant differences are unlikely to mean anything. As with most surveys, there are opportunities to cherry-pick one or two correlations that tell a favourable story. It is always possible to argue that the fact of statistical significance means that such outcomes could not plausibly be due to chance, but, though commonly done, this is a dishonest use of statistics. The existing correlations are weak, and a fuller research picture, which incorporates the qualitative findings from interviewing and a theory-based analysis of how aid could have caused better outcomes, does not give the consistent picture that would justify using the data to argue for a particular story.

In Sitti, fewer households in villages with earlier aid migrated (a better outcome?) – but they were no less likely to have migrated to look for aid (a symptom of a worse outcome?), and far fewer of them had moved back home since the crisis (a worse outcome?). Fewer had adopted new activities for finding food or income – but this was probably because they lived in places with fewer opportunities (so few had alternative income sources before the crisis). They were slightly less likely to have borrowed money (a better outcome?), but the amounts borrowed were the same. There were no differences in the prevalence of children having to skip meals. The same percentage of adults had skipped meals overall during the crisis. More early receivers had skipped meals in early 2015, while they were receiving aid and others were not – which is presumably why they were targeted for early aid. Households from villages with earlier aid estimate their recovery time to be slightly shorter, though the difference is only three months and the median for both early and late aid is two years. (The median for the middle group was three years.) They are more likely than those with late aid to have judged that they coped badly.

In West Hararghe, those who received aid earlier were less likely to have children who dropped out of school due to sickness or malnutrition, but the numbers are very small. There are also correlations pointing in the opposite direction: those receiving earlier aid are more likely to have children who dropped out because they

had to work for food, and children who dropped out were less likely to go back to school. These examples reinforce the general principle that correlations on their own are not evidence of causation: there is no suggestion that earlier aid caused more children not to return to school, and care must be taken when making friendlier claims about aid impacts from correlations. Those receiving earlier aid are also more likely to have sold ploughing oxen and thus been unable to plough after the drought was over, but again, numbers are very small (nine households out of 131 in early aid villages). Those in villages that received aid late were more likely to say they coped with the drought fairly well (28% compared to just 6% of those receiving earlier aid), though they also say that it will take them slightly longer to recover (3.5 years compared to 2.9 years for early aid, though the difference is not statistically significant). People from villages receiving earlier aid sold more livestock and had slightly higher livestock mortality than those with late aid. Many of these correlations could be interpreted variously as earlier aid proving negative impacts (theoretically possible but implausible), earlier aid being targeted where problems were greatest (see below), or, possibly most likely, as telling no clear story at all.

Caution is needed in interpreting any correlations – including the lack of correlation between outcomes and aid – over and above the usual caveats on the quality of recall and on confounding factors. Aid was not distributed randomly. We would hope that people living in places facing crisis earlier would have received aid earlier. Indeed, comparing when people received aid with the calendar of when people reported being in crisis shows that aid tended to go earlier to those kebeles that were in crisis earlier. In Sitti, we can see that 79% of those in early receiving villages reported that they were already in crisis in 2014, compared to just 18% in late receiving villages (differences are statistically significant).[25]

This caution affects Sitti much more than West Hararghe, because in Sitti where people lived played a bigger part in determining whether they faced crisis earlier. In every village in Sitti that we studied except one there is a highly statistically significant difference in the number of people who reported being in crisis in 2014. In West Hararghe, there is a highly significant difference in only two villages, with one more showing a less strong significance. The timing of suffering is thus more related to individual circumstance in West Hararghe, compared to Sitti where location plays a stronger role. In both study areas the crisis was caused by a severe shock hitting chronically poor and vulnerable people. The differences in how the crisis hit geographically across the two study sites illustrates why the crisis in West Hararghe is in some ways better understood as the deepening of a chronic situation rather than an acute shock.

Another reason for aid being more likely to be targeted at specific kebeles in Sitti than in West Hararghe is that the information collected by aid agencies during the crisis from these remote areas was inevitably of a headline nature. In the pastoral economy of Sitti, the implications of going beyond the limits of coping are starker, especially for asset losses (herd mortality), making the crisis more visible. Key informants spoke about specific crisis hotspots in Sitti (e.g. 'IDP camps'[26] where people from villages without water moved into central villages), whereas these were absent from testimonies about West Hararghe, even if they described some kebeles as suffering more than others (see below).

Households in West Hararghe that received earlier aid were no more likely to say that the crisis began in 2014. However, households from villages in the middle group for the timing of aid were twice as likely as those in the early group to date the start of the crisis in 2014 rather than 2015 (36% compared to 18%). There are some other differences between villages which received earlier aid and those which received aid later. For example, they were more likely to describe the first harvest in 2015 as a failure (50% said they 'got nothing' compared to 29% of those in other villages) and they were less likely to have irrigation (where irrigation systems existed, water was not available during the drought). They were also less likely to report alternative income sources beyond agriculture or livestock (15% of households in early-receiving villages had other sources of income, compared to 62% in villages receiving aid later) or to grow cash crops. Overall this suggests they were

25 Care must be taken, though, in assuming that the findings at village level are representative of the kebeles as a whole, since only one village was sampled in any kebele. We believe that there are differences between villages in the same kebele, because, for example, villages in Sitti that were more peripheral from the kebele centre were more likely to report being in crisis by the end of 2014 than the central village (55% compared to 40%). There were no such differences in West Hararghe.

26 The use of the term 'IDP' (internally displaced person) to describe those who move to centres distributing relief food and/or water is highly questionable. There is a great deal of politics, of various kinds, in the arguments for or against policies that favour or encourage the creation of such centres and population concentrations. These should not be confused with those longer-standing populations displaced by conflict in some pastoral areas, for whom the term IDP is appropriate.

less integrated into the wider economy. This is distinct from arguing that they were poorer – they had slightly higher livestock holdings before the crisis – but they are more vulnerable.

The analysis becomes more complicated, though, if we look at the responses of individual households rather than at village level: almost all the differences disappear. There were no demographic differences, for instance relating to the dependency ratio, and no differences in how many had alternative income sources. The only statistically significant differences were that those who fell into crisis were: more likely to grow maize and less likely to grow (drought-tolerant) sorghum; less likely to undertake daily labour; and more likely, in normal years, to sell cattle rather than goats.

There may be a story about the geography of villages that faced crisis earlier, which would illustrate the various determinants of household coping: access to economic opportunities from access to water, to roads and to an urban or peri-urban economy. However, this is far from clear. It is interesting to compare findings from the survey about how badly households suffered to reports from key informants from local government (see Table 2).

Key informants presented a much more clear-cut picture, where suffering was determined by three factors: altitude (which largely determines normal rainfall), access to markets, and the degree to which the rains failed. Highland villages were believed to have coped much better than lowland village kebeles, with the exception of one remote village. Neither the village level FGDs nor the survey data support this picture, though it is one that may have shaped aid decision-making.

For full disclosure, the VALID study team members have all been long and public proponents of arguments for early aid. This study failed to find any evidence for impact from early aid. How then to explain this?

