Understanding Community Resilience: Findings from Community-Based Resilience Analysis (CoBRA) Assessments

Marsabit, Turkana and Kajiado counties, Kenya and Karamoja sub-region, Uganda
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Drylands Development Centre
United Nations Avenue, Gigiri
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April 2014

Layout
Catherine Kimeu/UNON

Editor
Catharine M. Way

Printing
UNON, Publishing Services Section, Nairobi, ISO 14001:2004-certified
D1 No.: 13 - 54467/700 Copies

This publication was funded by the European Commission Directorate General for Humanitarian Aid and Civil Protection. The views expressed herein can in no way be taken to reflect the official opinion of the donor.
Understanding Community Resilience: Findings from Community-Based Resilience Analysis (CoBRA) Assessments

Marsabit, Turkana and Kajiado counties, Kenya and Karamoja sub-region, Uganda

Commissioned by UNDP Drylands Development Centre

Under the framework of the European Commission Directorate General for Humanitarian Aid and Civil Protection’s Drought Risk Reduction Action Plan
United Nations Development Programme (UNDP)

UNDP partners with people at all levels of society to help build nations that can withstand crisis, and drive and sustain the kind of growth that improves the quality of life for everyone. On the ground in 177 countries and territories, we offer global perspective and local insight to help empower lives and build resilient nations.

The UNDP Drylands Development Centre is a unique global thematic centre that provides technical expertise, practical policy advice and programme support for poverty reduction and development in the drylands of the world. The Centre’s work bridges between global policy issues and on-the-ground activities, and helps governments to establish and institutionalize the link between grassroots development activities and pro-poor policy reform. The main areas of focus are mainstreaming of drylands issues into national development frameworks; land governance; marking markets work for the poor; decentralized governance of natural resources; and drought risk management.

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This document is a synthesis of the results and the findings of four pilot community-based resilience analysis (CoBRA) assessments implemented in Kenya and Uganda.

We are indebted to the consultants who facilitated the CoBRA assessments and led the preparation of this publication: Courtenay Cabot Venton, Catherine Fitzgibbon, Laban MacOpiyo, Moses Ojota and Laz Ocira.

Special gratitude goes to all the government and non-governmental partners who proactively participated in the CoBRA exercises in each location and provided the context-specific inputs into the respective Annexes. Special mention goes to James Oduor, Paul Kimeu, Francis Koma, Julius Taigong’ and Benedict Musyoka at National Drought Management Authority in Kenya, and Solomon Elungat and Martin Odong at the Office of the Prime Minister in Uganda.

Our special thanks also go to the UNDP Country Offices in Kenya and Uganda who provided technical and administrative support throughout the entire CoBRA assessment processes. The authors are indebted to many people who, at different points in the production of this publication offered comments and valuable technical inputs to the report. Our special thanks to Oliver Wasonga, Jacob Park and Mark A. Constas, as well as other technical reviewers who provided comments at various stages of the CoBRA methodology developments.

Also acknowledged with thanks are Yuko Kurauchi and Francis Opiyo at UNDP Drylands Development Centre (DDC) for their insights and guidance in this publication process.

The UNDP DDC gratefully acknowledges the financial support provided by the European Commission Directorate General for Humanitarian Aid and Civil Protection to produce this document.
Executive summary

In the last few years, as natural disasters and other crises have pushed communities to the limits of their adaptation and coping capacity, ‘disaster resilience’ has emerged as a key goal for governments and other development and humanitarian stakeholders in the Horn of Africa. It is in this context that the United Nations Development Programme Drylands Development Centre initiated the Community-Based Resilience Analysis (CoBRA) project, with financial support from the European Commission Directorate General for Humanitarian Aid and Civil Protection (ECHO). The CoBRA methodology is one of the first practical analytical tools developed to identify indicators for measuring community resilience as part of ECHO’s wider Drought Risk Reduction Action Plan.

This report summarizes the findings of the first round of CoBRA field testing in four drought-prone locations in Kenya (Marsabit, Turkana and Kajiado counties) and Uganda (the Karamoja sub-region). It also reports on the outputs of subsequent validation sessions held in each of the four locations with local technical stakeholders and community representatives. Individual assessment reports for each location are attached as Annexes to this report.

CoBRA approach and objectives

The CoBRA approach is largely qualitative, based on understanding resilience from a community perspective. It does not identify any preconceived components of resilience but rather allows communities to define it, assess their progress in achieving it, identify households that are more (or fully) resilient and specify the interventions they believe best build resilience.

The CoBRA methodology has four broad objectives:

1. Identify the priority characteristics of disaster resilience for a target community;
2. Assess the communities’ achievement of these characteristics at the time of the assessment and during the last crisis or disaster;
3. Identify the characteristics and strategies of disaster-resilient households; and
4. Identify the most highly rated interventions or services in building local disaster resilience.

A detailed CoBRA conceptual framework document and implementation guidelines have been developed to fully explain the model’s logic and methodology.

Methodology

The CoBRA methodology uses participatory qualitative approaches – focus group discussions (FGDs) and key informant interviews (KIIs) (see Boxes 1 and 2). In each field site, 36 to 42 FGDs and KIIs were carried out by teams of facilitators. Following each assessment, feedback sessions were held with community representatives and local stakeholders to validate the findings.

Key findings

Four full CoBRA assessments have been completed to date, three in Kenya, in partnership with the National Drought Management Authority, and one in Uganda, in partnership with the Office of the Prime Minister. The assessments have highlighted the following findings:
Understanding Community Resilience

• What factors or characteristics have contributed to your household’s resilience?
• How did your household become resilient?
• Why do you think your family coped better with shocks and crises affecting the community?
• What interventions do you think would best build wider resilience in this community?

Box 2. Questions posed in key informant interviews with resilient households

- What factors or characteristics have contributed to your household’s resilience?
- How did your household become resilient?
- Why do you think your family coped better with shocks and crises affecting the community?
- What interventions do you think would best build wider resilience in this community?

Throughout the locations, communities consistently highlighted several priority characteristics (described in approximately 20–30 statements) that identify a resilient community. Characteristics that were highly prioritized in all the assessment locations include:
- **Education**: All children would be able to complete primary/secondary/tertiary school;
- **Water**: The whole community would have access to sufficient, good-quality water at all times of the year;
- **Peace and security**: The whole community would enjoy continual peace and security. Human health, productive livestock herds and farms, access to markets and credit, diversified incomes and roads were also highly rated in many of the locations. These characteristics came up consistently across different livelihood groups (pastoral, agropastoral and peri-urban) and age and gender groups, irrespective of the number and level of services and interventions provided in the assessment sites. However, there were prominent differences between locations in the priority assigned to these characteristics, depending on unique local ecological and socioeconomic conditions.

**Resilient households** were consistently described as households with greater income and assets built through diverse sources. The most common feature of resilient households noted through the FGDs and KIIs was their multiple sources of income, which tended to combine traditional on-farm activities (pastoral and crop farming) with off-farm income-generating activities (IGAs) that are less dependent on the weather, such as small businesses, trading or wage/casual labour. The few resilient households with single income sources were principally pastoralists with large herds. Resilient households also tended to have higher levels of education, and this was perceived to account partially for their better access to diverse sources of income.

### Box 1. Steps in conducting a focus group discussion

**Step 1.** Agree on the definition of resilience: What does a resilient community look like? What are the main hazards or shocks facing the community?

**Step 2.** Identify resilience characteristics: What are the characteristics of a resilient community?

**Step 3.** Prioritize resilience characteristics: What are the three most important characteristics of resilience in the community, ranked by importance?

**Step 4.** Rate the community’s progress in attaining the priority resilience characteristics: On a scale of 0 to 10, to what extent has this community achieved each of these characteristics in the current period and in the last crisis period?

**Step 5.** Identify interventions that have contributed to household resilience: What interventions have helped to enhance households’ level of resilience, and what additional/future interventions would help to build resilience further?

**Step 6.** Identify the households in the community that have achieved (fully or partially) the resilience characteristics and list their common features and attributes.
• Communities perceived they had attained extremely low levels of the identified resilience characteristics, even in times of no crisis or hazard. This perception underlines the very low levels of development and high chronic vulnerability experienced in these locations at all times, which are exacerbated by recurrent drought and other hazards. However, even within the same location, some livelihood groups are more vulnerable to drought hazards than others.

• The most highly ranked characteristics of resilience often did not correspond with interventions supported by governments and their partners. Comparing the most highly rated local resilience-building characteristics with the portfolio of projects and interventions provided to the same communities often reveals a mismatch. For example, completing secondary and tertiary education was regularly cited as a key characteristic of resilience; however, support for expanding access to these services is rarely prioritized in government/NGO programming in these areas. Equally, communities did not always prioritize characteristics that should be part of any investment. For example, feedback sessions with local stakeholders consistently cited communities’ lack of priority for natural resource management, which stakeholders felt was a significant gap.

