Marsabit County Resilience Study

Does investment in resilience work?

November 2017

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DISASTERS & EMERGENCIES PREPAREDNESS PROGRAMME

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List of Acronyms

AAT	Absorb Adapt Transform
DFID	Department for International Development
DRR	Disaster Risk Reduction
HSNP	Hunger Safety Net Programme
LAPSSET	Lamu Port, South Sudan, Ethiopia Transport Corridor
LPRR	Linking Preparedness Resilience and Response
MIONET	Marsabit Indigenous Organisations Network
NDMA	National Drought Management Authority
NGO	Non-governmental Organisation
PACIDA	Pastoralist Community Initiative and Development Assistance
PPA	Programme Partnership Agreement
PVCA	Participatory Vulnerability and Capacity Assessment

Executive summary

For several years Christian Aid has worked through partners to build the resilience of pastoralist communities in Marsabit County in northern Kenya.

Along with other vulnerable communities across East Africa, these pastoralists have been facing the brunt of a severe drought since 2016. We commissioned this study to demonstrate whether, and in what way, investing in resilience helps communities to address risks and stresses during drought. We did this by comparing communities that had taken part in resilience programmes with those that had not.

The fieldwork was carried out over two weeks in May 2017. Our assessment relied heavily upon qualitative methods, while also using basic quantitative data from semi-structured interviews to verify the qualitative findings. The data collected was categorised within the widely accepted Absorb, Adapt, Transform (AAT) framework for comparison between communities. In addition, a causal loop diagram[1] was used to represent the various systems, their interactions and feedback loops for system-level insights.

We found that communities that had taken part in resilience programmes had experienced gains as a result of participatory vulnerability and capacity assessment (PVCA) processes and the setting up of peace committees. Two of the nine communities that conducted PVCAs followed up on their action plans, resulting in concrete gains for them. The seven communities that did not follow up on their action plans showed similar characteristics to those of communities that had not taken part in resilience programmes. It will be important to study the reason for this lack of follow up. Pastoralist communities' emerging trust in structures such as the peace committees is a significant shift for them.

The value that the communities placed on different types of resilience strategy was (in order of importance):

1. Using and building on opportunities arising from the newly constructed highway and improved murram (laterite) roads.
2. Cash from the Hunger Safety Net Programme (HSNP).
3. Investment in water infrastructure.
4. Destocking through livestock markets.
5. Migration.
6. Reliance on NGOs and government for relief and food security.

A detailed systems mapping by the team, based on the data, showed that the systems that had the greatest bearing on resilience of communities were:

1. The highway.
2. Cash from the HSNP.
3. The strength of local institutions.
4. Social capital.

The evidence on the impact of the PVCA process and peace committees on resilience outcomes is encouraging. It makes the case for future investment in strategies that strengthen the ability of local institutions to act upon their priorities. Insights gained also

highlight the need to design and build these local institutions upon the existing social capital, and to use examples of outliers such as Dambala Fachana that have enforced rules and sanctions relating to water and pasture management, and peace-building. Cash-in-hand, particularly from reliable sources such as the HSNP, is seen as the best coping mechanism affecting the resilience of vulnerable families in the drought. It places the power of choice in the hand of those who are best placed to decide which coping strategies work best for them. Most importantly, the study highlights how the new highway creates a corridor of connectivity. It is improving people's access to markets, services and relief, as well as lowering transport costs, making it easier to move livestock and to reach interior villages, and presenting new opportunities for making a livelihood.

Key messages

1. **Community-led empowerment processes** such as PVCA and local peace committees lead to adaptive and transformative capacity if the communities **follow up on their own plans** and initiatives. Communities that did not follow up reverted almost entirely to absorptive (reactive) coping strategies in much the same way as communities that had not taken part in resilience programmes.

2. There is a need to engage with a wide range of stakeholders to **contextualise information**, improve its **dissemination** and build communities' **trust in early warning systems**.

3. **Social protection** programmes such as the HSNP that offer **cash-in-hand** are a life-line for the most vulnerable, particularly because the initial infusion of capital allows households to invest in **their choice of resilience strategies**.

4. The highway and murram roads created a **corridor of connectivity.** This was the most significant factor affecting a community's resilience. The knock-on effects of such infrastructure projects need to be **made use of and built on** and factored into future programmes.

5. In view of the positive outcomes, local **peace committees** should be **institutionalised** by nesting them within pre-existing structures that are in turn nested within government institutions that are mandated to ensure peace negotiations.

6. Using Ostrom's 8 principles[2] strengthen the ability of formal and informal **institutions** to put in place rules, regulations and sanctions to **manage common property resources** through elders and peace committees.

Areas covered in our recommendations

The conclusion section of this report shows our recommendations for developing our resilience programming over the longer term, to address some fundamental challenges in collaboration with stakeholders. Our recommendations relate to the following areas:

- PVCA process – participation and action plans
- Peace committees and management of common land
- The HSNP
- Destocking

- Strengthen early-warning systems
- Advocacy
- Gender
- Strategies for reducing the fluctuation in prices of essential commodities and livestock
- Some reflections on how we might build on opportunities offered by the new highway in our future programming.

Finally, we hope that the insights from this study will not only help to improve and develop Christian Aid's programming, but also be useful at other levels of decision-making in the sector.

Below: **An entrepreneur from Kargi who sells food and essential items on credit to pastoralist communities during drought.**

Background

The ongoing drought of 2016-17 is beginning to have a devastating impact on pastoralist populations in northern Kenya, destroying their livelihoods and wellbeing and hampering their hard-achieved development.

A Christian Aid team that visited Marsabit County in March 2017 observed that communities that had taken part in resilience programmes withstood the drought better than those without such investment. We therefore decided to systematically demonstrate whether, and in what way, investing in resilience helps to address risks and stresses during drought. Concern Worldwide and World Vision Kenya are carrying out work in the same areas, so we sought to partner with them to provide a larger sample to verify the study's hypothesis and increase credibility of findings. Unfortunately, this inter-agency coordination could not take place within our study's timeframe. We hope nevertheless that our findings and recommendations will be beneficial to other agencies involved in resilience work in northern Kenya.

Christian Aid and its partner Pastoralist Community Initiative and Development Assistance (PACIDA) have been working on resilience in Marsabit County since 2011. The programme commenced during the 2011 Disaster Emergency Committee East Africa appeal, and continued through the DFID-funded Programme Partnership Agreement (PPA) from 2012-2016 and the DFID-funded Disaster and Emergencies Preparedness Programme from 2015-2017. Christian Aid has in the past also worked with other partners in the area, including the Anglican Development Services MT Kenya East. All these programmes have had a strong focus on strengthening communities' resilience to the combined effects of drought and violence.

The major people groups in Marsabit County are the Rendille, Borana, Gabra and Samburu. These are highly mobile pastoralists who have historically moved according to the season, rainfall and security conditions. They move in small groups of families, using different resources at different times. Permeable ethnic boundaries have allowed for such movement. Conflict over resources sometimes results in loss of cattle and occasionally even of human life. Such conflict has been managed by traditional mechanisms between the elders of these tribes. However, many significant shifts caused by a variety of factors are threatening their way of life and leaving them more vulnerable. As the communities learn to adapt their livelihood strategies, the increasing frequency of drought leaves them with little time to recover before the next drought hits. The 2011 drought offered many points of learning on how to build community resilience to drought. These strategies have now been tested in the 2016-2017 drought.

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Aim of the study

Our aim was to demonstrate through evidence whether, and in what way, investing in resilience programmes had strengthened the capacity of communities to withstand shocks and stresses during drought, in particular the 2016-17 drought. The study compared

communities who had taken part in resilience programmes in Marsabit County with those in the same zone that had not. We carried out the fieldwork over two weeks in May 2017.