There are three main arguments on the importance of early aid. The first is the most simple: it saves lives. This, though, is an argument for timely aid, for not being too late. The subject of this study, early aid, is different: it is delivered before lives need to be saved, to prevent suffering and losses. The second argument is that delivering the same life-saving aid earlier brings greater cost efficiency – it's cheaper. Insofar as this is about earlier financing for organising or purchasing the same life-saving aid, this too is about timely aid rather than early aid as we understand it here. The third argument is that supporting people earlier in a crisis may enable them to avoid its worst effects altogether. Some degree of suffering may be avoided; and if livelihoods can be protected, the asset erosion and gradual impoverishment that is seen to be caused by repeated crises could be averted. This

Table 2: Perceptions of relative suffering of kebeles in West Hararghe by key informants in local administration

Kebeles	Agro-ecology	Access to social service and market	Level of drought	Household coping 1= well, 3= with difficulty
Dindin	Highland	Remote	Medium	1
Lafto Goba	Highland	Near	Medium	1
Gara Qufa	Highland	Near	Medium	1
Terkan Feta	Highland	Near	Medium	1
Bale	Midland	Remote	Serious	2
Wachu	Lowland	Medium	Medium	2
Ifa Hiyasa	Midland	Remote	Serious	2
Hakan Jirata	Midland	Remote	Serious	2
Hunde Lafto	Lowland	Medium	Medium	2
Kufan Zik	Lowland	Medium	Medium	2
Anana	Lowland	Near	Serious	3
Corora Badiya	Lowland	Remote	Serious	3
Dannebe	Highland	Remote	Serious	3

may be achieved by using quite different interventions, aimed at protecting people's livelihoods rather than providing for their immediate needs. It may also be possible to protect livelihoods with different strategies, for instance, by using the same aid modalities as reactive aid (e.g. transfers of cash or food). Transfers would not only be planned to give people food, but, for example, might be designed and timed to help crisis-affected people to use transfers in different ways. It is this use of early aid that is the subject of this report.

Various methodological challenges, outlined above, made it unlikely to find statistically significant differences as evidence for the impact of any external assistance. That earlier aid was targeted at those suffering more (or earlier) complicates the analysis further. The conclusion from the survey is that it is not possible to find evidence of the impact of earlier aid. Other evidence allows us to further conclude that those impacts are unlikely to be found: aid given in the 2014–2016 drought in Sitti or West Hararghe could not have achieved the large, clear impacts that proponents of early humanitarian response would hope for.

The drought in Sitti, in particular, was severe and long-lasting, taking in four failed rains over two years. A crisis from such a long drought could not have been prevented by earlier aid of the kind and scale given. Many informants told the VE study team how they used early aid to protect their livestock. Some recipients gave food aid to their animals to keep them alive; and food aid may have indirectly lowered food prices, enabling some people to buy grain in the market to feed their livestock. There were also some initiatives supplying fodder and vet care. However, it was not possible to keep most animals alive through such a long drought and, in this case, the influence of aid is insignificant.

Given the length of the drought, caution is needed when considering giving aid earlier. The argument for earlier aid often becomes an argument for more aid, i.e. aid which begins earlier but then continues for the same length of time at the same rate. Had the volume of aid, or the sums committed to aid, remained the same but shifted a few months earlier (i.e. ending earlier), it is possible that the consequences would have been negative. There is no evidence that people could have used additional aid in 2014 (e.g. cash grants to prevent a household-level crisis in 2015/16), and thus no evidence that the aid which came in the second half of 2015 or early in 2016 was late. Lower volumes of aid towards the end of the crisis would likely have resulted in higher (human) malnutrition and mortality. The undoubted need for investment in making livelihoods viable and resilient (see below), and the wisdom of trying to invest aid in protecting viable livelihoods at the beginning of the drought should not be a reason to downgrade capacity for genuine, life-saving emergency response when needed.

The argument supporting the effectiveness of early aid is partly based on the hope that there are windows of opportunity to use aid before people have become so hungry that they have lost their assets, or are engaging in distress strategies. These opportunities are not determined by the humanitarian calendar – i.e. the occurrence of the symptoms of crisis such as malnutrition or forced migration – but by the crisis calendar, which is a combination of the dynamics of unfolding crisis and the livelihood calendars of affected people.[27] In West Hararghe, for example, crisis calendar analysis might have looked at the drivers behind people's need to sell livestock. If this was caused by difficulties in keeping animals alive, then calendar analysis might have examined likely harvests of straw from a failed grain harvest, when this fodder supply would be expected to run out, how long other pasture would be expected to last given rainfall predictions, and calculated when support for feeding animals might be needed. In Sitti, the calendar analysis might have been used to look at the predictions for the returning rains (in 2016) and the likely impact of the cold shock on animal mortality, using this to calculate whether and when an intervention could be implemented to minimise the mortality of the remnants of the herds. (Mortality after the return of rains comprised almost 10% livestock losses from the drought.)

Aid was rarely used in this way in 2014–2016, particularly in West Hararghe. Early aid (as opposed to timely life-saving aid) was not really attempted on any scale. As a result, for the most part this study could only compare earlier food aid with later food aid.

Aid to help protect livestock in Sitti largely failed to have any visible impact, but this is attributable to the length of the drought, and not to the principle of using aid for livelihood protection. However, it does argue for caution in assuming that such protection will be achieved by currently used interventions, which have

27 See Levine et al. (2011) for more detailed examples of crisis calendars, and a discussion on combining livelihood analysis with crisis calendar analysis to determine these windows of opportunity.

Box 1: Protecting livelihoods: is there a case for distributing fodder to livestock?

Together with the shortage of water, the lack of pasture and fodder was predictably a main cause of livestock mortality during the drought, and several agencies (including government, national organisations and international NGOs) distributed fodder in Sitti. This appears to be a sensible and cost-effective response, with several possible impact pathways: it can keep breeding females alive, thus preventing destitution and speeding up recovery after the drought; it could help maintain milking animals, giving a source of food for hungry households; or it could improve the body condition of animals, helping the owners to market them more successfully.

This study could not find any identifiable impact from the various projects of fodder distribution in Sitti. There are understandable reasons for this. Most fodder projects were implemented between August 2015 and early 2016, when animal mortality was already well past its peak – most had already died. Projects typically distributed around 150kg of fodder per household, which would only feed three cows for around three weeks at most. In the context of the overall drought, this is less than 3% of the time that pasture was lacking (And, of course, fodder was not enough where even water was not available.) There were no reports of fodder facilitating marketing, because by the time fodder was distributed, the market had long since collapsed, and efforts were not coordinated with attempts to help herders transport their weak animals to a functioning market.

A rough calculation illustrates why fodder distributions can never prevent widespread livestock losses and can only be sensibly planned as a targeted intervention with much narrower objectives (e.g. maintaining a minimum level of milk production for nutrition or helping people with very small herds to keep one or two breeding animals alive).

Let us assume that fodder is only intended to keep breeding female animals alive. Putting all the species together, the survey results indicate that the average adult female holding per household was 12.5 TLU* before the crisis. Assuming they eat 1.5% of their body weight each day, each household would need 19 tonnes of fodder per year, or around 30 tonnes to have coped with the 2014–2016 drought. The population of Sitti Zone is estimated at 550,000, or some 75,000 households, of which 14% are urban. Excluding urban households from the calculation, the total fodder requirement in this one Zone would be 1.8 million tonnes per year. Even if it is assumed that households can find half of this requirement (including finding some pasture/browse, purchasing grain, etc.), the requirement is still close to 1 million tonnes per year, or equivalent to 350 seven-tonne lorry loads every single day of the year (including Christmas Day). This is clearly logistically and financially impossible. The size of this task, though, illustrates the need for a well-thought out strategy to underpin the distribution of fodder on a micro-scale.