Benefits and limitations of the CoBRA approach

The CoBRA methodology represents one of the very few practical analytical tools that has been developed and tested to measure resilience at the community level. It brings communities’ perspectives into resilience debates and provides communities with an opportunity to describe what resilience means in reality. The combination of community and household resilience characteristics identified through FGDs and KIIIs helps to increase understanding of the term. It can provide a valuable basis upon which to develop a small set of locally specific indicators and to support strategic planning processes. A CoBRA assessment provides a substantial amount of information in a relatively short time frame and at significantly less cost than equivalent quantitative approaches used in the past. This is due to the proactive participation of local government and NGOs, which involves close collaboration and technical and logistical backstopping.

A CoBRA assessment is not a stand-alone measurement of resilience, and it does not offer a definitive quantitative measurement of the number or proportion of resilient households in a given community. The resilience attainment scores are perceptual and not statistically significant. Additionally, scores cannot be compared between locations, as they are derived from separate conversations, in different contexts. CoBRA examines the multidimensional nature of resilience, which is unlikely to be affected by any single intervention. Therefore it should not replace individual project or programme evaluations.

Developing indicators of resilience

The conceptual framework of CoBRA is based on the premise that resilience can be measured in two ways:

1. Using an overall or universal measure or indicator(s) of resilience, which enables us to understand whether resilience is increasing, decreasing or staying the same. The almost uniform finding that resilient households have multiple sources of income and a strong asset base indicates there is potential for measuring absolute resilience. The findings from the CoBRA assessments confirm the hypothesis underpinning the conceptual framework – that households would define themselves as resilient when they were able to feed their families adequately every day and meet basic needs on a consistent basis both in stressful and ‘normal’ times without external relief. Being able
to quantifiably measure this ‘ability to cope’ would then provide a universal indicator of resilience.

2. Using composite and contextually specific indicators of resilience, which enable us to understand how local drivers of resilience are expanding or contracting, and the impact of interventions on those drivers. The four assessments to date have consistently highlighted highly similar household characteristics of resilience. Community characteristics are more varied, but with strong commonalities. Linking these characteristics with quantitative indicators that could be tracked over time is the logical next step for the CoBRA methodology.

Implications for community-based resilience programming

• The priority characteristics of resilience identified in a target community through CoBRA can be used as a decision support tool to inform policy, planning and programme/project processes at different levels. Importantly, the assessment highlights how these characteristics vary between different locations, groups or contexts, which can be used to help tailor resilience programming.

• The characteristics identified and prioritized by the communities can in turn be used to identify keystone indicators of resilience for more systematic tracking. These indicators can be both universal and contextually specific, leading to a potential resilience threshold. The keystone indicators can be monitored over time to track changes in resilience characteristics quantitatively.

• The CoBRA assessment provides data on the most highly rated interventions or services in building local resilience, which can inform community-based programming as well as wider policy and practice. Typically, top-rated interventions help to improve access to basic services – such as education, water, health care, roads and markets – as well as their quality and efficiency. Importantly, such interventions encompass both long-term and short-term investments and include factors that are not always immediately considered a part of disaster risk reduction (DRR) or development strategies. For the DRR approach to help affected populations become truly resilient and cope with future shocks and stresses independently, the risk reduction concept and strategy need to be broadened.

• The study provides strong evidence that interventions that demonstrably increase income and diversify sources of income should be a core focus of any community-based programming. Interestingly, this is also the finding that had the most consistent support in the validation sessions with stakeholders. Source of income needs to be incorporated into any analysis to ensure that unsustainable activities are not included.

Recommendations

The findings from the CoBRA assessments lead to a number of practical policy recommendations to spur innovative and entrepreneurial capacities of drought-affected dryland communities in the Horn of Africa.

1. CoBRA findings should be used to identify a locally validated list of resilience indicators that government authorities and other stakeholders can use to monitor progress and impact. Including communities’ definitions of resilience is important not only as a participatory exercise, but also as a means of understanding local contextual factors that drive or undermine resilience.

   CoBRA findings should also support the development of more streamlined monitoring frameworks for both national/regional (e.g., regional and country programming papers of the Intergovernmental Authority for Development’s Drought Disaster Resilience and
Sustainability Initiative\(^1\)) and local climate-resilient development planning processes. Stakeholders need to review current data sets to determine if and how indicators identified through the CoBRA process are already being collected. Data collection processes may need to be revised or standardized to ensure that appropriate information is collected regularly on certain topics, such as secondary school completion rates or peace and security.

2. **Policy and planning frameworks need to refocus on activities that build and diversify incomes and assets in the drylands.** The finding on the link between resilience and higher levels of income and assets derived from multiple sources has important implications for governments and donors seeking to understand how to allocate resources to best build resilience. Increasing access to credit, strengthening savings groups and improving commercial literacy and business skills are all key interventions in this regard.

3. **Activities that support the achievement of community-identified characteristics of resilience need to be a key focus.** The high ratings universally given to education, water, health and peace and security for community resilience means that these factors will drive change that enables households to develop multiple sources of income and make other positive changes. Education can link people to broader income-generation opportunities, especially off-farm activities such as wage labour. Access to credit can facilitate various IGAs and help diversify livelihoods. Water is key to both human and ecosystem health and economic development, contributing directly to livestock/agricultural production and productivity. These linkages are not necessarily systematically addressed in current policy and planning frameworks.

4. **Policy and planning need to increase their emphasis on raising awareness of natural resource management, particularly the critical role natural resources can play in the drylands in the face of shocks and stresses.** The CoBRA assessment demonstrates a key gap in communities’ awareness of the importance of natural resources and of maintaining the long-term health of local ecosystems that form the basis for their livelihoods. There is a risk that people will be more prone to engage in activities that may build diverse incomes that are unsustainable (such as charcoal production).

5. **CoBRA results stress the need for coordinated and concerted action among actors at different scales – including hardware and software, long term and short term, and small and large investments.** Some of the perceived priority characteristics – such as peace and security, secondary/tertiary education and roads – are not systematically integrated into development and humanitarian support. Ignoring these costly and long-term interventions and instead focusing on less costly investment may lead to false economies. Communities consistently highlighted interventions that enhance access to markets, savings and credit as highly beneficial for enhancing community/household resilience, and these should be prioritized in the short term. Their success, however, may be handicapped if larger scale interventions continually fail to be developed in tandem. Greater support for a coordinated approach will be required to ensure resilience in the long term.

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1 This initiative was developed based on the discussions and recommendations at the Joint Horn of Africa and East Africa Summit of Heads of State and Government held in Nairobi, Kenya on 9th September 2011, to enhance partnership and coordination and strengthen regional and national frameworks to end drought emergencies in the HoA.
1. Introduction

The Horn of Africa has long faced droughts and other natural disasters. But in recent years, as the impacts of extreme events have begun to worsen, partially as a result of climate change, already stressed communities have been pushed to the limit of their adaptation and coping capacity. Therefore, supporting communities to become resilient in the face of disasters has emerged as a key goal for governments and development and humanitarian stakeholders in the region. As a consequence, programmes and funding strategies are increasingly realigning themselves around resilience-building objectives. In parallel, several efforts are being made to develop models that better define and measure resilience. It is in this context that the UNDP Drylands Development Centre developed the Community-Based Resilience Analysis (CoBRA) project, with financial support from the European Commission Directorate General for Humanitarian Aid and Civil Protection (ECHO).

The CoBRA assessment methodology is one of the first practical analytical tools developed to identify indicators for measuring community resilience as part of ECHO’s wider Drought Risk Reduction Action Plan. (A comprehensive explanation of the conceptual framework behind the methodology is contained in the CoBRA Conceptual Framework and Methodology, and the CoBRA Implementation Guidelines provide guidance for local partners carrying out full field testing of the approach in the Horn of Africa.)

After providing a brief overview of the CoBRA model (this section) and field work methodology (section 2), the report outlines and analyses the key findings of four full CoBRA assessments, which were undertaken between June and August 2013 in three counties in Kenya (Marsabit, Turkana and Kajiado) and two districts of Karamoja in Uganda (section 3). The report also provides some of the main feedback generated during review and validation workshops attended by community representatives and technical stakeholders from the local government and non-governmental groups (section 4), which took place at each of the four field sites between September and November 2013. A national workshop held in Kampala in November 2013 also provided an opportunity for in-depth validation of the assessment findings from Uganda.

The report points out that the findings of the CoBRA assessments could inform wider debate and learning on monitoring and measurement of resilience at community, national, sub-regional and regional levels. It also examines opportunities for CoBRA to link to or inform other monitoring and evaluation processes to improve effectiveness in measuring changes in resilience (section 5). Finally, the report makes recommendations to spur use of
the model and on modifications that may be required to improve the methodology (section 6).