Methodology

The study explored the extent to which the two sets of communities displayed resilience characteristics, to provide evidence of the impact of the programmes.

The widely accepted AAT model considers the types of capacities that build resilience, ie, Absorptive, Adaptive and Transformative. Anticipatory capacity underpins all the others and is generally not considered separately. However, in the framing of this analysis the team looked at data that can be seen to build anticipatory capacity separately, while at the same time recognising the interconnectedness of all these dimensions.

The resilience characteristics tested for were:

- anticipate: the ability of social systems to anticipate and reduce the impact of climate variability and extremes through preparedness and planning
- absorb: the ability to withstand or cope with shock
- adapt: the ability to change behaviour and way of life with ever-changing risk
- transform: the ability to radically change systems, structures and behaviour.

Research questions

The study explored the following questions:

1. In these communities and in the context of the 2016-17 drought, what are the markers for resilience and why?

2. Is there a significant difference in resilience, as defined and measured in question 1, between communities that had taken part in programmes and those that had not?

3. If the answer to question 2 is yes, then why is there a difference? What has caused this? What contributes to resilience? What are the key factors and determinants in this context and how do they work? For example, if people do X, then there is a likelihood that Y happens, given conditions such as Z are in place. This inquiry will be predominantly outcome-based, with a particular search for changes in the behaviour, relationships, actions, policies or practices of individuals, groups, communities, organisations or institutions.

4. From the findings to questions 2 and 3, what is the evidence that the difference in ability to anticipate, organise for and adapt can be attributed (or contribution) to the resilience programmes? The question of contribution is perhaps more important than attribution alone. It takes multiple contributors to produce a result, so it is valuable to learn how these contributors work together.

In addition to comparing the difference in outcomes between the two types of community, our study explored wider systemic changes that may have been stimulated by the resilience programme, and the

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The key elements of resilience characteristics are defined in the internationally recognised AAT model as:

Anticipate: the ability of social systems to anticipate and reduce the impact of climate variability and extremes through preparedness and planning

Absorb: the ability to withstand or cope with shock

Adapt: the ability to change behaviour and way of life with ever-changing risk

Transform: the ability to radically change systems, structures and behaviour.

extent of their impact on the wider context and vice versa. This will be done through systems analysis using a causal loop diagram

The study

When working on the study we:

- reviewed project documents and 2016-17 drought-need assessments
- compared communities that had taken part in resilience programmes with communities in the same sub-county that had not
- evaluated the effectiveness of the new Integrated Conflict Prevention and Resilience methodology, following its testing in a pilot scheme
- used quantitative and qualitative data collection methods
- involved women, men, boys, girls, elders, people living with disabilities and government- and community-based institutions
- conducted focus group discussion and semi-structured interviews
- analysed data and plotted it against the AAT model
- backed up our findings with in-depth case studies based on individual stories representative of the findings, in written, video and picture format.

The communities we studied that had taken part in programmes were a combination of those that had been involved in the PPA, Linking Preparedness Resilience and Response (LPRR) and other Christian Aid programmes.

What is resilience?

As natural, social and economic systems increasingly come under stress, the concept of resilience has evolved and gained credence in the global discourse on humanitarian aid and international development. Christian Aid's Resilience Framework [3] defines resilience as: "a capacity-building process to enhance the ability of individuals and communities to anticipate, organise for and adapt to change." The key elements of resilience characteristics are further defined within the internationally recognised AAT model as:

- **A**nticipate: the ability of social systems to anticipate and reduce the impact of climate variability and extremes through preparedness and planning
- **A**bsorb: the ability to withstand or cope with shock
- **A**dapt: the ability to change behaviour and way of life with ever-changing risk
- **T**ransform: the ability to radically change systems, structures and behaviour.

Our research involved a brief preliminary question to ascertain how the concept of resilience was understood in the team and by various stakeholders. We then determined a set of markers of resilience to the drought through:

Christian Aid's Resilience Framework defines resilience as: "a capacity-building process to enhance the ability of individuals and communities to anticipate, organise for and adapt to change."

- Discussion by the evaluation team, made up of researchers from Christian Aid and its partners, and community representatives
- input from key informants.

We further refined these markers during the course of the study after gaining the perspectives of those affected by the drought.

Sampling

The target population were individuals who could provide information demonstrating the extent to which resilience programming had strengthened their communities' capacity to withstand the shocks and stresses of drought. We used purposeful theory-based sampling to select communities according to the extent to which they represented the theoretical construct. The team agreed the most important axes of differences to study, apart from one excluded criterion, that of studying two communities that had taken part in a programme for each community that had not.

The axes of difference studied were:

- geographical remoteness, by considering an equal number of road-side and interior communities
- experience of conflict, by considering an equal number of conflict-affected and non-affected communities, and the nature of the conflict (resources-based or political, chronic or occasional)
- the type of resilience programme that different communities had taken part in, eg, LPRR, PPA
- access to critical resources such as water points, pastures, etc.
- access to market
- access to government services
- social vulnerability linked to tribal and language identity.

Study sites

We carried out a total of 26 semi-structured interviews with the communities selected for our study. We also carried out two focus-group discussions with each community, one of which was used to compile a seasonal calendar and the other a spider diagram scoring resilience strategies.

Table 1 below shows our study sites and the number of semi-structured interviews carried out at each of them.

Table 1: Study sites and number of semi-structured interviews

Took part in resilience programme	Number of semi-structured Interviews	No resilience programme	Number of semi-structured interviews
Turbi (+C)	3	Burgabo (R)	3
Funan Qumbi (+C)	3	Rawana (+)	4
Toricha (R)	3	Qatamur (R)	3
Huri Hills (R)	3	Sololo Makutano (+)	2
Dambala Fachana (+)	3	Funan Nyata (+)	3
Dadach Lakole (+)	3		
Kargi (R)	2		
Kurkum (R)	3		
Bori Junction (+)	3		
Total	**26**		**15**

Key:

- **+**   close to the highway
- **R**   remote
- **C**   conflict-affected

Below: Members of the Funan Qumbi community discuss their seasonal calendar with staff from PACIDA and Christian Aid

Assessment methods

The assessment used a mixed-methods approach that involved collecting qualitative and quantitative data. However, our analysis relied more upon the qualitative data. The basic quantitative data yielded by the semi-structured interviews were used to verify the findings from the qualitative data.

The assessment framework, questionnaires and tools were shaped by the evaluation team following substantial discussions about how resilience was perceived in the local context.

We used the following methods to collect and record the data:

- Semi-structured interviews designed to capture a basic profile of each interviewee, and including questions relating to each resilience strategy. The minimal basic structure of the interview was used as the starting point for further in-depth conversations and stories to be captured. An equal number of men and women were interviewed from each community.

- Focus-group discussions analysing time-related cyclical changes in data, which were used to compile seasonal calendars covering April 2016 – April 2017. Participants often compared the impact of the 2016-17 drought with that of the 2011 drought.

- a spider diagram to score the effectiveness of resilience strategies. The score was not used as a measure, but as the starting point for probing why some resilience strategies were preferred or more effective than others.

- Semi-structured interviews with key informants such as village chiefs, religious leaders, service providers and government officials.

- Anecdotal stories providing a glimpse into how people experience their lives and the impact of specific projects and programmes.

All the data collected by the above methods was mapped onto the AAT framework.

Because members of the evaluation team were not conversant in any of the local languages, a team of enumerators was recruited from the local communities. They were trained to administer the tools, gather data and act as translators for the evaluation team. And being community members, they brought a distinct and valuable perspective to the study.

Process, method and presentation of analysis

As soon as the field work was completed, we held a one-day workshop in Nairobi to begin systematically looking at the data. As the group worked through the evidence, patterns of resilience strategies emerged. These patterns were then clustered together with illustrative examples, which provided a starting point for further framing of the analyses.