* The TLU is based on aggregating animal weight. 12.5 TLU corresponds to 12.5 camels, 18 head of cattle or 125 shoats.

largely focused on the household level (or single herd level).[28] Livelihood protection was not undertaken with the strategic consistency or the scale necessary to achieve such objectives. Ad hoc distributions of vet vouchers and fodder can certainly signal progress in how aid agencies are thinking about aid and what they are trying to achieve; but on their own, they do not constitute a proper or effective response. In Sitti, livestock sales and livestock mortality were the same whether or not people received fodder distributions or vet care for their animals.[29]

A consistent strategy committed to achieving certain strategic objectives is needed; for example, keeping a certain number of animals alive until the end of the drought or ensuring that livestock keepers can sell enough animals at a fair price to feed themselves during a drought, or to buy back a minimum number of animals at the end of the drought. Timely aid means delivering strategic objectives through

28 The potential for reformulating resilience strategies at a higher level, for example around a meso-level economy and taking a much wider view of the livestock production value chain, is analysed further in VE's summative report on MYHF and resilience in Ethiopia.

29 There were only seven beneficiaries of livestock interventions in West Hararghe, making comparisons impossible.

interventions that successfully target their windows of opportunity: it is not simply about being earlier. The following example demonstrates this, though it should be stressed that it is illustrative only, and not a technical recommendation (which would be beyond the competencies of the evaluation team).

One objective could have been to prevent livestock losses, which typically occur following the first rains at the end of a drought, when animals are too weak to resist the cold and disease. The timing of these losses was predictable, given the availability of reasonably accurate weather predictions. If this objective had been chosen, livestock interventions might have even been delayed from 2015 until early 2016, to ensure animals had shelter from the rain, perhaps received some feed to build up their strength against the cold or received veterinary care when needed. From survey responses, these losses can be estimated at almost $25 million for Sitti Zone, or over $350 per (non-urban) household. Whether or not it would have been feasible or cost-effective to implement these measures at such scale is a question beyond the scope of this study, but it serves as an example of the difference between giving aid earlier and planning timely aid to achieve a strategic objective.

4.1 Is the case for early aid the same in Sitti and West Hararghe?

The main arguments offered for preventing losses through earlier aid are generic, and would appear to hold true broadly for most places and types of crisis. However, the varying experiences of Sitti and West Hararghe Zones during the same drought offer the opportunity to think more carefully about this.

Patterns of wealth and of loss differ for pastoral and crop farming economies. As discussed above, the first poor short rain in early 2014 did not create a crisis in most kebeles in Sitti. Difficulties grew steadily during the dry period after the second rain failure (in late 2014 and early 2015), with livestock mortality peaking around February–March 2015, at the same time as a measles outbreak causing human mortality, presumably because of vulnerability due to widespread malnutrition. However, the end of the drought in 2016 did not bring an end to the crisis. Asset loss was huge. Even if we assume that livestock losses were greatly exaggerated in the survey and FGD reports (80–85%), a very conservative estimate of 50% herd loss means the average non-urban household lost around $3,750 worth of assets and would then suffer a loss of income from possible animal sales and milk of around $90 per month (see Table 1). Interviews over the previous two years showed that this is roughly the income needed for a household to cover its basic needs. This income loss will only slowly rise after one or two years, as animals become pregnant, give milk and then multiply, and full recovery will take longer.[30]

By contrast, though the drought in West Hararghe was not as severe (over half of farmers managed to harvest some small yields throughout 2015), people suffered much more quickly after the failure of the first rain. Livelihoods in West Hararghe are precarious in different ways: as we have discussed, the people are chronically poor, receive annual aid distributions, and have few other ways of coping. Unlike Sitti, which is relatively asset wealthy with strong economic ties to the outside the zone ('bridging social capital'[31]), people in West Hararghe have few assets to sell beyond livestock and few possibilities to migrate. Although dependency on aid (and the community sharing of aid) for survival may have been similar, in other respects the crisis was very different. Loss of assets was low because people had few assets to lose, beyond their land, and animal holdings were small (due to sales rather than death), so people were better able to keep them alive during the drought. The mortality calendar for West Hararghe is seen to dip during each rainy season. Asset losses from animal mortality per household were only around 5% of those in Sitti, and income was largely restored with the first harvest after the return of rains.

Both zones are chronically underdeveloped and marginalised, with significant numbers of people regularly dependant on aid for survival because of unviable livelihoods. Although the aid sector tends to

30 The time taken for herds to recover will vary enormously, depending on species composition, weather conditions in the following years, economic and market conditions (which determine how many animals can be bought or need to be sold), animal health, etc. If there are no further shocks in the intervening period, it could take 10 years for a cattle herd to recover from 40% losses through internal herd multiplication (Toulmin, 1986), though many livestock owners will try to shorten this period by using funds from other sources to invest in restocking.

31 It is sometimes useful to distinguish bonding social capital – people's ties within their communities – with bridging social capital – ties people have to those outside their communities or which exist between communities. This distinction makes it clearer why the Somali cultural system of clans matches their need for a mobile economy, which both creates and exploits high degrees of bridging social capital.

use poor and vulnerable interchangeably, household asset wealth is higher in Sitti than in West Hararghe, even though their livelihoods are more exposed to acute shocks. It is no surprise, therefore, that the thinking behind earlier responses to protect assets focuses on pastoral economies vulnerable to droughts.

Although this study is not sufficient to draw final conclusions, these differences between the zones seem to have implications for what would constitute timeliness and for the rationale behind early response. In an acute shock such as experienced in Sitti, there are opportunities to prevent additional impoverishment by taking extraordinary measures to support livelihoods. This was not achieved in 2014–2016 due to a combination of four factors: the small scale of ad hoc interventions; the relative lateness of most livelihood protection interventions; because an effective strategy would require major investment in planning and preparedness before the crisis, which has never been put in place at the level required; and, most importantly in this instance, because the extreme length of the drought (the most serious in 30 years) meant that even if interventions had been carried out in 2014 and at greater scale, they would have struggled to have improve outcomes much.

In West Hararghe, on the other hand, in a situation of perennial poverty and/or dependence, and where there were no obvious windows of opportunity for preventing suffering or asset loss, the idea of being early or late is less critical.[32] The main theoretical argument for early response may be limited to the prevention of suffering, or lowering costs, for example through addressing acute malnutrition before it becomes severe. This is beyond the scope of the paper, since it requires evidence on the links between food distributions and the prevalence of moderate acute malnutrition (MAM) and between treatment of MAM and the prevalence of severe acute malnutrition (SAM), both of which are more problematic to establish than intuition would suggest.

4.1.1 Conclusions

- Aid was largely late. In both West Hararghe and Sitti Zones, where the crisis started a year before the El Niño drought, emergency relief aid was only geared up on the ground months after most people were already in crisis. Although there was very little that could be called early aid, aid was largely in time to prevent mass mortality in both Sitti and West Hararghe. There were nevertheless some avoidable deaths from malnutrition and resulting disease in both zones.
- There is no evidence that earlier aid for livelihood protection[33] succeeded in preventing asset losses in the 2014–2016 drought in Sitti or the 2015–2016 drought in West Hararghe.
- The exceptional scale of the drought in Sitti made it impossible to expect to avoid losses, given the resources available to humanitarian aid.
- The rationale for using aid for asset protection during a drought is clearer in an asset-based pastoral economy than in the arable economy of West Hararghe. On average, households in Sitti probably lost over $3,750 worth of livestock, and their potential post-drought income was reduced by over $90/month (i.e. around four times the minimum wage for public employees).
- However, a very clear strategy would be needed to have a chance of preventing asset loss. This would need to be on a scale many times higher than current projectised aid interventions and be accompanied by a level of investment in planning and preparedness, the need for which has not yet been fully recognised.
- It is obviously not a priority for operational emergency agencies to tackle the difficulties experienced during a research study in finding coordinated information about relief efforts. Their primary and urgent responsibility in a crisis is saving lives, not documentation. However, responders themselves have a need for coordinated information. Current information management systems do not help agencies to provide the information without an excessive administrative burden, nor does it help them quickly and easily access information in a form that is useful for their decision-making. This is not the responsibility of individual agencies but is a system responsibility.