Detailed findings from the four individual assessments are presented in Annexes 1–4.

1.1 The CoBRA model

The CoBRA model, presented in Figure 1, was developed through a literature review, stakeholder consultation and field testing during 2012 and 2013.

Over time, various factors – including policies, support, changes in context or autonomous household adaptation and change – can influence the resilience of communities to shocks and stresses. Resilience level may be assessed based on how communities cope with and overcome various shocks and stresses: those that are able to bounce back to their condition in the pre-crisis period, or even improve their situation, may be considered resilient, while those that are collapsing or are recovering but are worse off than previously may not be resilient.

To measure resilience and the impact of interventions on resilience, baseline information must be established. Doing so involves answering these fundamental questions:

- What are the main characteristics of resilience at community and household levels?
- Which households are more resilient and able to cope with shocks and stresses?
- What kinds of factors are affecting their ability to cope?
- How do communities score their attainment of these priority characteristics in a normal period and in a crisis period?

The scoring exercise provides important data on community perceptions concerning their status and their progress towards resilience. The characteristics can also be used to develop indicators to quantitatively assess resilience, using existing survey data.

Performing repeat assessments helps to monitor not only trends in communities’ priorities in characteristics of resilience, but also their progress in attaining resilience characteristics over time. A careful balance must be struck, however, between the need to maximize the accuracy and robustness of the findings and the need to maintain the methodology as a cost-efficient, user-friendly and practical tool.

The original conceptual framework for CoBRA emphasized the comparison of resilience attainment rates within communities between normal and crisis periods (i.e., quantitative assessment). After a series of technical consultations, it became evident that there is greater value in other aspects of the CoBRA assessment findings, particularly the key...
factors, or priority characteristics, that contribute to building resilience to disaster at community and household levels (i.e., qualitative assessment). Such data have been perceived as extremely critical to the process of identifying the resilience impact indicators and prioritizing climate-resilient policy, planning and programming decisions.

1.2 The CoBRA methodology

During development of the CoBRA methodology and implementation guidelines, it became clear that little consensus exists among stakeholders as to which components or characteristics of disaster resilience are most important. Consequently, the study team decided not to identify any particular components but rather to allow communities themselves to define resilience. This was particularly important because resilience covers such a wide range of activities and indicators. As a result, the methodology that emerged has four broad objectives:

1. Identify the priority characteristics of disaster resilience for a target community;
2. Assess the community’s achievement of these characteristics at the time of the assessment (generally carried out during a ‘normal’ period) and during the last crisis or disaster;
3. Identify the characteristics and strategies of disaster-resilient households; and
4. Identify the most highly rated interventions or services in building local disaster resilience.

The CoBRA methodology should not be perceived as a comprehensive or stand-alone tool for measuring resilience. The approach is largely a qualitative assessment tool, based on understanding resilience from a community perspective. It does not provide a quantitative measurement of the number or proportion of a population that has achieved resilience. The approach aims to learn from positive experiences by identifying households perceived to be resilient – to understand what those households have or do differently that enables them to cope better with shocks or stresses.

A key strength of the tool is the information it provides for further quantitative analysis. As the evidence presented in this document demonstrates, the analysis facilitates the identification of a handful of characteristics of resilience. This information can then be used by other stakeholders to identify a set of appropriate and manageable indicators for monitoring over time. This qualitative approach provides clarity and captures information on resilience pathways for communities that can’t easily be explained by quantitative approaches.
2. Field testing

All four CoBRA assessments were carried out in line with the implementation guidelines, which were developed based on a series of consultations with a wide range of stakeholders. This was the first time the guidelines had been used in practice, so they were adjusted and improved as the assessments proceeded. These are described in more detail below.

The field assessments were led by the UNDP Drylands Development Centre and government partners – the National Drought Management Authority (NDMA) in Kenya and the Office of the Prime Minister in Uganda. The assessments were participatory – multi-agency teams comprising government, UN and NGOs operating in the respective field sites facilitated and participated in each assessment.

2.1 Identification of field sites

Field sites were chosen to represent a range of drought-affected locations in the two countries, and specific study sites were selected to ensure representation of different livelihood zones and levels of intervention (see Table 1). Two sites, Marsabit and Turkana, are considered highly prone to drought, having experienced two severe droughts in the last five years (2009 and 2011). In both instances, the counties were declared highly food insecure and were the subject of significant humanitarian response. By contrast, the semi-arid Kajiado county in Kenya and the Karamoja sub-region in Uganda are also prone to drought but to a much lesser extent. Kajiado has not been considered highly food insecure for several years, and Karamoja was last the subject of a Famine Early Warning System Network food security alert in July 2008.

2.2 Approach

The CoBRA methodology uses participatory qualitative approaches in the form of focus group discussions (FGDs) and key informant interviews (KIIs) to

Table 1. CoBRA field assessments

<table>
<thead>
<tr>
<th>Country</th>
<th>County/sub-region</th>
<th>Locations/districts</th>
<th>Population*</th>
<th>Assessment dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>Marsabit</td>
<td>Marsabit Central, Laisamis and Maikon</td>
<td>87,000</td>
<td>4–15 June 2013</td>
</tr>
<tr>
<td>Kenya</td>
<td>Turkana</td>
<td>Turkana North, South, Central, East, West and Loima</td>
<td>179,000</td>
<td>24 June–6 July 2013</td>
</tr>
<tr>
<td>Kenya</td>
<td>Kajiado</td>
<td>Kajiado Central, Mashuru, Loitokitok, Kajiado North and Isinya</td>
<td>214,000</td>
<td>19–30 August 2013</td>
</tr>
<tr>
<td>Uganda</td>
<td>Karamoja</td>
<td>Kotido and Kaabong</td>
<td>160,000</td>
<td>15–26 July 2013</td>
</tr>
</tbody>
</table>

*Approximate total population of the surveyed locations/districts
Field testing

identify and prioritize the characteristics of resilience. In each field site, data collection was undertaken by three to four teams of four facilitators and one supervisor. Participating voluntarily, all the assessment team members are based and working in the assessment locations with various governmental and non-governmental organizations. Each team was given responsibility for undertaking 10–14 FGDs. Each took an average of two to three hours to complete.

Prior to undertaking FGDs and KIIs in the field, facilitators and supervisors received intensive training on the methodology. Training sessions took place in the main town in each of the assessment sites. They involved three to four days of exercises and one day of field testing, in which all trainees undertook one FGD and one KII in pairs. Afterward each team of two facilitators had individual debriefings with course trainers. Test FGD report sheets were included in the final survey results if they were deemed of adequate quality. Supervisors were responsible for supporting facilitators by maintaining quality and consistency in data collection and data entry during the field work.

Purposive sampling for FGDs and KIIs was used in each location. First, disaster-affected regions were selected. Then these were systematically narrowed down to livelihood zones and intervention levels that were sampled randomly, while ensuring adequate representation of men, women and youth. There is no statistical basis for the number of FGDs undertaken in each location or the various livelihood types or age and gender groups; the number of FGDs and KIIs completed was a factor of staff resources and time available. While the study is not statistically significant (and therefore cannot be transposed to the wider population), there was clear consistency and repetitiveness in the answers provided, suggesting that further sampling of similar populations would consolidate findings. It is believed that the 155 FGDs and 159 KIIs undertaken provide sufficient information for analysis and learning.

Focus group discussion

FGDs are the main method for collecting CoBRA assessment data. Typically, each FGD has approximately 15 participants who met the criteria of the sampling frame developed as part of the facilitators’ training programme. During the training, trainees were asked to identify the most appropriate approach to FGDs, to ensure that all views on resilience are heard. Facilitators repeatedly recommended that men, women and youth should participate in separate discussions, and the men were often separated into older and younger groups. For the purpose of the study, in view of the contexts of the assessment locations, youth were defined as aged 15–30. As local residents, facilitators were also responsible for mobilizing participants for FGDs by making links with elders, women’s groups and other networks in each location to identify suitable participants. Participation was entirely voluntary.

At the start of each FGD, facilitators were encouraged to spend some time explaining the purpose and rationale of the CoBRA assessment to the community participants. This issue was discussed in depth during the facilitators’ training, as the explanations are essential to managing participants’ expectations about receiving a direct intervention or benefit as a result of their participation. This is discussed further in the limitations section.

Another important issue, covered in detail in the facilitators’ training, was developing a consistent and locally understandable definition of resilience. It is a highly technical term, and a direct translation does not exist in most local languages. Consequently, facilitators were requested individually to translate the technical terms into local languages in simple terms using words and examples that ordinary people could
easily understand. These contextualized descriptions or definitions of resilience were then refined by the facilitator trainees and translated back into English and the local languages (see Box 3). This exercise ensured that all facilitators were using similar terms and definitions when explaining resilience as a concept to focus group participants and key informants.