Quantitative data analysis emerging from the semi-structured interviews was then synthesised into a summary document. See Appendix 1[4]

For in-depth analysis of the data, qualitative and quantitative findings for both types of community (i.e. those that had taken part in a

programme and those that had not) were placed side by side and visually compared for each resilience strategy. See Appendix 2

Where the quantitative data showed a significant difference, this was measured. Then instead of using qualitative analysis software, the qualitative data was coded in terms of patterns, trends and factors affecting resilience outcomes. These were then used to establish cause and effect relationships between multiple systems in the form of a causal loop diagram. It is important to note that this diagram does not represent reality, but is a representation of the cause-and-effect relationships and the systems dynamics identified by the team and interpreted by the study in this specific context. The system dynamics brought out several insights and even more unanswered questions, which we refer to in our conclusion.

Below: **Members of the Turbi community ranking PACIDA and Christian Aid resilience programmes.**

Findings and analyses

We categorised the markers of resilience used in the study under Anticipatory, Absorptive, Adaptive and Transformative Capacity. Our detailed findings and analyses can be found in Appendix 2 We summarise these findings below and state whether or not we found a significant difference in use of particular strategies during drought, according to whether communities had previously taken part in a resilience programme. We also provide evidence, where available, of either the contribution of or attribution to resilience programmes carried out by Christian Aid and other agencies.

Anticipatory capacity

PVCA action plan and disaster risk reduction

There was a low level of recall among communities, suggesting that only selected individuals participated in the PVCA and disaster risk reduction (DRR) process. However, the presence of clear action plans indicates that once these were finalised by the few there was an attempt to bring the entire community on board to implement them. We found that the communities that followed up on their action plans were those where conflict-sensitive PVCAs had been carried out. Following conversations with them, the evaluation team attributed this finding to stronger community leadership in response to being conflict-prone for many years. Both the qualitative responses and quantitative data showed that the most common top priority in action plans was destocking, and the most common second priority was water and pasture-management mechanisms. The communities that had prioritised these areas in their action plans were able to be proactive with their destocking and pasture and water management.

An example of initial failure followed by corrective action in Dambala Fachana indicated a gradual strengthening of local institutional mechanisms during the PVCA process. The evaluation team attributed this shift to ownership and the quality of community leadership and local institutions. There were a few instances of action plans that did not deliver the desired change, but overall the early decision-making enabled by the PVCA process, along with the factors mentioned above, gave communities significantly greater anticipatory capacity.

Acting upon early warning

We found that all the communities studied relied on information from community leaders for early warning of drought. These traditional forecasters are not able to give timelines, and their information is gradually losing credibility because of inaccuracies.

However, scientifically-based early warning system information from the government did not trickle down to communities because their DRR committees were not involved in its dissemination. Furthermore, where communities were able to receive the information by radio, they perceived it to be unreliable, lacking in accuracy, contradictory and not contextualised to help their decision-making.

Both the qualitative responses and quantitative data showed no significant difference between early warning systems in terms of their effectiveness. Despite a clash between traditional and modern methods, the community generally didn't trust either. One exception was Turbi, whose people migrated sooner than other communities. However, although the decision to migrate may have been due to effective early warning, it is more likely to have been due to the Turbi being near the highway and having received more government and NGO programmes than other communities in the interior.

This lack of a significant difference may also be partly due to the timing of our study. Christian Aid first attempted to link early warning information to pastoralist communities in Marsabit County in 2016, the final year of the Programme Partnership Arrangement, so the initiative may need more time to bear fruit. We are now looking at using FM radio to disseminate early warning information to communities through monthly highlights in their local language.

Absorptive capacity

Reliance on NGOs and agencies, relief, price fluctuations and food security

Reliance on food distribution was the predominant food security strategy in all the communities studied. However, there were complaints of amounts supplied being too small to feed the community, poor quality, erratic supply, only a few communities being selected for distribution, and lack of access for remote communities (logistical exclusion). Examples of logistical exclusion were the new settlement of Qatamur, and Toricha. Communities preferred distribution by the government, because of its quantity and because everyone had equal access to it. NGOs and churches also play an important role.

Distribution of food and of cash were seen as erratic and one-off, targeting just a few; regular distribution that covered everyone was preferred to occasional distribution.

Buying on credit and borrowing or receiving food were the other food security strategies in all the communities studied. The high price fluctuation of food and livestock, particularly in communities which are dependent on Ethiopian markets, was identified as increasing dependency on food distribution. In selected communities, NGOs go beyond food distribution to providing nutritional supplements, child sponsorship and helping to address social and health issues such as female genital mutilation.

Safety-net programmes, cash transfer, social protection

The team decided not to use safety-net programmes as a comparator because they cut across all the communities studied. In addition to the HSNP, there are other safety-net programmes targeted to other groups that were not included in the HSNP. The qualitative data affirms the HSNP's targeting of the most vulnerable. It also points to a trend among communities of using the HSNP first to purchase livestock, then to pay for school-fees, iron sheets and other household items. Many of them ranked the HSNP as the best coping mechanism in the 2016-17 drought. One reason for this was the large amount of initial capital followed by smaller regular

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amounts, because the first tranche of money could be used for major investments. However, the cost of travel to collect the money was considered a drawback.

As regards cash programming, our analysis was able to include the small amount of qualitative data that was collected. However, we decided not to rely upon the quantitative data on cash programming, as it was possibly skewed by the disincentive to disclose being a beneficiary of cash transfer in a household survey. This meant that the study was not able to explore adequately the effectiveness of cash programming in the context of the drought. Nevertheless, the effective use of the HSNP and its high ranking implies the importance of cash-in-hand as a coping strategy.

Livestock market systems, destocking

Livestock markets were mostly being used as an absorptive strategy and not yet as an adaptive strategy.

No major difference was seen in the quantitative indicators that relate to market, decisions and animal mortality. All the communities studied faced the same challenges of failed rain, decline in pasture, decline in animal health, migration, destocking, reduction of prices in market, distress sale and the eventual collapse of markets. But the seasonal calendars highlighted the difference in timelines between communities. This difference was mainly a reflection of a community's location, migration to be near the highest paying markets, access to markets, disease, availability of water and fodder. Availability of pasture and the community's ability to regenerate pasture were also important factors.

Communities also had larger stocks than during the previous drought in 2011, but essential resources such as pasture and water remained the same. Consequently, there was more strain on these resources and more livestock died. In addition, sporadic rains resulted in several animals dying from pneumonia because of the absence of animal sheds.

However, there are examples such as Turbi where the PVCA process helped communities to plan to destock in advance, allowing them to invest in a way that eventually saved their remaining livestock. They were also able to sell animals in the market for a longer period than other communities, as the local decline in livestock price came two months after most other areas.

On the other hand, for some communities that had not taken part in resilience programmes, such as Sololo Junction and Funanyate, markets functioned well until Ethiopian prices dropped in January 2017. This led to worsening condition of livestock, falling prices and animal deaths in March 2017. So when the evaluation team searched for a pattern across all the communities studied, they found that the factors described above (see second paragraph) dominated the seasonal trends of the other systems.

Communities that use the Moyale market on the border of Kenya and Ethiopia have a higher vulnerability because of middlemen, the challenges of cross-border trade, cross-border disease and price fluctuation in response to volatile Ethiopian markets. According to the Director of the Ministry of Livestock, Marsabit, the traditional pastoralist mind-set is another important factor to consider, as

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communities are reluctant to destock even during distress. We found examples of this attitude in our qualitative data. The Director also observed that the newer generation is more open to commercial livestock trading. There are plans to build a new abattoir with large-scale slaughter and marketing, which it is hoped will help to address these challenges.