4.2 Early warning

Early response is only made possible by early warning. Early warning can be interpreted in two ways, which are not always clearly distinguished:

32 This analysis is related to livelihood protection. It would be very different when considering what would count as a timely response to life-threatening problems such as measles or SAM.

33 This refers to livelihood support designed to mitigate a crisis in advance. It does not mean that emergency relief, delivered after humanitarian indicators were severe, had no impact on helping households through the drought.

- Giving advance warning of an impending shock, before it arrives. This information can be useful to those who will be affected, so they can take avoidance or mitigation measures. This would be the obvious function of community-based EW systems, which have commonly been set up or supported by resilience programmes, especially in Sitti. The information is also critical for those who will support affected people (government at different levels, aid agencies, etc.), so that they can plan, prepare and deliver early aid.
- Giving warning of the early signs of crisis, i.e. after the shock, so that mitigation measures can be taken to prevent more serious suffering. This can help ensure timely aid. This information is useful to those responsible for supporting the crisis-affected (since the affected population will be aware of their own situation).

Many crises can be predicted in advance; people who will be affected usually have some room for manoeuvre in preparing for a drought, if they are informed enough time in advance. Farmers can make choices about recurrent expenditure, about what they plant or their search for other income sources; pastoralists and livestock keepers generally have a different range of strategic decisions to make, for example relating to markets or migration. Ongoing forecasts are also critical for those who are supporting them. Advance warning of hunger enables agencies to be prepared, but beyond that strategies can only make sense if the length of the drought is known (as illustrated in Box 1).

Much of what are called early warning systems in Ethiopia are devoted to the second task (above), for example drawing attention to where harvests have failed or where malnutrition is beginning to rise, to guide targeting of relief, and in this, there were some successes. However, in terms of the first task, warning people of impending shocks, the early warning for the 2015–2016 El Niño was an enormous failure.

Although many losses were sustained by pastoralists before El Niño, over half of the animal mortality occurred from June 2015 onwards. A temperature rise of 0.50C in sub-surface sea temperatures is commonly taken as the threshold for an El Niño event. By April 2015, meteorological models were predicting an El Niño event, even though the one that occurred was not as severe as predicted. By May 2015, it was already clear that a serious El Niño event was likely, with all predictions well above the El Niño threshold. Although in May 2015 it was impossible to be certain either about the severity of the developing El Niño event or about the exact weather patterns that would be created in any given place, there was already enough information in the public domain to expect poor long rains in Sitti and West Hararghe in July–October 2015. Given what was known about the crisis already existing in Sitti, this was enough to know that a major disaster needed to be prepared for.

This information was not conveyed to those who would be affected, as evidenced by VE's real time interviewing during 2015, the evidence heard during this study and from people's behaviour. As a result, livestock owners struggled to keep their animals alive in the expectation that September would bring relief from the drought. Those who took their animals to Somaliland or who chose not to sell their animals could have made better, informed decisions if they had been warned of the forecasts that another failed rain was likely. It is beyond the scope of this study to conclude why this information, publicly available, was not acted upon by agencies with a mandate to provide early warning and weather forecasting services.

Others, too, should have been informed. The forecasts in April–May 2015 of failed long 2015 rains were predictions of a major humanitarian crisis, especially in those parts of eastern Ethiopia where the 2014 rains had already failed. Some agencies did their best to respond to, and draw attention to, the increasingly severe situation, even at reputational risk to themselves, and they can be credited with saving many lives. However, this was a response to the symptoms of the drought that had already occurred. The Sitti Zone Multi-agency Rapid Assessment in May 2015 (UNOCHA, 2015) calls attention to the critical condition already being faced in parts of the Zone, especially in Hadigala and Shinile, but makes no reference to forecasts for the following rains. Had the assessment team been aware of the coming El Niño, they would surely have framed the looming crisis in very different terms. Project planning was also undermined by ignorance of what was coming. For example, a restocking initiative was planned and undertaken in Sitti during the failed long 2015 rains. Such a response could not sensibly have been planned had those responsible known that it was probably going to be implemented in the middle of a very severe drought.

4.2.1 Conclusions

- Investment in early warning systems has taken place over many years. These may function well in identifying areas where symptoms of crisis are already evident, but publicly available

meteorological predictions were not integrated into the response to the looming crisis.
- Critical information, including weather forecasts, was not made available to those who would be affected by drought.
- The risk of an El Niño drought was known with some confidence by April 2015, meaning that the probability of a very extreme crisis in Sitti was high. Several decisions by agencies who were planning aid (government, donor, UN and NGO) do not make sense in the light of that information. Either the agencies did not have the information, or their planning procedures did not know how to use it. This is a serious failing, but one that should be possible to rectify.

5 The impact of longer-term programmes on crises

For some time there has been a recognition that ad hoc short-term emergency interventions, which are triggered by humanitarian indicators, are not capable of delivering aid in time to prevent suffering and impoverishment. Hope has been placed in the ability of longer-term support to deliver on two fronts: to have enough built-in flexibility to respond to changing needs in real time (rather than several months later as emergency interventions often do); and to address the causes of vulnerability to make people less dependent on emergency aid in the future. The extent to which long-term programming succeeded in having a positive impact in the study areas in each of these ways is assessed below.

5.1 Flexibility for earlier response

Village-level research reveals little about the extent to which programmes were flexible or the degree to which flexibility had a positive impact. Aid recipients were not aware of which funds their aid was coming from or the length of any bureaucratic processes that caused delays. People in each kebele reported receiving aid of different kinds in different periods: aid received early was just as likely to have been aid delayed from the previous year. It had been hoped to compare the speed with which aid reached the ground in different kebeles according to which decision-making and administrative processes were followed, but this proved impossible because of inadequate management and coordination of information.

Analysis relies instead on combining our understanding of actual needs on the ground with aid agencies' reports about their attempts at flexibility. One of the most talked about mechanisms for building flexibility into longer-term programming are so-called 'crisis-modifiers', a now bureaucratic arrangement that allows a recipient agency to use a percentage of an overall development budget for relief. The use of crisis modifiers in the recent drought was reviewed by Save the Children (2016), the findings of which led to a caution in expectations regarding the ability of crisis modifiers to deliver either timeliness or a response on a scale large enough to be relevant.

Crisis modifiers are not yet fulfilling their potential to deliver timely relief assistance. Some donors were able to approve the use of funds in two weeks, while there was a delay of six months in other cases. Emergency funds can be made available in a matter of days for sudden-onset disasters; an average delay of three months to project approval will not be game changing. Hopefully, in time, donor and implementing agencies will learn how to work together to reduce such delays. AKLDP (2016) gives an example that may offer lessons: an NGO discussed with a donor what responses might be needed if rains failed (in January 2015, before the problem arose); this was followed by action on the ground in May 2015, immediately after the failed rains.