After the explanatory session, the main focus group discussion proceeded by taking community participants through the following topics:

1. The main crises or hazards affecting that community;
2. A set of outcome statements describing the characteristics of a resilient community in their context;
3. Ranking of statements to identify the most important ones;
4. Scoring of the community’s progress in attaining the priority characteristics in both the current (ideally normal) and crisis periods;
5. Identification of resilient households in that community and the characteristics of these households;
6. Trends in resilience – whether the number of households considered resilient is increasing, decreasing or staying the same;
7. Recent factors/interventions that have improved resilience for some (or all) of the households; and
8. Future or additional interventions that participants feel would further build resilience.

Assessment team leaders and local facilitators jointly selected the focus group locations and the composition of the group in each site, using population data. The locations and people selected reflected a mix of the following criteria:

- **Livelihood zones** – pastoral, agropastoral and peri-urban, etc.;
- **High and low intervention areas** – locations that were relatively well served and those poorly served by basic services, infrastructure and other interventions; and
• Age and gender – people who represented a range of the population in terms of age and gender. The balance was agreed following discussions with the trainee facilitators as part of the training.

Key informant interviews

In each location, one to four KIIIs were undertaken with households perceived as resilient by the focus group participants. In some cases, resilient households were also identified through discussions with chiefs or other senior local residents. The KII is a semi-structured interview that solicits details on:

• Household composition, education level and livelihood/economic activity of each member of the household;
• Factors that have contributed to the household’s resilience;
• Pathways to resilience, i.e., steps taken by the household to become resilient;
• Actions or strategies the household took to cope with recent shocks and crises affecting that community; and
• Interventions and support that would best assist others in their community to become more resilient.

Table 2 summarizes the FGDs and KIIIs undertaken in the four assessment areas. Further details of sample locations are included in the assessment reports (Annexes 1–4).

<table>
<thead>
<tr>
<th>Assessment site</th>
<th>Number of FGDs</th>
<th>Number of KIIIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marsabit</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>Turkana</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Karamoja</td>
<td>36</td>
<td>40</td>
</tr>
<tr>
<td>Kajiado</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>155</strong></td>
<td><strong>159</strong></td>
</tr>
</tbody>
</table>

2.3 Constraints and limitations of data collection

Raised expectations

Initially focus groups expected that the teams of facilitators were there to undertake some form of needs assessment that would potentially result in a benefit or intervention for that community. To manage inaccurate assumptions, expectations and biases, a community mobilization exercise was undertaken in most locations prior to the FGDs to explain the purpose of the CoBRA assessment and clarify that no direct interventions were likely as part of it. An effort was also made to combine facilitators from different agencies and sectors on teams. This helped avoid bias towards the interests of specific agencies and sectors in the participants’ responses.

Scoring the attainment of resilience characteristics

After the resilience characteristics were identified and ranked, focus group participants were asked to score their level of attainment of the top-ranked characteristics. Facilitators were trained to undertake this exercise by asking participants to score on a scale from 0 to 10, with 10 being the complete attainment of that characteristic and 0 an absolute lack of that characteristic. This was done to ensure a uniform approach to measuring the level of attainment for the dynamic and diverse set of characteristics, including the characteristics unrelated to households, such as peace and security, and more qualitative characteristics, such as access to health care services. Some inconsistency was found in how people understood and scored the characteristics. Furthermore, the scoring of characteristics was sometimes skewed towards lower values, and it required more probing from facilitators to bring the values to seemingly realistic levels. It was also difficult for communities to objectively define the scale or level of attainment, which presented a challenge in most cases to both facilitators and respondents.
Reluctance to being identified as resilient

In some locations individuals identified by focus group participants as members of resilient households refused to accept this designation. They were concerned that accepting this label might lead to high expectations for peer support from other community members or result in their exclusion from development programmes or assistance. The assessment team took this sensitivity into consideration and strived to identify resilient households in a discrete manner while explaining the purpose and implications of the exercise fully to the individuals and focus group participants.

Changing livelihoods

In Karamoja, livestock holdings per household were reported to have fallen dramatically over the years, mainly because of cattle raids, recurrent drought, livestock diseases and increasing settlement of nomadic populations in the region. In addition, government initiatives to introduce ox ploughs have increased the acreage devoted to crop farming. Thus, some communities that used to be pastoral have lost grazing lands to subsistence crop farming and appear to be transitioning to crop farming, despite the unreliability of rainfall. This made it difficult for the facilitators to identify the appropriate livelihood category in some places. Consequently limited weight can be given to analysis by livelihood zone in that particular assessment in Uganda.

Women participants during CoBRA FGD in Laisamis district of Marsabit County, Kenya
This section summarizes the consolidated findings from the CoBRA field work conducted in the four sites. The findings are presented in the following categories:

- What are the main hazards or shocks facing the communities?
- What are the characteristics of a resilient community?
- To what extent has the community achieved those characteristics?
- What does a resilient household look like?
- What interventions contributed to household resilience, and what additional interventions would best build resilience?
- How did key informants achieve and maintain resilience?

### 3.2 Characteristics of a resilient community

Focus group participants were asked to state as many characteristics as they could think of to describe a resilient community. Typically each group provided 15 to 20 statements. The participants were then requested to rank and score the statements by importance. Each member was given six beans to rank the three most significant statements (three beans for the most significant statement, two for the second and one for the third) in terms of priority for building resilience. The bean scores were then totalled for each statement. For ease of comparison, the statements were grouped into the five sustainable livelihood framework (SLF) categories.4

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4 SLF presents the main factors that affect people's livelihoods and the typical relationships between them. It identifies five core asset categories or types of capital upon which livelihoods are built: financial, human, natural, physical and social. For further details on SLF, please refer to UK Department for International Development (DFID), Sustainable Livelihoods Guidance Sheets (London, DFID, 1999).
Table 3. Highly ranked community resilience statements

<table>
<thead>
<tr>
<th>SLF category</th>
<th>Resilience characteristic</th>
<th>Full statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td>Access to credit</td>
<td>People would have good access to affordable credit and would be saving money (through banks, microfinance institutions and community savings and credit).</td>
</tr>
<tr>
<td></td>
<td>Productive farms</td>
<td>Farmers would be more productive and profitable (i.e., they would have inputs like quality tools, oxen, fertilizers and improved knowledge of good farming practices).</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>There would be many opportunities for jobs and other forms of paid employment through government, factories or other businesses.</td>
</tr>
<tr>
<td></td>
<td>Diversified IGAs</td>
<td>Many households would be involved in other IGAs such as small businesses and trading.</td>
</tr>
<tr>
<td></td>
<td>Livestock herds</td>
<td>Pastoralists would have herds large enough to sustainably support their families.</td>
</tr>
<tr>
<td></td>
<td>Pasture and fodder</td>
<td>There would be sufficient pasture (or fodder) for livestock at all times of the year.</td>
</tr>
<tr>
<td></td>
<td>Health care for livestock</td>
<td>The community would have access to high-quality and affordable animal health services, including veterinary services and vaccinations, whenever they need them.</td>
</tr>
<tr>
<td>Human</td>
<td>Education</td>
<td>All children would be able to complete primary/secondary/tertiary education.</td>
</tr>
<tr>
<td></td>
<td>Food security</td>
<td>All households would be able to feed themselves well every day.</td>
</tr>
<tr>
<td></td>
<td>Health care for humans</td>
<td>The community would have access to quality and affordable basic health care locally.</td>
</tr>
<tr>
<td>Natural</td>
<td>Natural resource management</td>
<td>Local rangelands and other natural resources would be well managed so they do not become degraded over time.</td>
</tr>
<tr>
<td>Physical</td>
<td>Access to markets</td>
<td>The community would have easy access to markets to buy goods and sell their produce.</td>
</tr>
<tr>
<td></td>
<td>Irrigation</td>
<td>Farmers would be irrigating land to improve the production of crops for consumption and sale.</td>
</tr>
<tr>
<td></td>
<td>Roads</td>
<td>There would be good-quality roads to the community.</td>
</tr>
<tr>
<td></td>
<td>Sanitation</td>
<td>Everyone would have good sanitation.</td>
</tr>
<tr>
<td></td>
<td>Shelter</td>
<td>Everyone would live in good-quality housing.</td>
</tr>
<tr>
<td></td>
<td>Telecommunications</td>
<td>There would be a reliable mobile phone network to all communities all the time.</td>
</tr>
<tr>
<td></td>
<td>Water for humans</td>
<td>The whole community would have access to sufficient, good-quality water at all times of the year.</td>
</tr>
<tr>
<td></td>
<td>Water for livestock</td>
<td>Livestock would have access to sufficient water at all times of the year.</td>
</tr>
<tr>
<td>Social</td>
<td>Peace and security</td>
<td>The whole community would enjoy continual peace and security.</td>
</tr>
</tbody>
</table>

Table 3 lists the characteristics most commonly cited across the four study sites. It is important to note that there was little variation; the statements/characteristics were ranked similarly in all sites. (Each Annex contains a complete list of the statements identified and the corresponding scores, providing some context.)