Migration

In terms of when, where and who migrates, the quantitative data showed no significant difference between communities that had taken part in resilience programmes and those that had not. This is also confirmed by the qualitative data – for example, observations that men and boys migrate while women, girls and the elderly stay on to continue access to school, health services, and safety-net programmes. The qualitative data also showed that increasingly this migration is to new locations because water and pasture has become depleted in traditional fall-back areas.

The seasonal calendars showed common timelines across the communities as regards early warning, rainfall, food security, migration, livestock body condition and market trends – factors that are all intricately connected with each other. There was stability in food security between March-April 2016; migration began in May 2016 as food insecurity was due to begin in June 2016. The few differences in migration patterns were dependent on availability of water, fodder and pasture and conflict-free zones, rather than on whether or not a community had taken part in a resilience programme. This reflected the pattern found for livestock markets.

Communities that had permanent water sources often referred to an influx of migrants from other parts, forcing them in turn to look for pasture elsewhere. Others spoke of migration often leading to a "trap", in which a long journey is undertaken with the expectation of

water that proves not to be available. Without pasture the animals' health rapidly decreases, leading to large-scale mortality among the livestock. In addition to an information gap, there is also a panic migration issue. Desperation pushes communities to traditional fall-back areas and when those areas don't have water and pasture, the animals die in large numbers. The National Drought Management Authority's early warning included information to help address this issue, but it was not contextualised to make it meaningful to communities and dissemination was ineffective.

The type of migration the study saw was absorptive rather than adaptive. Although few communities migrated in advance of food insecurity, most of the migration was a means of keeping livestock alive rather than adapting livelihood strategies over time.

Making use of social capital and networks

All of the communities studied had a culture of sharing resources and helping those in need during drought, as shown in the detailed norms that the participating communities described to us. This included local shops allowing customers to purchase essential items on credit and pay for them later when they could sell livestock at better prices. However, in Rawana some traders closed down because of unsustainable credit, showing that there was a limit to this help. A woman from Hurri Hills said she bought sugar every other day even though she lived only with her husband, because she regularly offered some to those who were in need.

The team looked at whether communities that had previously taken part in a programme made better use of social capital to strengthen their resilience than communities that had not taken part in such a programme. We considered what using and building on networks would look like; also whether people living in real poverty were able to benefit from networking with those who were much better off beyond sharing loans and household commodities. Where relationships exist across communities, elders held meetings to discuss rangeland management, including negotiating resource-sharing, or peace negotiations. This showed that social networks were drawn on for reasons beyond basic survival.

The quantitative data shows no significant difference between the communities studied with respect to the types of social capital or networks they used. Whether or not they had taken part in a resilience programme, they showed a similar trend of relying on elders or leaders and using community meetings to make decisions about migration and resource-sharing, etc. So although social capital was strong, we did not use it as a comparator since it cut across equally both types of community.

Water infrastructure and maintenance

In communities that had taken part in resilience programmes, a higher proportion of people walked more than 10km to access water compared to communities that had not taken part in a programme. This indicates that communities were selected to take part in programmes because they had more water stress, which is also supported by the qualitative data. For example, communities such as Toricha were badly in need of water and many of the villages were new settlements such as Qatamor. Whereas communities that were

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not selected, such as Rawana and Borgabo, had good water infrastructure.

All the communities studied had received support from government, NGOs and other stakeholders in terms of storage tanks and water pans. Despite suffering the worst water stress, Funan Qumbi had created water committees and was successfully managing its water storage facilities as a result of its resilience programme and PVCA. But apart from this example, it was difficult to compare communities in terms of access to and maintenance of water infrastructure.

Where piped water schemes had been provided, many presented significant challenges because they were low-pressure gravity-fed systems, or not working properly, or a long walk away. Communities were taking the initiative in organising their own water trucking, as well as doing so with help from others. The qualitative responses opened up the question of whether water tanks were appropriate, since many did not function as well as desilted water-pans. However, the water tanks that were in use were good for storage.

We found that we could not meaningfully compare communities that had taken part in a programme with those that had not as regards this capacity, because of gross differences in the availability of water and in the quality of infrastructure assistance from external agencies.

Use of savings, loans and micro-enterprise

In communities that had taken part in a programme, a slightly higher proportion of people belonged to a savings group than in communities that had not experienced a programme. Groups in Turbi and Rawana had started enterprises. However, the evaluation team has decided not to use this as a strategy for comparability because even though the focus group discussions and semi-structured interviews asked whether savings groups had a cushioning effect, this was not interrogated sufficiently across all communities. We later learned that the Pastoralist Community Initiative and Development Assistance formed umbrella community groups for women that dispersed loans. There was also a trend of savings and loaning schemes being formed in Marsabit County after the 2011 drought. The EU conducted a study after the 2011 drought and realised that savings groups were a good strategy for pastoralist communities. Because of its importance this area needs exploring further.

Health services

Even though the government is still the main provider of primary health services, often facilities are lacking or dysfunctional and affected by absenteeism. The quantitative data shows no significant difference in health services between communities that had taken part in a programme and those that had not. Concern Worldwide was seen as making a valuable contribution and being a reliable provider of health and nutrition services. The mid-upper arm circumference measure did not establish a definitive difference in nutritional status between the two types of community. This was confirmed by direct observation; the evaluation team did not see children who appeared malnourished. They made the same observation about mid-upper arm circumference measure among

under-fives, which could be due to Concern Worldwide's widespread overage of nutritional support.

Geographical access and remoteness were the variables that most affected the quality of health services. This was compounded by the high cost of transport (up to 5,000 Kenyan Shillings to hire a vehicle) and the difficulty of immediately liquidating livestock assets during illness.

Adaptive capacity

Education leading to earnings for families

The qualitative data showed a disproportionate difference in school drop-outs between communities that had taken part in a programme and those that had not. However, this finding is more likely to be due to the sampling than a significant difference, especially since the qualitative data tells a different story. The seasonal calendar indicated that children drop out of school during drought. The communities that had taken part in a programme included a few examples where children had not dropped out, but equally there were examples where they had done so.

In Turbi and Hurri Hills, three case studies showed that investment in education builds resilience in an anticipatory way, by enabling children to gain employment and send earnings to their families in the long run. This finding is significant, as is the interesting dynamic of more girls staying in school compared to boys because of assigned gender roles, such as migration of boys with their fathers. However, communities that had not taken part in a programme, such as Rawana, have good education even though we found no stories of it leading to earnings being sent to families. Nevertheless, it cannot be conclusively stated that there is a significant difference between the two types of community. The outcomes that the case studies showed were likely to be related to factors other than resilience programmes. The government's HSNP safety-net programme is an important enabler since it is often used to pay for school fees.

Broadly speaking, education is gradually becoming more important for communities as an investment into employment as a future livelihood strategy. The newly constructed road has created more access to distant sites for employment. Access to schooling and other services was cited as a significant reason for a shift among pastoralists from a nomadic to a more sedentary lifestyle. Though the team originally saw this as anticipatory capacity, we now see it as a more long-term intergenerational and aspirational adaptive strategy.

Toilets

Toilets were indicated as a strategy contributing to resilience in two communities that had taken part in a programme, along with Funan Qumbi's anecdotal claim of better hygiene and lower incidence of disease though this was contradicted by the data. No such findings were made for communities that had not experienced a programme. Funan Qumbi had 14 latrines in a village of 300 households and its claim above was probably a reflection of the community's pride in its infrastructure. If total, the community-led sanitation would have

included many more than 14 latrines. This was therefore an aspirational adaptive strategy and at the time of our study there was not sufficient evidence that it was being actioned meaningfully.

Pasture regeneration

A comparison of quantitative data shows both types of communities applied the same strategies for managing natural resources. Broadly speaking both have environmental management mechanisms and they rely on elders, water management committees, etc. Some of the communities that had taken part in programmes, such as Dambala Fachana, had mechanisms to set and implement rules and impose sanctions to ensure regeneration of these natural resources. This is unusual and provides a significant example that strengthens the case for county government and other agencies to use such outliers to help build existing social capital to strengthen local institutions.