A closer look leads to even more caution. Both Save the Children (2016) and Tufts (Catley et al., 2016) documented that crisis modifiers were predominantly requested between July 2015 and February 2016. However, there was knowledge in May 2015 that a severe El Niño crisis was likely, and rains had failed since 2014 in Sitti – and even before that in West Hararghe. Crisis modifiers only began to be called for at the same time as the revised emergency appeal was launched (July 2015). This suggests that they were not seen as a mechanism for 'early response' in the sense of trying to mitigate a crisis before it developed. Indeed, crisis-modifiers were only activated after livestock mortality had already peaked in the study areas, and almost a year after aid-seeking displacement had occurred in Sitti Zone. In the case of Sitti, where the crisis began earlier than some other parts of Ethiopia due to failure of 2014 rains, the built-in flexibility of crisis modifiers, designed to give early response, were only triggered months after indicators of suffering were severe.

It took months for funds requested under the crisis modifier mechanism to reach recipients. There appear to be three reasons for such delays. First,

crisis modifiers, although originally intended as quick response mechanisms, have created their own bureaucracy and donors were not always able to approve funds without significant delays. The two other reasons have already been identified as problems in previous emergency responses in Ethiopia (and elsewhere). Donors found that operational agencies did not proactively engage with them to discuss possible responses and to help the donors to prepare, before requesting money (Levine et al, 2011: 7). Also, the time between receiving funds to delivering aid on the ground continues to be protracted (Levine et al, 2011: 12–15).

Catley et al. (2016) note that the timely release of money does not guarantee adequate assistance for those in need. There can be long delays between money being authorised and aid arriving on the ground (stressing the need to combine any introduction of flexibility mechanisms with proper contingency planning and preparedness); and the intervention must be of appropriate design and adequate quality. It was beyond the scope of this study to assess the design or performance of interventions financed through flexibility mechanisms, but Save the Children (2016) and AKLDP (2016) raise questions about some use of them. Some of the funded activities they report are not obviously in the category of rapid early response: training (health workers, WASH committees), project start-up costs and land rehabilitation would usually be covered from non-humanitarian funds. In-built flexibility mechanisms in long-term programmes should help forge stronger links between short-term crisis response and a broader long-term strategy, but this was not always obvious. Distributing fodder for two months when the forecasts were for a much longer drought could be effective as part of a strategic response but risks having no impact at all in isolation. (Survey data showed no statistically significant impact of receiving fodder on the survival rates of livestock.) It should be stressed, though, that there was no specific investigation of these projects and so these are raised as questions about certain types of programming and not as criticisms of any specific intervention.

Flexibility mechanisms allow the diversion of a percentage of money to respond to an emerging crisis. In many cases, the sums involved are small in relation to an emergency operation – often around $200,000. This must be seen in relation to an overall emergency appeal in 2016 for $1.4 billion. That does not mean that this flexibility is irrelevant, but unless the crisis is very localised, funds from such sources will only play a major role in meeting very particular needs, for example for a short window before the main response is mobilised. To be effective in this way, collaboration and agreement in planning an overall response strategy is essential. Such collaboration or even coordination has not yet been achieved. In some larger programmes, the ability to spend funds earlier or to reallocate their use is more significant (e.g. multi-million dollar changes in EU support to PSNP and to UNICEF nutrition programming).

5.2 Investments in resilience

This study was designed to compare how households coped in villages that had or had not received resilience investments of three different kinds: in asset building, in income generation and in water infrastructure. Although there have been several programmes in Sitti and West Hararghe Zones that could be considered as 'building resilience' (whether labelled as development, livelihoods, etc.), it proved impossible to find out from donors or implementing organisations the content of their projects, and what exactly had been done where or when. Therefore, sampling villages to make a comparison between beneficiary villages and control villages was not possible. The resulting sampling made it harder to learn about specific kinds of investments but gave a better unbiased picture of the overall contribution that such investment had made to the two zones. The implications of a lack of any coherent picture of development investments should also be drawn at this point. If it is difficult to obtain basic information about what different agencies have done and are doing in a zone, then those planning, implementing and funding such investments are not doing so on the basis of a medium-term strategy, or one that looks beyond immediate project beneficiaries. This means two assumptions are made: that resilience depends entirely on factors at household or village ('community') level; and that resilience is built by the addition of discrete units (e.g. assets owned, years of education received, access to specific services, etc.). These can each be individually bolted on to someone's existing resilience, and are independent of each other. Neither of these assumptions are particularly tenable, either in theory or, as this study finds, in the real world.

Because of a lack of prior information about resilience investments that had been made, the study was unable to quantitatively analyse their contribution to coping, because beneficiaries could not be included in the sampling methodology, either by sampling beneficiary households or villages. (We found no information on resilience investments or, indeed, other aid, which went beyond kebele level to village level.) Specific

questions could not be included in the survey, because agencies were not able to give us details on the projects they had run, but in any case, the numbers of beneficiaries were too small in a random sample, even considering the whole village as beneficiaries.

Even had we done so, it became clear that there are methodological challenges of a different kind in attempting to measure the influence of resilience investments on coping. Various indicators of 'struggling', i.e. having difficulty in coping with the crisis, were elaborated and the survey measured these parameters. These included levels of debt, the extent of cutting back of meals (for adults and for children), asset sales above and beyond what would be normal, distress migration, loss of livestock, and subjective assessments of how people had coped, both in absolute terms and in relation to others in their communities. The lack of correlation between these variables is striking: people who struggled in one way (e.g. cutting back on meals) were not more likely to have suffered in other ways (e.g. selling assets). The selective use of one variable that happens to correlate with an intervention is a dangerous tendency, especially when used to support pro-project bias.

It also proved difficult to investigate the contribution of resilience investments through qualitative research. The intention was to combine a quasi-goal-free and a theory-based impact assessment (TBIA) enquiry. However, to obtain the necessary details for the TBIA approach, it is important to find individuals who had been engaged with any interventions. These were so few that it was almost impossible to find them. Instead, we heard the standard anecdotal success stories ('X received a loan and has now built a house with corrugated iron roof' with no explanation of previous constraints or how typical their stories are).

In goal-free interviewing, there was little mention of resilience investments, except in water. This is because in both Sitti and West Hararghe, resilience investments were of a largely insignificant scale and the majority of people had simply not received anything.

Where investments had been made, the appropriateness of the intervention design was mixed. There were some obvious reasons why some vocational training lacked impact, for instance people who were trained as bakers could not work because there was no power supply for the ovens they were trained to use. Another example is the provision of hybrid hens in West Hararghe, which resulted in the death of most of the poultry, because neither vaccinations nor technical support for production were reliable. In some cases, the timing was simply inexplicable (e.g. the restocking programme in the middle of the drought in 2015 discussed above).

Two intervention types have been widely used: savings and credit associations (particularly in West Hararghe) and water projects (in both zones). VSLA have reached reasonable coverage. In villages where they are present, they were used by between a quarter and a half of households surveyed. However, amounts borrowed are no higher in villages where VSLA exist (both mean and median amounts borrowed are the same). VSLA have not changed borrowing behaviour and have not been used for investment loans to diversify income, as anticipated by resilience programmes. Few respondents reported taking loans over $100. Borrowing, even from VSLA, appears to be to address short-term imbalances in household cash flow, caused by volatile monthly income and expenditure ('consumption smoothing'). VSLA did not play a major role in providing extra credit to cope with the drought crisis. Only 4% of households reported using VSLA for any extra borrowing during this period. This does not mean that support for VSLA was not useful or beneficial, but it does indicate that support for VSLA has not increased resilience in the two zones.

It was clear from the FGDs why VSLA are largely only used to fund consumption: opportunities for profitable investment are so few. Some people had invested in livestock production, though almost everyone (87%) owned some livestock anyway. The main profitable investment was in the drug business, either in khat production or trading.