Overall, education, water and peace and security were the most highly ranked characteristics of a resilient community. In most focus groups, statements addressing education often referred to and ranked secondary and tertiary levels of education as well as primary. In addition, while communities tended to have access to water in some form, the FGDs stressed the consistent availability of clean water as the main characteristic. In relation to peace and security, many communities felt their overall situation was better at the time of the...
assessments. However, many focus groups prioritized the statement with the caveat that any deterioration of peace and security could have an immediate and substantial impact on overall community resilience.

### Analysis by gender and age

Statements were also analyzed according to gender and age groups (see Table 4).

While some similarities in priority statements can be observed among the groups, there were also some key differences:

- **Women** consistently mentioned education and water for human consumption as priority resilience characteristics.
- **Men** tended to focus on peace and security, education and water for human consumption.
- **Youth** focused on education, but they were often more concerned with characteristics that build income and wage opportunities, including access to markets, access to credit, employment, and roads.

### Analysis by livelihood group

Table 5 summarizes the top resilience characteristics by livelihood group.

In almost all livelihood zones, education featured as a prominent characteristic of resilience. Some notable differences include:

- **Pastoral areas** consistently prioritized water for human consumption, which is logical given that they are generally least likely to be located close to permanent water sources. Access to livestock inputs was also highly rated when considered as a group: livestock herds, water, pasture and health inputs, etc.
- **Peri-urban groups** in Marsabit and Karamoja tended to mention peace and security more than the other groups. Many of the peri-urban groups were made up of pastoralists who were formerly more mobile and had larger herds but have become sedentary as a result of insecurity as well as lack of water and pasture, livestock diseases, etc.

### Analysis by intervention level

In each assessment site, survey sites were also selected to represent a range of core and peripheral locations. Before the field work, all sublocations (Kenya) and sub-counties (Uganda) in the target area were mapped to identify those with high, medium and low access to services and

<table>
<thead>
<tr>
<th>Gender/age group</th>
<th>Marsabit</th>
<th>Turkana</th>
<th>Karamoja</th>
<th>Kajiado</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>Peace and security Education Water for humans</td>
<td>Education Diversified IGAs Water for humans</td>
<td>Productive farms Education Livestock herds</td>
<td>Education Water for humans Health care for humans</td>
</tr>
<tr>
<td>Men</td>
<td>Peace and security Water for humans Education</td>
<td>Education Peace and security Water for humans</td>
<td>Productive farms Peace and security Education</td>
<td>Education Water for humans Health care for humans</td>
</tr>
<tr>
<td>Youth</td>
<td>Education Peace and security Water for humans</td>
<td>Education Access to markets Access to credit</td>
<td>Education Access to markets Access to credit</td>
<td>Roads Education* Water for humans* Employment*</td>
</tr>
</tbody>
</table>

*These three characteristics received the same scores.
interventions such as higher level basic services, roads, mobile phone network coverage, cash transfers, market access, etc. (see Table 6).\(^5\)

- Access to water for human consumption and education were consistently mentioned as key characteristics of resilience for both high and medium intervention areas.
- By contrast, low intervention areas, while also ranking education highly, put more emphasis on human health and to some extent peace and security.

### Table 6. Top three resilience characteristics by intervention level

<table>
<thead>
<tr>
<th>Intervention level</th>
<th>Marsabit</th>
<th>Turkana</th>
<th>Karamoja</th>
<th>Kajiado</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Peace and security</td>
<td>Education</td>
<td>Productive farms</td>
<td>Water for humans</td>
</tr>
<tr>
<td></td>
<td>Water for humans</td>
<td>Education</td>
<td>Education</td>
<td>Education</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Food security</td>
<td>Health care for humans</td>
<td>Health care for humans</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Diversified IGAs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>Peace and security</td>
<td>Education</td>
<td>Productive farms</td>
<td>Water for humans</td>
</tr>
<tr>
<td></td>
<td>Water for humans</td>
<td>Education</td>
<td>Education</td>
<td>Education</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Diversified IGAs</td>
<td>Livestock</td>
<td>Roads</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>Water for humans</td>
<td>Education</td>
<td>Productive farms</td>
<td>Education</td>
</tr>
<tr>
<td></td>
<td>Peace and security</td>
<td>Education</td>
<td>Education</td>
<td>Health care for humans</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>Health care for humans</td>
<td></td>
<td>Water for humans</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^5\) A full list services/interventions mapped is provided in each of the individual assessment reports in the Annexes.
No significant patterns emerged in the resilience characteristics identified by the different intervention level groups. All groups gave priority to characteristics generally identified with education. Peace and security and health were mentioned more regularly by the low intervention groups, which may reflect the fact that as insecurity increases the provision of many basic services decreases, as does NGO activity. This highlights the critical role insecurity plays in perpetuating an area’s low intervention status.

3.3 Extent to which communities achieved resilience characteristics

Focus group participants were asked to score the extent to which they had achieved their priority characteristics of resilience. They scored each statement twice: first for the current period (agreed to be a normal period) and second for the last significant crisis period. The scores are ranked on a scale from 0 to 10, with 10 being perfect attainment of that characteristic (for example, the entire community has access to sufficient safe water at all times during a calendar year), and 0 being no attainment (no one in the community has access to sufficient safe water at all times of the calendar year).

This section does not include the analysis by gender because focus groups were asked to rank the attainment of resilience characteristics for the entire community. Therefore any differences between men and women in the same community would be based on perceptions. For further details on the results per SLF category and by livelihood groups and level of interventions, please refer to the reports for each location in Annexes 1 through 4.

Analysis - all respondents

Table 7 provides the overall average scores of the perceived attainment rates for the top-ranked community resilience characteristics in normal/crisis periods in the four assessment sites. The top-ranked statements were not the same in every location; cells are left blank where that statement was not relevant to the location. Clearly, the scores represent the focus group participants’ context-specific perceptions, which are not statistically significant and should not be compared among the assessment sites. However, they do provide a useful sense of how the community members perceive different aspects of their resilience. This can be especially critical for measuring less quantitative factors such as peace and security.

Peace and security and water for livestock are the characteristics of resilience that had the highest attainment scores in the current period for most locations. This is likely due to favourable climatic patterns in the recent past and relative social stability. Other highly scored statements included pasture and fodder (Marsabit) and water for livestock (Marsabit, Karamoja and Kajiado).

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6 Communities in all areas considered the situation at the time of the assessments to be ‘normal’ except for the Kaabong district in Karamoja sub-region. Some focus groups at that site felt that the situation at the time of the assessment was bad. However, the crisis period to which they referred in scoring was a more intense flood crisis that took place the previous year.
While access to credit was scored highly in Kajiado (implying this was a characteristic that most of the community had attained), it was one of the lowest scoring factors for the three other sites. This is likely because of the proximity of Kajiado county to the capital city of Nairobi and the presence of many microfinance institutions in the area. Other characteristics that received a low score from two of the four sites include irrigation (Turkana and Kajiado), roads (Turkana and Kajiado) and employment (Karamoja and Kajiado). Characteristics that received a low score from one site included productive farms, telecommunications and livestock (herd size), representing highly varied sectoral conditions in the various contexts.

When the levels of resilience achieved in a normal period and a crisis period are compared, several points can be noted:

- In most locations, communities did not perceive that they had progressed towards attaining their priority characteristics of resilience (i.e., score mostly less than 5 out of 10 even in a normal period). This highlights the chronic underlying vulnerability of all these communities.
- It is not possible to compare the scores of one site with those of another to assess relative levels of resilience. First, as the assessments in each site were conducted independently, the scores cannot be seen as relative to each