Traditionally, people have had access to unregulated emergency pasture areas such as Hurri Hills. Despite lacking water, Hurri Hills is considered a fall-back area because it has pasture in dry season. Regeneration is good because those using the area tried to maintain the pasture. But in recent years other communities had been going to fall-back areas at times when the pasture is meant to be set aside for regeneration. So the controls put in place by communities such as Dambala Fachana make sense.

The difference in communities' ability to regenerate pasture lands depended on a range of factors, including the ability of local institutions to impose sanctions (Dambala Fachana); geographical factors such as upland grazing grounds in Hurri Hills mentioned above, or the shifting of historical grazing patterns. Resilience programming can strengthen local institutions' ability to impose sanctions if one of its intentions is to build on their existing ability in this area.

Diversification of livelihood portfolio

The entrepreneurial capability of some individuals in communities that had taken part in a programme was higher than in communities that had not, even though the programmes had not included enterprise. Communities situated along or near the highway were able to diversify into casual labour and highway enterprises, the most common of which was selling charcoal or firewood. This was considered a good diversification strategy, since they were able to sell more consistently because of the highway and such enterprise is not regulated as it is in other parts of Kenya.

There have been experimental attempts, advocated by NGOs and the government, to introduce poultry farming and greenhouse horticulture in drylands, and haymaking into Kalacha and the Chalbi desert. Unfortunately, these have been largely unsuccessful.

Transformative capacity

Access to road

The starkest observation made by members of the evaluation team who had visited Marsabit County before was the transformative effect of its newly constructed highway. The communities seconded this. They highlighted how the highway made it easier for them to access markets, services, food, medical facilities, lower transport costs, do business, move livestock, and even access interior villages through improved murram roads. For communities situated alongside it, the highway has created a range of new livelihood opportunities. On the flip side, they emphasised the new risk of injury and death through accidents – numerous cattle and even a person had been killed on the highway. All this opens up opportunities for new thinking in resilience programming, which we discuss in the conclusion section.

Peace committees, negotiation on resource-sharing

All respondents from communities that had not taken part in a programme were able to recall incidents of violence during the 2016-17 drought. In communities that had experienced programmes, 23 out of 29 respondents were able to recall such incidents, suggesting a slightly higher confidence in peace committees since their remodelling as part of our LPRR programme. The qualitative data also showed that there were more avenues and structures in place to engage in peace dialogue, and the quantitative data indicated a much higher level of engagement with these structures. This demonstrates that these communities had learned that organised groups can be trusted. Resilience programming had made a clear contribution here, which can be referred back to the 'organise' element of Christian Aid's resilience framework When asked how risks of conflict will be mitigated in the future, the communities that had taken part in programmes seemed to rely heavily on peace meetings and seminars, and less on community leaders and community mechanisms.

Information from County Commissioner for Peace and Cohesion

The County Commissioner for Peace and Cohesion, Matu Matakindi, informed us that:

- During the onset of the drought the county government stakeholders, including the Governor, held meetings in Jaldesa with all communities (Gabra, Rendille, Borana and Goao) to agree how resources were to be shared. There was general agreement and during the drought no incidences relating to resource conflicts were reported.

- During Kenya's 2017 election the County was also careful to take contestants through election-offences laws so that they could convince their supporters to shun violence. Moyale and Marsabit towns have a mix of different communities, so are more prone to post-election violence that can spill over into pastoralist communities. In Maikona, communities were clear about how they would mitigate against such clashes. After discussion with community elders who sat on the area's peace committee, they

In communities that had taken part in a resilience programme there were more avenues and structures in place to engage in peace dialogue, and the quantitative data indicated a much higher level of engagement with these structures. This demonstrates that these communities had learned that organised groups such as peace committees can be trusted. Resilience programming had made a clear contribution here, which can be referred back to the 'organise' element of Christian Aid's resilience framework.

adopted measures such as schedules preventing different candidates addressing a community on the same day, and watching out for and reporting incidents of violence. Peace messages that linked with the county peace initiative were also disseminated to communities.

PACIDA did not have an influencing or convening role in the meetings held in Jaldesa. However, they have played such a role in other areas of Marsabit County where our LPRR project was operational.

Institutional structures, governance, advocacy, policy engagement

- The data is too scarce for us to be able to compare engagement with advocacy at the community level.

- The evaluation team reflected on why the governance dimension in resilience programming or the ability to engage with institutional structures did not come across more strongly during the research. The reason why no community was able to successfully engage with the government was because they saw such engagement to be the role of NGOs. Responsibility for development was seen to rest with NGOs and not with the government.

- The Marsabit Indigenous Organisations Network (MIONET) is a platform that enables local organisations to highlight drought-related issues, to share their own assessments of these issues and to lobby the government about them. The network is still at a nascent stage, but it could become transformative in the future.

- Through a consortium led by the International Institute for Environment and Development, a policy engagement on early warning systems and drought mitigation was carried out with Kenya's National Drought Management Authority (NDMA). The NDMA's mandate is to intervene on drought and at county level to lead on early warning and data collection. Its strategy document, 'Ending drought emergencies', was at draft stage at time of publication of our report.

- Often communities did not know what NDMA was. One community said NDMA informed them about rainfall, but often information doesn't trickle down. The evaluation team was not able to interview the NDMA. The Ministry of Livestock said they passed on information, but communities did nothing about it. But even if these institutions provide information and services, there is a disconnect that prevents them being used effectively.

Analysis considering road as variable

Given the importance of the highway as a factor affecting resilience of communities, the data was placed within a matrix that further compared the resilience strategies of those communities that were close to the highway with those that were remotely located. This matrix should be read in conjunction with the above analysis since the highway was an important variable but certainly not the only one. It does however support the above analysis by showing the success of the PVCA process and peace committees in both remote and roadside communities. The few communities that followed up on

their action plans also stand as examples demonstrating adaptive and transformative capacity. However, the absorptive capacity seen in the form of reactive coping strategies led to similar outcomes for communities whether or not they had taken part in a programme.

Table 2 below shows the qualitative and quantitative data collected, plotted against AAT capacities and according to proximity to the highway, for communities that had taken part in a programme and those that had not.

Below: Women and children from a pastoralist community in Marsabit County

Table 2: Analysis considering the new highway as a variable

AAT (Absorb, Adapt, Transform) capacities	Took part in resilience programme – remote	Took part in resilience programme – near to highway	No resilience programme – remote	No resilience programme – near to highway
Anticipatory strategy				
PVCA process	x	x	0	0
Early decision-making	0	x	0	x
Acting on early warning	0	x	0	x
Absorptive (coping) strategy				
HSNP and other safety-net programmes	x	x	x	x
Functioning markets	0	x	0	x
Food distribution (NGO)	x	0	x	0
Buying on credit or borrowing	x	x	x	x
Destocking (reactive)	x	x	x	x
Migration (reactive)	x	x	x	x
Social capital (as reactive)	x	x	x	x
Adaptive strategy				
Strengthen local institution	0	x (Dambala only)	0	0
Destocking (as early action)		0	x	0
Pasture and water management (as early action)	x		0	
Migration (as early action)	x	x	x	x
Social capital (as early action)	x	x	x	x
Saving schemes	x	?	x	?
Health services	0	x	0	x
Education	0	0	0	0
Toilets	0	0	0	0
Pasture regeneration (traditional)	0	0	0	0
Livelihood diversification	x	0	x	0
Transformative strategy				
Pasture regeneration (regulated)	0	x (Dambala only)	0	0
Road and highway	0	x	0	x
Peace committees effective	x	x	0	0
Trust in organised groups	x	x	0	0
County governor peace initiative	x	x	x	x

Key to data:

- x: evidence of capacity   0: evidence of absence of capacity.