There has been some degree of state and donor investment in water in both Sitti and West Hararghe. In many cases this provided significant benefits for people, either in saving several hours of their time in collecting water,[34] in improving the quality of their water or because it was the only water available. One reason that people gave for migrating when they did was the lack of any water in their home villages. Even though investment may (correctly) be deemed resilience building, this does not mean that it is strategically linked to preventing or mitigating crisis needs. For example, it is noteworthy that the targeting of interventions of the One WASH programme had its own targeting rationale and excluded all the districts that had been identified as having priority needs (the

34 The benefits of time saved are in a reduced workload and in having more time for domestic duties and child care. However, there was no evidence of any direct economic benefit from time saved, i.e. allowing time to be used for any food or income generation.

Hotspot-1 districts) both prior to, and even during, the drought. It is impossible, though, to expect that investment in resilience building will have an impact either on the coping of people most in need during crises, or on the strains placed on humanitarian aid by crises, if investment programmes do not feel obliged to target at least some of the districts most likely to have acute needs in times of crisis.

Irrigation is seen by many as the solution to the poverty that comes from a reliance on rain-fed farming in semi-arid areas. Villagers in West Hararghe frequently wanted pumps to irrigate their khat fields, having seen the economic success of many of those who had these advantages.

Stories of success were evident and irrigation has a critical role to play in making rain-fed agriculture more resilient. However, success stories must be balanced against two cautionary factors. First, not all water systems work well. Too many have failed quickly, usually because of maintenance issues, and several schemes have failed to reach the intended beneficiaries, either because they were technically unable to deliver enough water to so many fields or because of implementation problems.

Even a working irrigation system does not guarantee livelihood impacts. In Sitti, invasion by prosopis of irrigated plots has reduced the irrigated areas cultivated. Most people (85%) reported problems with prosopis invasion and the area made inaccessible ranged from 'almost half' to 'almost all' for more than half of all respondents (58%), rendering many of the huge investments in irrigation largely worthless.

There are worrying stories in Hadigala District in Sitti that the water table is falling following the development of many artesian wells for irrigation.[35] This was previously a constant water source, which had served as last-resort water source in droughts. The lack of any other water supply was given as a reason why they had to migrate to Somaliland – where they lost most of their herds. This study could not investigate the link between the introduction of wells and the fall in the water table, but it is plausible that overconsumption may be drawing down the water table. We were not able to find a technical (hydrological) analysis of the aquifer that was guiding its development and exploitation: it is certainly hoped that such analysis has been adequately carried out and is guiding development investment. As discussed above, regarding the difficulty in strategic planning when project information and analysis is not widely available, if these studies are not easily available, the danger of uncoordinated and thus unsustainable development is unreasonably high. In Birder, Hadigala District, these same wells were blamed for infecting cattle with intestinal worms, which cause diarrhoea, a swollen throat and eventually death. Deaths were reported to be running at two a week and was said to be as bad as or worse than the effect of the drought.

The second caution is that, even when water systems work well, there may be no increase in resilience to droughts. Several water systems, both for domestic and agricultural use, failed in the drought, either because of a lack of water or because pumps did not work. This was variously due to shortages of fuel and, reportedly, where electric pumps failed because of the lack of electricity supply – which is generated through hydro-electric generating stations whose output falls in droughts. Even when irrigation systems worked, the only surviving vegetation in the area acted as a magnet for pests and wild animals.

Irrigation has brought substantial economic benefits to some, but it did not provide the general resilience to drought that many hoped for. In Sitti, only a third of those with irrigated land were able to water their crops as normal even in 2015, and by the second rains in 2015, only 13% of those farmers – that is, just 1.5% of households – reported having a reasonable harvest from irrigated agriculture. In West Hararghe, the situation was similar. Fewer households enjoy any irrigation (only 11%), and more than half of those had a poor harvest or no harvest at all from irrigated land in 2015. Only 13 households from the sample of 480 (2.5%) reported a reasonable irrigated harvest throughout 2015. These figures do not, of course, form an argument against investment in irrigation: but they do suggest that in the medium term, the impact of irrigation in supporting resilience to drought will play a limited role.

The analysis of how wealth group status affected coping (see above) is also relevant to this discussion. One of the dominant paradigms of resilience is based on household asset ownership. Differences in productive assets usually determine the way wealth groups have been distinguished. However, findings from this study (of just two zones in one drought) suggest that the household asset dimension is far from being the sole determinant of resilience in drought. If these findings prove to be more generally applicable, then current household models may critically undervalue the important role played by the local economy, and the resilience of meso-level economic activity, in shaping economic resilience to droughts and other crises.

35 An artesian well is where water flows from a borehole under its own pressure without the need for pumps.

5.2.1 Conclusions

There were positive instances where mechanisms for using longer-term interventions to respond to developing crises were quicker and earlier than most humanitarian aid. However:

- While some crisis modifiers and other flexibility instruments performed quickly, others did not. There were sometimes stark differences in how the same implementing agency used flexibility mechanisms from the same programme in different parts of the country.
- Quicker aid does not necessarily mean early aid if the triggers for activating the processes for requesting money are set too late. Changing the bureaucratic processes by which money is released can help, but is not a solution on its own. A more fundamental change in the triggers for decision-making is also needed.
- Given the limited scale of resources likely to be available through flexibility mechanisms, it is unlikely that they will ever form a significant part of a response to anything more than a very localised crisis or to a short window of opportunity before a main relief operation arrives. It may prove more important to focus effort into speeding up processes for this response rather than expecting the longer-term interventions to take care of needs.

On the relevance of resilience investments as way of helping people to cope and to avert excessive losses:

- It is not possible to detect any impacts of resilience investments on the success of coping or on losses sustained by households during the 2014–2016 crisis in West Hararghe or Sitti. This is partly due to methodological difficulties with impact assessment and does not imply that investment in resilience is irrelevant or inappropriate.
- The scale on which investments have been undertaken is far too small to have made any noticeable difference except for a small number of individual households.
- Irrigation has benefited only a very small number of households.
- Resilience/development investments do not appear to be guided by a clear, coordinated strategy. This is worrying. It is only mitigated by the fact that such investments are marginal.
- Stories of irrigation systems that dried up during a drought, machines that failed when the hydro-electric supply failed in the drought, and even irrigated fields that yielded nothing in the drought because they proved a magnet to pests and wild animals, all point to a general lesson. Too often income diversification is automatically seen as increasing resilience. However, if the new income source is as vulnerable to the same shocks as previously existing livelihoods, then there may be gains in good years, but no increase in resilience to shocks.

6 Summary of conclusions and lessons learned

This study set out to answer questions in three areas:

- To what degree did delivering aid early help prevent loss of productive assets, indebtedness and other distress strategies?
- How far do investments help build people's resilience to cope better with crisis?
- Was the flexibility of longer-term programmes effective in ensuring the delivery of earlier assistance?

First, it is appropriate to restate that this study is not an evaluation of the 2014–2016 aid response. The enormous efforts of governments, organisations and individuals to mitigate human suffering without doubt resulted in thousands of lives being saved. This must be acknowledged before critiquing any aspect of that response.

Second, the 2014-16 drought was the most severe test possible for investments designed to help people cope with drought in the lowlands, midlands and highlands of West Hararghe and Sitti. Early response, designed to protect livelihoods and prevent suffering, would inevitably have struggled to achieve impacts in such a severe crisis. It is not surprising that neither passed this test. However, it is more worrying that neither the Government of Ethiopia nor the international humanitarian system proved capable of delivering early response; there is evidence that resilience investments have not helped make Sitti or West Hararghe more resilient even to more normal droughts; and mechanisms designed to ensure that longer-term programmes had the flexibility to deliver early aid were largely ineffective.