### Table 7. Community attainment of resilience characteristics – three highest/lowest-ranked statements

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Current</th>
<th>Crisis</th>
<th>Current</th>
<th>Crisis</th>
<th>Current</th>
<th>Crisis</th>
<th>Current</th>
<th>Crisis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Marsabit</td>
<td>Turkana</td>
<td>Karamoja</td>
<td>Kajiado</td>
<td>Marsabit</td>
<td>Turkana</td>
<td>Karamoja</td>
<td>Kajiado</td>
</tr>
<tr>
<td>Overall average</td>
<td>3.7</td>
<td>2.4</td>
<td>2.5</td>
<td>1.3</td>
<td>4.8</td>
<td>1.9</td>
<td>3.5</td>
<td>2.3</td>
</tr>
<tr>
<td>Three highest scoring statements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pasture and fodder</td>
<td>6.7</td>
<td>2.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Peace and security</td>
<td>6.1</td>
<td>4.1</td>
<td>3.3</td>
<td>1.8</td>
<td>7.1</td>
<td>2.2</td>
<td>4.5</td>
<td>4.2</td>
</tr>
<tr>
<td>Water for livestock</td>
<td>5.9</td>
<td>2.9</td>
<td>-</td>
<td>-</td>
<td>5.2</td>
<td>1.6</td>
<td>4.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Livestock herds</td>
<td>-</td>
<td>-</td>
<td>3.2</td>
<td>2.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Natural resource management</td>
<td>-</td>
<td>-</td>
<td>3.1</td>
<td>0.7</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Education</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5.6</td>
<td>2.2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Access to markets</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5.2</td>
<td>2.3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Access to credit</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4.4</td>
<td>3.2</td>
</tr>
<tr>
<td>Three lowest scoring statements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to credit</td>
<td>1.0</td>
<td>0.5</td>
<td>1.4</td>
<td>0.8</td>
<td>3.7</td>
<td>1.3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Productive farms</td>
<td>2.0</td>
<td>0.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>2.1</td>
<td>1.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Irrigation</td>
<td>-</td>
<td>-</td>
<td>0.9</td>
<td>0.6</td>
<td>-</td>
<td>2.5</td>
<td>1.6</td>
<td>-</td>
</tr>
<tr>
<td>Roads</td>
<td>-</td>
<td>-</td>
<td>1.8</td>
<td>1.1</td>
<td>-</td>
<td>-</td>
<td>2.1</td>
<td>1.4</td>
</tr>
<tr>
<td>Livestock herds</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3.6</td>
<td>3.8</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Employment</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4.0</td>
<td>1.3</td>
<td>2.1</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Note: For each location and period, only the three top-ranked and bottom-ranked characteristics are listed.
other. Further, because each site had variations in its priority characteristics, the communities were not always ranking the same set of indicators. For example, in terms of food security and other human development indicators, Kajiado is relatively better off than the other sites, but its resilience scores were similar to the other areas. This may demonstrate the context-specific and dynamic nature of resilience concepts: while some characteristics are universally and persistently viewed as important (such as education), the priority of other characteristics changes over time as the members of a community transform their lives and livelihoods. An example is the recent shift of livelihoods from pastoralism to agriculture and other alternative livelihoods in Kajiado.

Nonetheless, there are interesting comparisons to be made in the differing gaps between the normal and crisis periods. Karamoja communities felt they had attained the highest level of resilience overall, but proportionately their scores dropped more significantly than elsewhere during a crisis period. There are several possible explanations for these results. One is that communities are better able to withstand shocks in Kajiado as a result of their higher level of development and access to markets. Conversely, as communities in Turkana already have such a low level of resilience, it is hard for the scores to fall further during a shock. Additionally, while Turkana is chronically underserved in all sectors, during crises it receives relatively comprehensive levels of humanitarian support in terms of food aid, cash transfers, water tankering, etc. This in turn may make the community feel more supported in crisis times, even though only for the short term. Karamoja, by comparison, is not so chronically underserved but may not have such comprehensive and timely response programming in place. Hence its communities are more heavily affected by shocks and crises.

### 3.4 What a resilient household looks like

Focus group participants were asked to describe the characteristics of households that were more resilient compared to others, that is, the households that had attained many or all of the resilience characteristics prioritized. The top characteristics of a resilient household, cited consistently by focus groups across all four locations, were:

- Having a member with employment or wage labour;
- Having a business or other IGAs less dependent on the weather;
- Having a large herd; and
- Having a large farm.

These are all largely related to diversification of risk, in the form of either alternative or reliable forms of income or significant assets (such as herds and land) that allow a family to absorb or mitigate the impacts of shocks and stresses. The section on interviews with key informants contains more detail on the interplay between the factors that propel a household towards greater resilience.

Focus groups were further questioned about whether the number of resilient households was increasing, decreasing or staying the same. Table 8 shows the average proportion of focus group members citing increasing resilience. As above, not every group was interviewed in every location, and therefore blank cells are left where the data were not gathered. Some of the findings include:

- Women tended to be more optimistic than men and youth, with the exception of Turkana, where youth were the most optimistic.
- There was little consistency across livelihood groups. In Marsabit and Kajiado, over 75 percent of the pastoral
respondents felt that resilience was increasing, whereas in Turkana and Karamoja 25 percent or less expressed that optimism. Agropastoral groups were very positive in Karamoja and Kajiado, but there was much more pessimism in Marsabit and Turkana. The proportion of urban and peri-urban groups sensing an increase in resilience similarly ranged from none to three quarters of the respondents. Groupings by intervention levels also showed no clear patterns.

The main explanation given by respondents for increasing resilience related to the positive spiral of improved access to education in the assessment locations: more educated children lead to better access to diversified IGAs, they felt, which in turn results in higher household and community prosperity and a more empowered community.

By contrast, the reasons for decreasing resilience were largely associated with concurrent drought, conflict, disease, limited resources and lack of employment/income-generation opportunities.

3.5 Interventions that contributed to household resilience

Communities were asked to list all the services and interventions they had benefited from in the last two to five years. A reasonably wide range of sectoral and public, non-governmental and private interventions was mentioned. These included water, education, livestock restocking, cash transfers, health services, mobile phone coverage, inputs to productive farms, roads and other livestock support. From this long list, each focus group was asked to identify jointly

### Table 8. Proportion of households citing increasing resilience

<table>
<thead>
<tr>
<th></th>
<th>Marsabit</th>
<th>Turkana</th>
<th>Karamoja</th>
<th>Kajiado</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall average</td>
<td>60%</td>
<td>46%</td>
<td>52%</td>
<td>63%</td>
</tr>
<tr>
<td>Gender/age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>69%</td>
<td>40%</td>
<td>62%</td>
<td>73%</td>
</tr>
<tr>
<td>Men</td>
<td>56%</td>
<td>43%</td>
<td>40%</td>
<td>46%</td>
</tr>
<tr>
<td>Youth</td>
<td>60%</td>
<td>58%</td>
<td>47%</td>
<td>67%</td>
</tr>
<tr>
<td>Livelihood groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agropastoral</td>
<td>38%</td>
<td>9%</td>
<td>67%</td>
<td>60%</td>
</tr>
<tr>
<td>Pastoral</td>
<td>76%</td>
<td>25%</td>
<td>10%</td>
<td>73%</td>
</tr>
<tr>
<td>Agricultural</td>
<td>-</td>
<td>-</td>
<td>50%</td>
<td>86%</td>
</tr>
<tr>
<td>Peri-urban</td>
<td>60%</td>
<td>-</td>
<td>75%</td>
<td>0%</td>
</tr>
<tr>
<td>Urban</td>
<td>-</td>
<td>18%</td>
<td>-</td>
<td>33%</td>
</tr>
<tr>
<td>Fishing</td>
<td>-</td>
<td>100%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Intervention level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>17%</td>
<td>59%</td>
<td>54%</td>
<td>50%</td>
</tr>
<tr>
<td>Medium</td>
<td>81%</td>
<td>36%</td>
<td>50%</td>
<td>67%</td>
</tr>
<tr>
<td>Low</td>
<td>71%</td>
<td>25%</td>
<td>50%</td>
<td>75%</td>
</tr>
</tbody>
</table>

Note: All figures below 50 percent are highlighted. Empty cells indicate the assessment did not focus on that livelihood group in that location.
the three current or previous interventions that had been most beneficial in building their resilience, and to explain why.

Groups were also asked to list the three additional interventions they felt would best build their resilience. Many communities restated interventions similar to those mentioned in the first list, with the justification that the current provision or scale of intervention was too limited and should be expanded. The most commonly cited interventions (combining present and future) are summarized in Table 9.