- x and 0 : show where we found a difference between communities that had taken part in a resilience programme and those that had not.

Causal loop diagram, Marsabit County systems map

The qualitative data was coded in terms of patterns, trends and factors affecting resilience outcomes. These were then used to establish cause-and-effect relationships between multiple systems in the form of a causal loop diagram shown below, that can be examined at this link It is important to note that this systems map is not reality, but is a representation of the cause-and-effect relationships and the systems dynamics identified by the team and interpreted by the study in this specific context. The system dynamics brought out several insights and even more unanswered questions, which we refer to in our conclusion

Conclusion

Our study used the widely accepted AAT model to structure the areas of inquiry according to absorptive, adaptive and transformative capacities. However, for the sake of analysis we also included actions that could be considered anticipatory in nature. During the course of our analysis, we moved some strategies from one category to another to reflect how the communities themselves perceived these strategies. The overlapping of some resilience strategies across multiple capacities remains.

Findings

Our study found clear evidence of a **significant difference in resilience outcomes between communities that had taken part in a resilience programme and those that had not**, relating to the PVCA process and action plans, and the stronger institutions that resulted from establishing peace committees.

When other resilience strategies were considered on their own the evidence of a significant difference was not conclusive.

The study found that in the context of the 2016-17 drought in Marsabit County in northern Kenya, **the following resilience strategies were valued by the affected pastoralist communities**. Strategies 1-6 are those that were considered of most value across all communities whereas 10-14 were considered to be of limited value, and this value applied only in specific locations.

1. Making use of and building on opportunities arising from the newly constructed highway and improved murram roads.
2. Cash from the HSNP programme.
3. Investment in water infrastructure.
4. Destocking through livestock markets
5. Migration.
6. Reliance on NGOs and government for relief and food security.
7. Leveraging social capital and networks.
8. Peace committees that helped negotiate resource-sharing agreements.
9. PVCA/DRR processes that developed into community action plans
10. Acting upon early warning.
11. Pasture regeneration.
12. Accessing health services.
13. Diversification of livelihoods, primarily for roadside communities.
14. Use of savings, loans and micro-enterprise, although this strategy was not probed to the same extent as 1-13.

Aspirational strategies

- **Education leading to earnings for families**

  There were a few examples of families investing in education, after which the children were able to get employment in towns both near and far and send money back to their families. The highway enabled access to distant sites. Because of such

success stories and the cash provided by the HSNP, education is becoming increasingly valued by communities. However, constraints such as poor infrastructure, poorly skilled teachers and lack of employment opportunities have limited the number of such success stories. Nevertheless, we see investment in education as an aspirational strategy. The higher school drop-out rate for boys as compared to girls because of migration is another key finding with implications for future programming.

- **Toilets and sanitation**

   Two communities mentioned sanitation. However, they had not been able to action this strategy in a meaningful way, so we concluded that even though communities understand the value of sanitation it remained an aspirational strategy for them.

Systems with most influence on resilience

Systems mapping using a causal loop diagram showed that the systems with the most influence on communities' resilience were, in descending order of influence:

1. The highway.
2. Cash and the HSNP.
3. Strength of institutions.
4. Social capital.
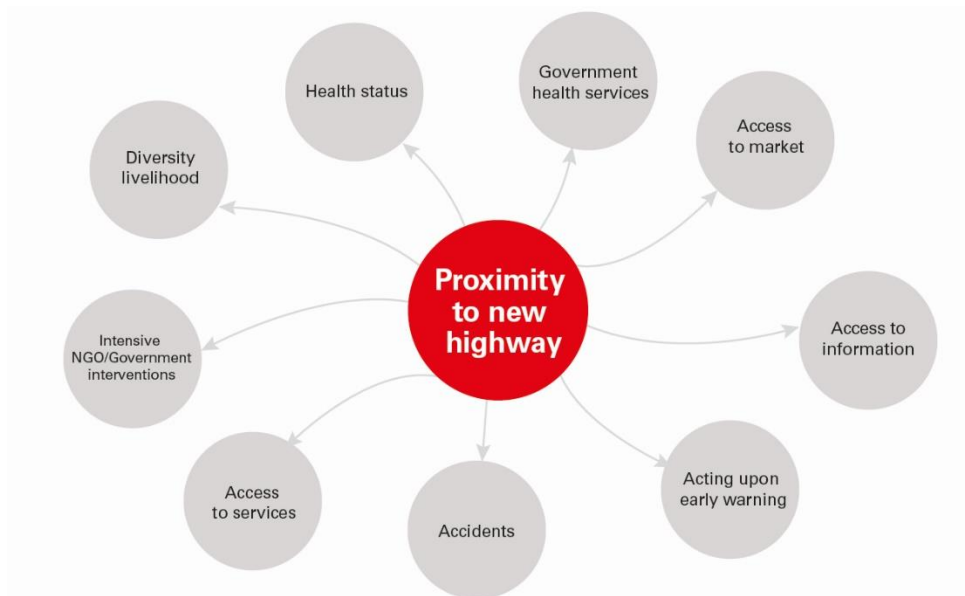
Systems that were weak in their influence on resilience

The systems that our study showed to be weak in their influence on communities' resilience were:

- government, in its role of providing an enabling environment
- mechanisms for engaging in advocacy relating to resilience.

Adaptive and transformative vs. absorptive capacity

An important conclusion of our study is that resourcing and facilitation of community-led empowerment processes such as PVCA and local peace committees lead to adaptive and transformative capacity if, and only if, the communities follow up on their plans and initiatives. Where follow-up was missing, communities reverted almost entirely to purely absorptive coping strategies in much the same way as communities who had not taken part in a programme. Apart from the need to envisage tangible benefits from investing in the process, community groups also need a degree of facilitation, resourcing for their plans and regular follow-up from facilitating agencies. They also need existing institutions such as NDMA, service providers, market actors, etc, to provide an enabling environment. Pastoralist communities' emerging trust in peace committees is a significant shift, aimed at helping them become more resilient when faced by threats of violence and conflict.

Community-led processes building adaptive and transformative capacity

The data for communities that went through the PVCA process and DRR and drew up action plans were analysed to see whether these communities built anticipatory capacity in advance of the drought. We found that in some communities the process itself had the potential to build adaptive and transformative capacity in the long run.

Of the **nine** communities that undertook the PVCA process:

- **None** took action based upon early warning information since there was not a strong sense of trust in it and dissemination was weak.

- **Two** communities acted upon their action plans, resulting in more adaptive and transformative capacity than other communities.

- The **seven** that did not follow up on their action plans showed similar behaviour and characteristics to those of communities that had not taken part in a resilience programme.

These findings lead to the following inferences:

PVCA action plans

- There is a need to work closer with communities to **follow up on PVCA action plans** because the evidence shows that follow-up builds adaptive and transformative capacity.

- The communities that followed up on their action plans tended to be those where conflict-sensitive PVCAs were carried out. This indicated stronger community leadership and institutions and ownership of the plans in areas in which the community has had to organise itself to resolve conflict.

- Communities' low participation in the PVCA process indicated by low recall of it leads to the question of whether there was wider ownership of the prioritisation of action plans. We feel this low recall indicates a problem of participation. The issue of whose priorities drive the PVCA process has been raised previously

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within the Kenya team but remains unresolved. PVCA is meant to be a consensus-building process, so whose priorities drive it is a critical question.

- The initial failure and gradual strengthening of local institutional mechanisms during the process is testament to the experiential learning cycles that communities encounter during the PVCA process.

- Destocking has emerged as the main priority in action plans followed by pasture development and water management mechanisms.