The drought and efforts to mitigate it cannot only be analysed in terms of rain failure and the humanitarian effort to save lives. Crises are created by a combination of shocks and underlying vulnerability, and the less proximate causes of crisis need as much attention as the rain failure. These underlying causes in Sitti and West Hararghe have similar roots, even if they present slightly different faces. In both Sitti and West Hararghe, chronic underdevelopment has created a population with unviable livelihoods and extreme vulnerability to the shocks that they continually face.

Investment in resilience building has not made the areas more resilient: it was difficult to analyse the impact of specific resilience-building investments because so little investment has taken place. There are two problems to overcome:

- A handful of short-term aid projects cannot be a substitute for real investment. To put this in context: on a per capita basis, West Hararghe Zone alone would need an investment of around $2.8 billion over three years just to compare with the loans and grants that the UK received from the USA after the Second World War – when it was a country with an advanced, if damaged infrastructure. This is orders of magnitude more than the current investment in resilience aid projects from all sources.
- Ad hoc projects do not aggregate into a plan. The problems the study team had in accessing information about resilience investments made the study more difficult, but it is the symptom of a deeper problem. There is no clear, guiding strategy behind spending. A realistic analysis of what a resilient Sitti and a resilient West Hararghe would look like is needed, including a realistic path to achieving this (including costs).

There was little genuinely early aid to research in West Hararghe or Sitti, particularly aid that was intended to help prevent losses. Even the relatively timely assistance in both zones arrived months after the crisis had taken hold. Sadly, this picture remains unchanged over the last decade and more; Levine et al. (2011) found that aid is late because no one had tried to work out what 'on time' would be, and this criticism remined as valid in 2014–16. There is still too little appreciation of the role of predictions in disaster risk management and crisis management. Early warning is designed to pick up and report on worrying humanitarian indicators (i.e. after a shock) rather than providing information about impending shocks to all those who need it (including those who

will be affected). This is particularly striking regarding the El Niño part of the drought (2015–2016), given the global attention this phenomenon receives from meteorologists. The objectives and structures of community-based early warning systems are more unclear, but they too did not deliver warnings to the local populations.

Various mechanisms built into longer-term programmes to enable quicker response were more widely used in this crisis than had previously been the case, and their use showed some promise. As with so much in the aid sector, their failing may be that so much potential is claimed for them. They will never form more than a very limited part of a response, even of early response, and their three basic limitations need to be recognised: they have very limited funds available in relation to the humanitarian need; they are not immune to bureaucratic delay; and they are part of the same aid system that is not yet committed to early response (incorporating prediction into planning, identifying what 'on time' would be, ensuring windows of opportunity are met, returning money that could not be spent within the window of opportunity, etc.).

In pastoral areas, increasingly favoured livestock interventions were used by several agencies on an ad hoc basis. Without sustained engagement, and without any clear strategic plan or rationale behind the interventions, it is unsurprising that impact cannot be found after one of the most severe droughts in decades. Nothing can be concluded about the potential usefulness of these intervention types as whole – though unless the response is explicitly designed with scale in mind, it would be unlikely that agency expectations could be met. Although relatively innovative in many ways, these interventions have nevertheless followed a standard humanitarian model – transfers (fodder, vet vouchers, etc.) to vulnerable households. The economic catastrophe caused by drought – at least $275 million, and possibly much more, of lost livestock in Sitti Zone alone – is huge, and it is right to give it attention. It is likely, though, that very different kinds of strategies will need to replace current models to tackle the scale of the problem. Currently, interventions are being targeted at saving individual animals, whereas far more attention is needed to the wider economic infrastructure on which the agricultural and pastoral economies depend. There is an urgent need for wide-ranging support for livestock value chains so that they can function through droughts and livestock owners do not lose the majority of their animals. A fuller discussion is found in Sida et al. (2019) on the need to move the focus away from intervention at a purely household and community level, and to pay far more attention to the local economy.

Some may argue that this report is too critical of humanitarian agencies and it is unreasonable to expect them to take responsibility for the lack of economic development in places like Sitti and West Hararghe. Their priority in a crisis must be to respond to urgent needs; resources are not available to create grand strategies to protect people's livelihoods. It would be equally unfair to expect humanitarian agencies to respond at this scale when there is no crisis, as their attention will inevitably – and rightly – be moved to places in the world where crises are in progress. If livelihoods have not been sustainable in these areas for many years, why should we expect aid projects to transform the zones in two to three years into a place where humanitarian aid will no longer be needed?

The question is fair. However, the terms of reference for this study arise from expectations of aid that derive not from the VE study team, but from discussions and commitments which have become common within the aid community itself. Support from international aid for resilience in areas prone to crises has too often been from humanitarian funds and with humanitarian paradigms. The conclusions from this study are clear that both the resources envelopes and the approaches of the humanitarian sector are inadequate for the task, which is more properly the responsibility of governments and their development partners. It is unfair to judge humanitarian action by its ability to deliver resilience, and it is unhelpful for humanitarian actors (including the departments of government responsible for relief) to manage their resources to this objective. The increasing discourse around coherence between, or a nexus of, humanitarian and development actors is highly welcome and will hopefully bring about a change in how aid instruments are combined.

Broader issues about the roles and expectations of aid, and the nature of resilience to crises, are discussed in more detail in Levine et al. (2019), the final report for VE's overall thematic evaluation of MYHF.

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Annex 1: Correlation between parameters related to coping, stress and suffering (West Hararghe)

	Migration	Distress asset sales	Abnormal borrowing	Reduction in meals	Self assessed coping	Self-assessed, comparative coping	Anticipated recovery time	Sale of breeding animals	Reduction in herd (as %)
Migration	1	-0.060	0.064	0.032	0.027	0.016	0.007	-0.088	0.029
Distress asset sales	-0.060	1	-0.091	-0.014	-0.027	0.050	0.169	-0.011	0.025
Abnormal borrowing	0.064	-0.091	1	0.120	-0.036	0.072	-0.121	-0.023	0.026
Reduction in meals	0.032	-0.014	0.120	1	-0.108	-0.003	-0.130	-0.088	0.030
Self-assessed coping	0.027	-0.027	-0.036	-0.108	1	0.434	0.130	-0.040	-0.006
Self-assessed, comparative coping	0.016	0.050	0.072	-0.003	0.434	1	0.001	-0.049	0.020
Anticipated recovery time	0.007	0.169	-0.121	-0.130	0.130	0.001	1	0.033	-0.046
Sale of breeding animals	-0.088	-0.011	-0.023	-0.088	-0.040	-0.049	0.033	1	-0.065
Reduction in herd (as %)	0.029	0.025	0.026	0.030	-0.006	0.020	-0.046	-0.065	1

Note: unshaded numbers indicate no statistically significant correlation. Grey shading indicates weak correlation. There were no medium or strong correlations. Note that some of the correlations are inverse (negative numbers). For example those with greater debt were less likely to have reduced meals. Such competing indicators may offer clues to the different choices and alternative strategies that people faced, but they complicate the creation of a composite score.