The table shows the repeated and clear priority given to water, education and health interventions. These interventions reflect the high ranking given to these factors as characteristics of resilience by all focus groups. Water interventions were prioritized for obvious reasons, particularly for improving food security and livelihoods. These included any

Table 9. Resilience-building interventions most commonly cited by focus groups

<table>
<thead>
<tr>
<th>Type of intervention</th>
<th>Marsabit</th>
<th>Turkana</th>
<th>Karamoja</th>
<th>Kajiado</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bursaries and scholarships; construction or renovation of school facilities, including boarding facilities</td>
<td>38</td>
<td>40</td>
<td>33</td>
<td>46</td>
<td>157</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water source improvement, improved storage capacity</td>
<td>48</td>
<td>35</td>
<td>33</td>
<td>33</td>
<td>149</td>
</tr>
<tr>
<td><strong>Health care</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvements to health services, staffing or facilities</td>
<td>20</td>
<td>26</td>
<td>29</td>
<td>32</td>
<td>107</td>
</tr>
<tr>
<td><strong>Inputs to productive farms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrigation, greenhouses, oxen, agricultural extension services, etc.</td>
<td>16</td>
<td>12</td>
<td>25</td>
<td>19</td>
<td>72</td>
</tr>
<tr>
<td><strong>Restocking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programmes restocking livestock, particularly with drought-resilient breeds or animals such as camels</td>
<td>28</td>
<td>15</td>
<td>10</td>
<td>3</td>
<td>56</td>
</tr>
<tr>
<td><strong>Access to credit or other forms of business support</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer of resources targeted at the most vulnerable populations such as the chronically food insecure (e.g. hunger safety net programmes) and children (e.g. child sponsorship programmes)</td>
<td>18</td>
<td>20</td>
<td>-</td>
<td>-</td>
<td>38</td>
</tr>
<tr>
<td><strong>Other livestock support</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livestock markets, health services, fodder for production, etc.</td>
<td>10</td>
<td>3</td>
<td>5</td>
<td>7</td>
<td>25</td>
</tr>
<tr>
<td><strong>Mobile phone coverage</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safe and constant access to markets for buying/selling goods</td>
<td>-</td>
<td>4</td>
<td>5</td>
<td>9</td>
<td>18</td>
</tr>
</tbody>
</table>

Note: Empty cells indicate the interventions were not cited in those locations.
interventions that expanded water sources and water storage facilities, such as tanks at household level or water pans at community level. Education was seen as a benefit in itself and one that would also lead to improved life chances, such as employment for children. Interventions such as scholarships, bursaries and boarding schools were regularly cited as important for ensuring that children completed higher levels of education.

Health interventions were also perceived as critical. Household resilience can be seriously undermined by the illness of a household member, leading to a significant loss of productive time and income, especially when health facilities and services are lacking or costly. Agricultural interventions also ranked highly in three of the four sites.

3.6 How key informants achieved resilience

The second major form of data collection for a CoBRA assessment is key informant interviews undertaken with members of households identified as resilient. Between 36 and 42 KIIs were undertaken in each assessment site, providing a total of 159 interviews for analysis. KIIs followed a semi-structured interview format that examined the following four areas:

- Composition and characteristics of the household;
- Pathways to resilience;
- Ability to cope with recent shocks and hazards; and
- Priority interventions recommended by resilient households.

Composition and characteristics of resilient households

The KII record sheet records the age, gender, education level and economic activity of all members of the household interviewed. The size of resilient households varied considerably from 1 to 14 members, with an average household size of 6 members for each site (Table 10). The table also shows the average educational attainment of members of resilient households and the average literacy rate for the area. Although the average literacy rate is not a directly equivalent comparison, it suggests that resilient households have significantly higher education levels than average. Additionally, the majority of school-age children in these households were reported to be in full-time education. In areas where very low proportions of the population have education, those with education are far better placed to access any job opportunities that arise. Education also improves commercial and financial literacy, enabling households to engage better with markets and develop IGAs.

All 159 key informants had household member(s) engaged in one or more of the following activities:

### Table 10. Size and education levels of resilient households

<table>
<thead>
<tr>
<th>Location</th>
<th>Marsabit</th>
<th>Turkana</th>
<th>Karamoja</th>
<th>Kajiado</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average household size</td>
<td>6.0</td>
<td>5.7</td>
<td>6.2</td>
<td>6.4</td>
</tr>
<tr>
<td>Percent of households with at least one member who has completed primary school</td>
<td>74%</td>
<td>69%</td>
<td>66%</td>
<td>89%</td>
</tr>
<tr>
<td>Percent of households with at least one member who has completed secondary school or higher</td>
<td>48%</td>
<td>43%</td>
<td>34%</td>
<td>69%</td>
</tr>
<tr>
<td>Average literacy rate for the area7</td>
<td>26%</td>
<td>18%</td>
<td>21%</td>
<td>55%</td>
</tr>
</tbody>
</table>

7 This is not a directly comparable statistic as it refers to individuals, not households; however, recent data on education completion rates per household are not easily available.
• Wage employment or casual labour;
• Business or petty trade;
• Livestock raising;
• Agricultural production; or
• Fishing (only in Turkana).

Table 11 shows the percentage of households benefiting from different income sources. In all sites, the great majority of resilient households had multiple income sources; only in Marsabit did the proportion of such households fall below 90 percent. Marsabit was also the only site where a significant number of resilient households relied exclusively on livestock, consisting of pastoralists with large herds. The table also shows that the diversified income sources do not replace their traditional agricultural or pastoral activities but are in addition to them. Turkana is the only site where more of the resilient households interviewed benefited from diversified livelihood income than from on-farm or fishing income.

In all assessment sites, the diversification of income sources emerged as the key characteristic of resilient households. Most were supplementing traditional on-farm activities with wage and/or business incomes. Table 11 shows the percentage of key informants who had multiple income sources and then breaks down the type of income relied upon.

These findings strongly reinforce the defining characteristics of resilient households cited by focus group participants. These characteristics were the only findings that were uniformly accepted by the participants in the validation workshops as valid in each assessment site.

Interestingly, a 2013 study by the Kenya National Bureau of Statistics and Society for International Development highlighted the clear link between individuals’ educational attainment and participation in the labour market in Kenya:

“People with no education in Kenya are 1.7 times more likely to have no work than people with secondary education or above. Employment for pay is higher for individuals with a secondary education in both rural (21.3 percent) and urban (43.2 percent) areas, even though employment for pay in urban areas is twice the employment for pay in rural areas. Overall, individuals living in urban areas who have no education are twice as likely to be without work as their rural counterparts. Higher educational attainment is associated with lower participation in agricultural activities.”

Table 11. Income sources of resilient households

<table>
<thead>
<tr>
<th>Location</th>
<th>Marsabit</th>
<th>Turkana</th>
<th>Karamoja</th>
<th>Kajiado</th>
<th>Total / average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of key informants</td>
<td>41</td>
<td>42</td>
<td>40</td>
<td>36</td>
<td>159</td>
</tr>
<tr>
<td>Percent with multiple income sources</td>
<td>75%</td>
<td>90%</td>
<td>98%</td>
<td>100%</td>
<td>91%</td>
</tr>
<tr>
<td>Percent with agricultural, pastoral or fishing income</td>
<td>80%</td>
<td>78%</td>
<td>95%</td>
<td>98%</td>
<td>87%</td>
</tr>
<tr>
<td>Percent with income-earning activities/ small business income</td>
<td>48%</td>
<td>83%</td>
<td>80%</td>
<td>86%</td>
<td>74%</td>
</tr>
<tr>
<td>Percent with wage or casual labour income</td>
<td>51%</td>
<td>45%</td>
<td>53%</td>
<td>58%</td>
<td>52%</td>
</tr>
</tbody>
</table>

Note: Figures do not add to 100% because each household can name multiple income sources.

Pathways to resilience

When respondents were asked how they became (and remained) resilient, responses were consistent in all assessment areas. Virtually all respondents cited their multiple income sources as the reason for their resilience. In particular, resilient households often mentioned non-farm income sources, which are generally less dependent on rain and thus less affected by drought.

Another regularly repeated theme was the use of one income source to expand or improve others and build assets. For example, households with a wage earner or business regularly explained that income from either of these sources had been saved and used to start or grow businesses, expand livestock herds or invest in agricultural production. The value of education in enhancing incomes was also repeatedly mentioned. Again, resilient households noted that having multiple incomes and more assets (especially bigger herds) enabled the households to keep more children in school for longer. Typically, these households could afford to sell livestock to pay school fees, which increased employment chances. Hence resilient households were in a positive spiral of income growth and asset accumulation.

Good livestock management, particularly timely destocking and restocking of herds, was repeatedly mentioned by resilient households in pastoral areas. The proceeds from timely sales of livestock were used to support the remaining livestock (for example, to purchase water, fodder, health care); pay for the households’ basic needs, such as food and school fees; and restock after the crisis period. This ensures that household herd sizes can ‘bounce back’ relatively quickly following a shock, including drought.

Over one quarter (27 percent) of respondents mentioned the role of saving and loans in expanding their income or income sources. This was most common in Kajiado and least in Karamoja. The majority of households were involved in some form of savings and credit group structures, while others borrowed from family or friends. In Karamoja, dowry payments were mentioned as an income used to start businesses or grow herds. A few respondents cited their good household management or their business-mindedness as factors supporting their resilience (see Box 4). Two respondents cited support they received from NGO projects as factors in making them resilient. One household was given a camel as part of a restocking project and another was a beneficiary of a voucher redemption project.9

Ability to cope with recent shocks and hazards

The majority of key informants referred to drought as the major hazard they had faced. Most indicated that they were better placed to cope with this crisis than others.

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9 The beneficiary was a trader in the project whereby the most food insecure were issued with vouchers for a certain locally available food item – milk, meat or fish. The vouchers could be redeemed with local traders who were in turn paid by the project. The increased and stable demand assisted in growing the traders’ business.
due to their additional income sources and assets. Those with wage and business income noted that these income sources were not so affected by drought and therefore could be relied upon through these periods. Timely sale of livestock was repeatedly mentioned by pastoral households as a coping strategy as well as a longer term route to resilience (i.e. longer term adaptation). Moving livestock to areas of good grazing and water was also mentioned by households with livestock.