- Overall, when a community follows up on its action plan key decisions are made earlier, which can in turn help a number of its resilience strategies to succeed

- The seasonal calendar demonstrates the strong interconnectedness of early warning, rainfall, food security, migration, the condition of livestock and market trends. The PVCA process is designed to highlight this interconnectedness to identify entry points of engagement. This type of systems approach should be reinforced at a number of different scales.
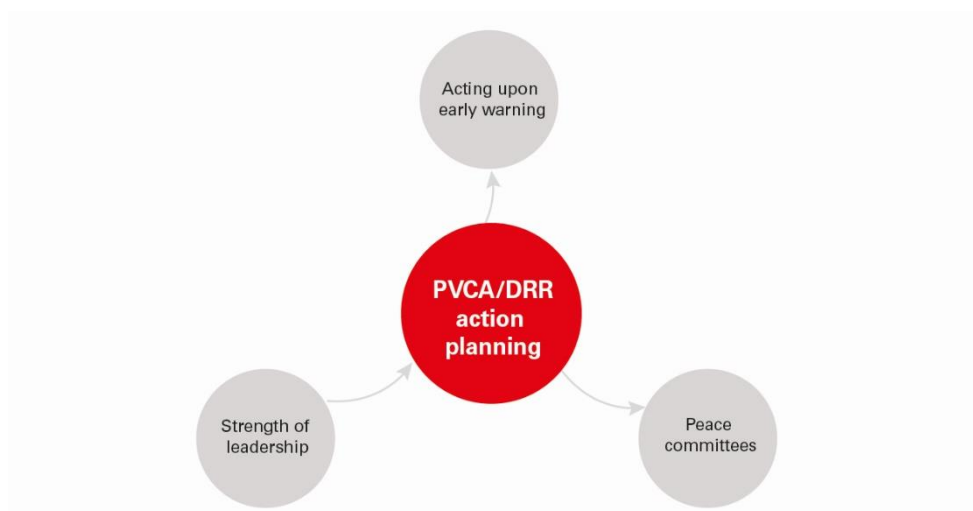
Acting upon early warning

- Scientific early warning information did not trickle down to most communities. In the few places where it reached communities, it was not contextualised nor was it acted upon. This shows the lack of trust in climate information and the inefficiency of the existing information-flow mechanism. There is a need to improve **dissemination** of **early warning systems** and to build communities' **trust** in these information sources.

Peace committees

- As a result of the peace committees, there are more avenues and structures in place to engage in peace dialogue and a much higher level of engagement with these structures. This has led to resource-sharing agreements. Election-related conflict is also being mitigated by some groups. The growing trust in peace committees shown by communities who had taken part in a resilience programme is a significant change that relates to the 'organise' aspect of Christian Aid's resilience framework.

Pasture regeneration, stocking in advance

- The main factors enabling pasture regeneration are: ability of local institutions to set rules and impose sanctions, geographical factors such as upland grazing grounds in Hurri Hills and the shifting of historical grazing patterns. The PVCA's potential role in building local institutions' ability to set rules and impose sanctions, as shown in Dambala Fachana, needs to be highlighted. The influence of elders will also play a part here.

Highway

- The newly constructed highway has been demonstrably transformative, making it easier for communities to access markets, services, food, medical facilities, lower transport costs, to do business, move livestock and even reach interior villages through improved murram roads. It has also provided new livelihood opportunities to those communities close to the highway, but given rise to new risks from frequent accidents. Given this new development, opportunities for programming need to be explored including market engagement, meat value chain, etc.

Governance

- MIONET is a platform in Marsabit that enables local organisations to engage with government by influencing and informing the government's approach to development and by receiving government updates. The study identified a disconnect in this engagement, particularly in how government structures and local structures shared early-warning information. There are very limited opportunities for communities to engage in advocacy or policy processes. We attributed this to the fact that communities see responsibility for development as resting with NGOs rather than the government.

Reverting to absorptive capacity

In the absence of community-led empowerment approaches to resilience, pastoralists revert to the historic and new absorptive coping strategies shown below. In some instances these strategies work well and in others they face significant challenges.

### Reliance on NGOs and agencies for relief and food security

- Reliance on food distribution is the main food security strategy for communities. However, we found serious concerns about exclusion of remote communities and in particular new settlements. This problem was being compounded by marked fluctuations in the price of food. There did not seem to be any mechanism for regulating the prices of essential commodities, which presents an opportunity for exploring policy interventions.

HSNP and other safety nets or cash transfer

- The HSNP was repeatedly identified as the best coping mechanism for communities during the drought. Its appeal was primarily the large amount of capital investment that could be made with the first tranche of money. Communities' use of the

HSNP to purchase livestock, paying for school fees, etc. seemed transformational, implying the effectiveness of cash-in-hand in helping people cope with the drought.

Anecdotal evidence showed that although the HNSP is targeted to the most vulnerable, only a small number of them are receiving it. Where money is given, we recommend exploring ways of minimising people's cost of travel to collect it.
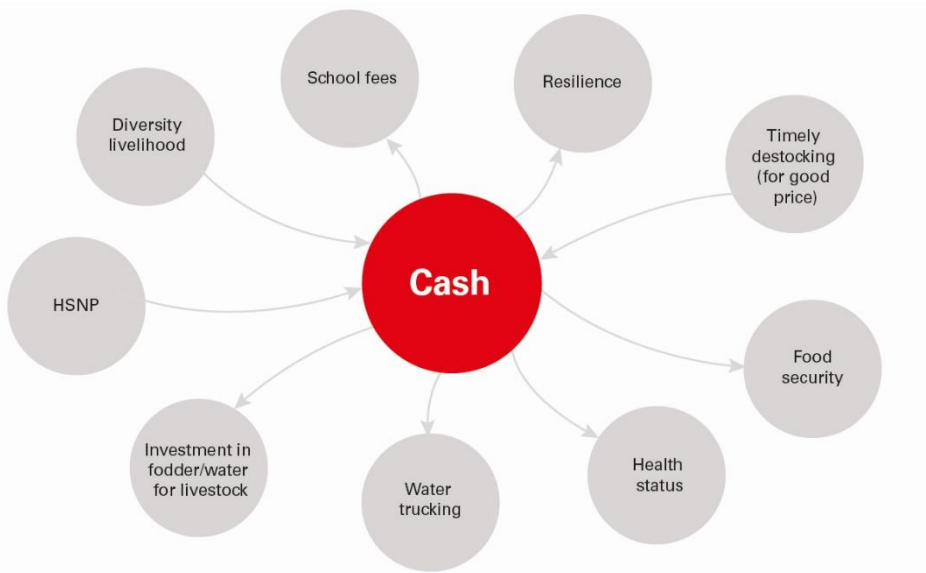

Destocking and livestock markets

- Two communities destocked in advance thanks to the PVCA, others were subject to the usual vulnerabilities. The prices gained when destocking are dependent on timeliness, location, migration patterns and which markets are accessed. For example, pastoralists selling at the Moyale market near the border of Kenya and Ethiopia experience an increased level of vulnerability because of cross-border issues.

- The seemingly avoidable loss of cattle to pneumonia due to rains and lack of shelter is an opportunity to explore potential solutions such as improving veterinary services.

- There is an intergenerational shift from a "pastoralist mind-set" to the newer generation's more open attitude to commercial livestock trading. What implications does this have for future resilience programmes?

Migration

- Boys and men migrate, while girls, women and the elderly stay on to continue access to services such as school, health and safety-net programmes. These gender-based roles raise questions about the different vulnerabilities of boys and girls, and of men and women, in the context of the drought. It indicates the importance of bringing a power and gender lens to the design and monitoring of resilience programmes. Resilience programming in this context would benefit from taking distinct approaches when addressing these different vulnerabilities.