Annex 2: Cluster analysis

Sitti Zone	Variable	Cluster 1	Cluster 2	Cluster 3
	n =	108	176	183
Migration	Yes	11%	76%	11%
Migration for relief aid	Yes	3%	19%	2%
Asset sales	Yes	2%	3%	2%
Extra borrowing	Yes	19%	65%	9%
Current debt (excess)	Mean ($)	$26	$95	$11
Repayment period	No debt	81%	35%	87%
	≤ 1 year	9%	23%	7%
	2 years	6%	15%	5%
	≥ 3 years	5%	18%	1%
Meal reduction	Yes	2%	97%	100%
Adult meals/day	Mean	3.0	1.8	1.6
Children meals/day	Mean	3.0	2.3	2.3
Self-assessment of coping	Quite well	34%	13%	6%
	Badly	66%	87%	94%
Self-assessment, comparative	Better (much, a bit)	33%	11%	16%
	About the same	50%	65%	37%
	Worse (much, a bit)	17%	24%	47%
Recovery period	Mean	2.6	2.7	2.6
Sale, breeding goats	Mean	3.2	5.3	4.1
Sale, breeding sheep	Mean	2.3	4.9	3.3
Sale, breeding cattle	Mean	0.4	0.5	0.4
Sale, breeding camels	Mean	0.0	0.2	0.1

West Hararghe Zone	Variable	Cluster 1	Cluster 2	Cluster 3
	n =	93	201	186
Migration	Yes	4%	9%	3%
Sale of assets	Yes		4%	1%
Extra borrowing	Yes		59%	
Current debt (excess)	Mean	0	596	0
Repayment time	No debt	100%	41%	100%
	6 months		27%	
	6 months – 1 year		24%	
	About 2 years or more		8%	
Meal reduction	Yes	1%	90%	100%
Adult meal/day	Mean	3.0	1.9	1.8
Children meals/day	Mean	3.0	2.6	2.5
Self-assessment of coping	Quite well	32%	24%	9%
	Badly	68%	76%	91%
Self-assessment coping (compared to others)	Better (much, a bit)	29%	45%	6%
	About the same	54%	30%	76%
	Worse (much, a bit)	17%	25%	18%
Predicted recovery time	Mean	2.5	3.5	2.9
Sale breeding shoats	Mean	1.1	2.3	2.0
Sale breeding cattle	Mean	0.5	0.7	0.6

Annex 3: Definition of wealth groups

Wealth groups in Sitti Zone:

- Very poor: people who own up to five TLUs (before crisis).
- Poor: people who own more than five TLUs but less than 15 (before crisis).
- Middle: people who own 15–30 TLUs (before crisis).
- Better off: people who own more than 30 TLUs (before crisis) OR have a paid job.

Wealth groups in West Hararghe:

- Poor: people who own 1–2 timad of rainfed land IF they do not own more than two cattle (before crisis).
- Middle: people who own 3–4 timad of rainfed land OR 3–4 cattle (before crisis) OR 1 timad of irrigated land.
- Better off: sum of number of cattle and timad of rainfed land must be at least '10' OR two or more timad of irrigated land OR have a paid job.

Annex 4: Causal chains and interview guides for resilience interventions

Fodder production

Intervention: possibly distribution of 'seeds' (or cuttings, etc.) or technical advice. Intervention may be mainly around growing fodder species for the first time. It may also be about how to make better hay, how to cut grass, how to store it.

Assuming the intervention is about growing fodder species, then the causal chain is as follows.

Training and seeds given:

1. Targeted beneficiaries have skills and material to plant fodder.
2. They plant fodder.
3. Fodder grows.
4. They harvest fodder
5. a. They earn money from fodder.
   b. Their livestock have more fodder to eat/time saved in feeding animals.
6. Livestock have lower mortality/higher reproduction or are in better condition or give more milk.
7. Their livestock gives them more income (more animals to sell, or better price for each animal) and/or more milk to drink.
8. They spend money to benefit household.
9. Household is more resilient.

Outcomes:

1. Did the training work? Do they have the skills? Did the planting material survive, reach them on time? Mainly implementation issues, so we do not need to probe too much, just to check quickly.
2. To plant, what did they need? Land? Water? Time/money for labour? (How much capital did they need in total?) Did they have all these? Does everyone have these, i.e. how far is it possible for the production of fodder to be copied by others? How do they get the land? What was the land being used for before? By whom? (Are there any losers from the project?)
3. Did the technology work? Are they still doing it? What happened during the drought – did the fodder grow? How – if irrigation, was this new?
4. How much did they harvest? How often, when? In normal year? In drought?
5. Good calculations needed, including:
   - What is the market like? How big, which seasons? In a good year, in a drought year?
   - How much money in total from the sales? (Per week? For how many weeks? Or total per season? How many seasons a year?)
   - Total costs of production – labour (planting, weeding, harvesting, etc.), water/fuel, seeds, fertiliser (unlikely?)
   - Costs of sale – transport to market, taxes, etc.
   - 'Opportunity cost'? If they were not growing fodder what would they have done – with their time, with the money they used, with the land and (if irrigated) with the water? Would they have planted anything? (Did they used to plant before?) What? How much money would this earn? How much more money do they make with fodder than with alternatives? A good check – are they continuing to grow it two or three (or more) years later? Are other people copying them, and starting to grow it too? If not, why not?
   - Quantification needed. How much fodder? How many animals can eat it for how long? Important to consider – in which season did the fodder help – a time when there is little else or when there are more alternatives? If they didn't have fodder, what would the animals have eaten? If they had to take animals far, did it save them time (and how did they spend that time)?
6. This needs quantifying – how many animals were eating? What was mortality – what do they think

it would have been without the fodder? For both normal year and drought (assuming they also grew in drought year). If improvement in condition – how big a difference? For milk –quantify total milk yield (for example litres per day) in different seasons and in drought with/without fodder.

7. Did they sell animals? How many, at what price and what price do they think they would have sold without the fodder? If fewer died, how much bigger is their herd? How many more females do they estimate than would have been without fodder?
8. Use of the money? What difference did it make to them during the drought (again, assuming fodder grew in the drought)?
9. What is this 'point of resilience'? How big a contribution can fodder production make? for example, what scale of fodder would they need to grow to be resilient? Does it help them in drought years or only normal years? How far is it possible to achieve wider resilience in this way – is intervention replicable? How many people could copy them – for example, land and water availability?

Water provision (causal chain only)

Project installs some 'structure' (repair or new borehole/pump, protected spring, earth dam, etc.):

1. Water structure (well, dam, etc.) is still functioning.
2. Structure is providing water.
3. People can access the water.
4. People use the water.
5. People (a) have more water and/or (b) save time in collecting water.

Then either: (Path a)

6a. People use water for income generation (selling water, growing veg, tea shops, etc.) or people use water for livestock (note – possible health benefits, but we won't be able to assess this).

7a. Livestock are in better condition/lower mortality/ more milk production.

More income from IGA or from livestock.

OR (Path b)

6b. People use the time saved for economic activities and/or children use time saved to go to school.

7b. People have more income (or more children get education).

Leading to:

Outcome – households are more resilient.

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The Humanitarian Policy Group is one of the world's leading teams of independent researchers and communications professionals working on humanitarian issues. It is dedicated to improving humanitarian policy and practice through a combination of high-quality analysis, dialogue and debate.

Humanitarian Policy Group
Overseas Development Institute
203 Blackfriars Road
London SE1 8NJ
United Kingdom

Tel.: +44 (0) 20 7922 0300
Fax.: +44 (0) 20 7922 0399
Email: hpgadmin@odi.org
Website: odi.org/hpg

Cover photo: Udma Aba walked 35 km to collect drinking water during drought in eastern Ethiopia in 2015.
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