- Increasingly, migration is to new locations since water and pasture has become depleted in traditional fall-back areas – evidence of a macro trend that demands a cross-country response.
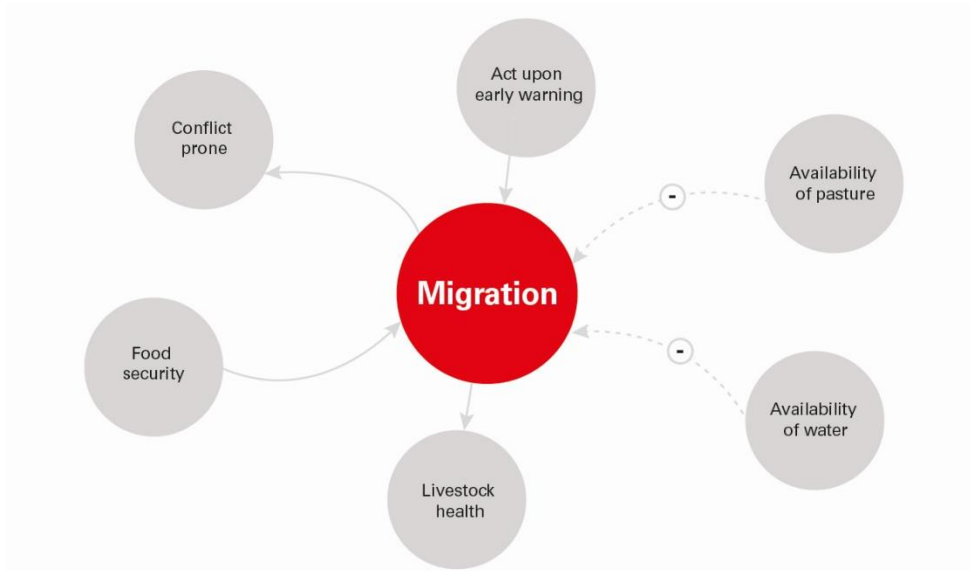
Making use of social capital and networks for resilience

- The number of examples of people assisting the poor or shops offering credit were small but hugely significant as a coping strategy for the most vulnerable during the drought. The reliance on elders and leaders and the use of community meetings was also a significant sign of social capital that ought to be built on in resilience programmes.

Water infrastructure

- The communities that had previously been selected for resilience programmes had more water stress than communities that had not been selected. There was a high level of difference in the availability of water and the quality of infrastructure assistance provided by external agencies. In Funan Qumbi water storage facilities were better managed, showing the effect of the water committees set up during the PVCA process.

Accessing health services

- The government health services are dysfunctional with high absenteeism and lack of facilities. Concern Worldwide remains the most reliable provider of health and nutritional services.
- Geographical access and remoteness was the variable that most affected the quality of health services. This was compounded by the high cost of transport and the difficulty of immediately liquidating livestock assets during illness.

Recommendations

Opportunities for resilience programming

The study identified the following opportunities for further developing our resilience programming in the context of drought:

PVCA, participation and action plans

- Find ways to make the PVCA process more inclusive and shared among the community to increase ownership.
- Explore why some communities implemented their action plans and some did not.
- Explore the opportunity for PVCA and resilience programmes to take social capital to the next level – ie, intentionally leveraging social capital. The unusual case of Dambala Fachana having mechanisms to set and implement rules and impose sanctions to ensure regeneration is a significant example. It strengthens the case for county government and other agencies to use such outliers to build on existing social capital to strengthen local institutions and leadership.

Peace committees and management of common land

- Given the positive outcomes, peace committees should be institutionalised by nesting them within pre-existing structures that are in turn nested within government institutions mandated to ensure peace negotiations. Using Ostrom's 8 principles, we also recommend strengthening the ability of formal and informal institutions to put in place rules, regulations and sanctions to manage common property resources through elders and peace committees.

HSNP

- Work with county government or HSNP implementers to make safety nets reach the most remote communities and provide support to minimise the cost of travel needed to collect money. As regards travel costs compromising the benefits of cash transfers, there are different models for pastoralists to access cash transfers. It is possible that others on the Cash Learning Partnership might collaborate to find potential solutions.

Destocking

- Work with local government to achieve timely and effective destocking of cattle through improvement of access to destocking facilities, especially for remote villages. Look at transport facilities to minimise costs and reduce time.
- To help address the high number of cattle dying from pneumonia due to exposure to rain without shelter, explore solutions such as improved veterinary services.

Strengthen early warning systems

- Bring a broad group of stakeholders together to discuss early warning systems, with communities at the centre. See how scientific early warning information can be contextualised with local (traditional) knowledge to help build trust in these scientific sources.
- Develop effective mechanisms for disseminating early warning information, particularly to interior villages. These could include FM radio and the use of local languages. Involve community institutions, MIONET and NGOs in disseminating information.
- Work with communities should focus on people's ability to use early warning information effectively when making decisions.

Advocacy

- Strengthen the capacity, skills and credibility of MIONET in influencing county-level stakeholders on behalf of pastoralist communities.

Gender

- Apply a power and gender lens to programmes, with separate approaches to addressing the different vulnerabilities of women, men, boys, girls and excluded groups.

Strategies for reducing the fluctuation in prices of essential commodities and livestock

- This was identified to be a particularly sensitive cross-border issue that will require regional advocacy through collaboration with agencies operating in Ethiopia and Marsabit County.
- The control exerted by middlemen requires strategies for influencing the county government as regards changes to regulations, laws and policies. Case studies from a recent Foundation Strategy Group (FSG) report [5] suggest that large-scale external events such as the 2016-17 drought can be used to push through such changes. However, the capacity to take advantage of such events needs to be built in advance. A market-systems approach is suggested to pick up on potential opportunities. Regulations govern a small proportion of trade that takes the formal route, calling for policy engagement. But for most of the informal trade, informal social norms need to be considered.

Reflections on leveraging infrastructure

Marsabit County's new highway connecting Isiolo to Moyale, and to a lesser but significant extent the improved murram roads, have created a corridor for connectivity. It is part of the Lamu Port, South Sudan, Ethiopia Corridor Project (LAPSSET), which has many other infrastructure elements. According to LAPSSET's reports it has reduced travel time and transport costs, while increasing transport options, access to market and cross-border trade, access to government services and stabilisation of the security situation.

This major infrastructure project did not exist at the start of Christian Aid's resilience programmes. As the highway came into being, our

programming did not explicitly take into account the changes it brought. However, during our study the evaluation team found the highway, which passes through Marsabit town, to be the most significant factor affecting the resilience of the communities that we visited. Hence the team's reflections below on how we might use infrastructure such as the highway to best effect in future programming.

- Toricha and Qatamur were visibly more vulnerable than roadside communities. External agencies tend to target roadside communities while interior communities get forgotten. So this omission needs to be considered when selecting communities in the future. Furthermore, programmes and processes in roadside communities such as Turbi need to be designed differently from those used in the interior.

- In the past Moyale market, near the border of Ethiopia and Kenya, and Nairobi market were the only major markets. Now work on developing markets can be expanded in future programmes – for example, transporting meat from livestock instead of live animals.

- The improvement in security to combat banditry along the highway has improved accessibility and therefore trade – a consideration for our work in the future.

- Towns along the highway will attract an influx of settlements so new types of development, livelihood, and investment are likely to emerge. We therefore need to anticipate changing population dynamics, and use foresight to programme for resilience in a constantly changing context.

- The new infrastructure made access to markets and wider communication easier for communities and improved their resilience in a number of ways. Therefore our future programming may include bringing the pastoralist communities' voice to decision-making about infrastructure at both a county and national level.

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End notes

[1] Interactive Causal Loop Diagram of Marsabit Drought Systems. Argawal, A. Christian Aid, 2017.

[2] "Design Principles and Threats to Sustainable Organisations that Manage Commons", Workshop Working Paper No. W99-6, Workshop in Political Theory and Policy Analysis, Bloomington, Indiana, Indiana University. Ostrom, E., 1999

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