Other coping strategies that were mentioned with less frequency included the use of savings (sometimes through savings or credit groups or structures); loans from friends and family; credit from traders; and reduction of expenditures and consumption.

A minority of respondents (approximately 10 percent) mentioned specific interventions as useful coping factors. These included cash/food for work schemes; cash transfers such as the hunger safety net programme in Marsabit and Turkana; training from NGOs; peace forums; and water tankering.

On the whole, it was clear that resilient households coped better with drought than others due to their higher and more diverse incomes. These are a result of longer-term adaptation and investments during and beyond drought crisis periods, such as keeping children in school or starting businesses in non-drought periods. Good herd management, including the timely sale of livestock, was the most significant short-term or immediate coping strategy that took place during or before a hazard period for pastoral groups.

Priority interventions

Key informants were asked for the three most important interventions to improve their communities’ resilience. Table 12 lists the four intervention areas most commonly cited by each of the four assessment sites.

The commonality of interventions cited across and between assessment sites shows a clear preference for interventions that increase productive assets and business skills, and hence income. Although many or all of these interventions were also mentioned by focus group participants,
Table 12. Resilience-building interventions most commonly cited by key informants

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Marsabit</th>
<th>Turkana</th>
<th>Karamoja</th>
<th>Kajiado</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Livestock production inputs</td>
<td>Access to credit, business support</td>
<td>Agricultural production inputs</td>
<td>Access to credit, business support</td>
</tr>
<tr>
<td>2nd</td>
<td>Access to credit, business support</td>
<td>Irrigation</td>
<td>Education</td>
<td>Good livestock management practices</td>
</tr>
<tr>
<td>3rd</td>
<td>Water</td>
<td>Education</td>
<td>Access to credit, business support</td>
<td>Education</td>
</tr>
<tr>
<td>4th</td>
<td>Agricultural production inputs</td>
<td>Water</td>
<td>Water</td>
<td>Agricultural production inputs</td>
</tr>
</tbody>
</table>

Key informants generally rated them higher. This is understandable, as the majority of these households have small businesses and a more business-oriented approach to their on-farm activities.

It is also notable that resilient households did not mention interventions related to humanitarian response, such as restocking and cash transfer programmes. Interestingly, in Kajiado, many respondents referred to actions that should and could be taken by households themselves rather than externally delivered interventions. This reflects a much greater level of self-reliance at this site, which has not had the same history of NGO and governmental humanitarian and development programmes. Consequently many idiosyncratic actions or interventions were mentioned in this area alone, such as “people should practice rotational grazing techniques” and “store acacia seeds for fodder”.

The findings of the CoBRA analyses were presented to local stakeholders, both community representatives and technical stakeholders, across all the sites where the assessment was conducted in both Kenya and Uganda:

- 3–4 September in Marsabit, Marsabit county;
- 2–3 October in Lodwar, Turkana county;
- 29–31 October in Kotido and Kaabong in Karamoja sub-region; and
- 6–7 November in Kajiado, Kajiado county.

The assessment results from Kotido and Kaabong districts were also presented to stakeholders at the national level in Kampala, Uganda, on 28 November 2013.

These sessions proved to be a critical process in the CoBRA methodology as they encouraged dialogue on community and household resilience among a diverse and dynamic set of stakeholders, both those drawn from the community and technical experts. They also helped establish a common local standpoint on the issues under investigation while cultivating ownership of the assessment results. This section highlights some of the main feedback points on the assessment outcomes, putting the findings in context.

In all the review and feedback workshops, participants largely agreed that the ranked resilience characteristics resonated well with the reality in these communities and, in general, the characteristics prioritized by the communities were what the stakeholders expected. They also acknowledged that a common thread of resilience characteristics emerged across all locations, even though the surveyed communities were diverse in terms of nationality, age, ethnicity, religion, sex and socioeconomic status.

The three most commonly cited and relatively equally prioritized resilience characteristics were in the areas of:

- Education;
- Water for humans; and
- Health care for humans.

Peace and security also emerged as a critical priority for resilience, particularly in the northern Kenya assessments (Marsabit and Turkana). The feedback sessions emphatically validated the two most highly ranked resilience-building interventions in all assessment locations, those involving the education and water sectors.

At the same time, all the feedback sessions noted that the communities failed to fully capture and appreciate the contribution

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10 To solicit participants for the technical workshops, NDMA sent invitations to relevant government, UN and NGO partners operating in the location, including all the organizations participating in the assessment. Participants in the community workshops were chosen to represent different livelihood, gender/age and intervention groups; some but not all had participated in FGDs/KIIs.
of natural resources management to local resilience-building, and the roles and importance of natural resource management were largely subdued both in priority resilience characteristics and resilience-building interventions. This was partly due to lack of awareness; given that these resources have always been present, they are taken for granted. Also, there has been limited community ownership of local natural resources across the assessment sites.

Many feedback sessions also raised a concern that the livestock sector was undervalued and did not feature as significantly as it should in the assessments, given the proportion of the population whose livelihoods depend entirely or partially on this sector. This could be attributed to the fact that the livestock-related characteristics were disaggregated during the analysis (such as large herds, access to livestock inputs and water for livestock) to allow for more in-depth insights and additional detail on potential resilience-building interventions in the sector. There is therefore a need to aggregate the livestock-related characteristics so that pastoralism receives sufficient priority for building resilience.

Participants in the feedback sessions expressed caution with regard to the resilience attainment scores, given that they are based on perceptions, which can be arbitrary and heavily influenced by externalities. For example, participants noted, the focus groups might have been influenced by current seasonal conditions (such as whether the session took place in the wet season or the dry season). Consequently, the feedback sessions concluded that even though these scores are useful for understanding community perceptions, they may not be fully objective. Thus they are not useful for purposes of comparison and should be complemented by other quantitative data.

In all the feedback sessions, participants agreed with the accuracy of the characteristics of resilient households in terms of education level and diversified income sources combined with pastoralism/farming and other IGAs.

In all cases, participants emphasized the important role the assessment results would play as a planning support tool, given that they largely represent community views, perspectives and aspirations on resilience-building. In particular, the stakeholders made the following specific recommendations:

- Continue to support pastoralists as a principal livelihood group, increasing the focus on services and interventions for improving livestock production and productivity.
- Develop opportunities to diversify livelihood options, with a next step of mapping out these opportunities and presenting them by relevance to locations.
- Disaggregate and investigate key characteristics more closely, such as education as a critical factor for resilience, and make an effort to determine what has hindered or improved educational development and what areas require greater investment (quality, enrolment levels, etc.).
- Identify ‘keystone’ indicators of resilience based on the assessment results for continuous monitoring of progress. For example, are there a number of indicators that can be monitored independently as key markers of resilience? These could then be monitored more effectively without introducing the other variables that could dilute or introduce noise into the analysis. Similarly, it would be useful to compare CoBRA indicators to existing data sets, such as poverty indicators, Household Economy Analysis data, etc.
5. Benefits of the methodology

The CoBRA methodology represents one of the very few practical tools that have been developed and tested to measure resilience at the community level. The process of developing and testing it has highlighted several benefits:

- **It allows the community to define resilience.** CoBRA does not attempt to pre-define the components or indicators of resilience. The participatory nature of the approach brings communities’ perspectives into the debate, giving them an opportunity to describe what resilience means to them as a community and as individual households. The characteristics and issues that have emerged have often diverged significantly from the priorities of government bodies and other development stakeholders.

- **It combines community and household characteristics:** The combination of community and household characteristics provides a holistic understanding of what resilience looks like in reality. It also helps in clarifying the links between household and community resilience. For example, household resilience is closely linked to financial security in terms of higher income and a diversified asset base. These characteristics of household resilience are emerging as consistent and universal in all locations. However, community characteristics of resilience are contextual, varying by location, although with many commonalities. It seems that household characteristics represent what resilience looks like as an end state or impact, whereas community characteristics highlight the key outcomes required to reach this end state. Hence education level is clearly linked with improving and diversifying household income.

- **It provides a basis for identifying quantitative impact and outcome indicators.** The community and household characteristics of resilience provide a valuable basis upon which to develop locally specific indicators. By using the communities’ prioritization of issues affecting or defining resilience, stakeholders can avoid being drawn into measuring indicators in every livelihood category. These quantitative indicators may already be a part of data collection/monitoring processes, or they could be added into them. It is not recommended that a CoBRA assessment be used to generate another major quantitative household survey. Ideally, by drawing on a relatively small set of indicators (5 to 10), local resilience can be measured and tracked more systematically over time. In addition, CoBRA findings can support identification of the most appropriate indicator to measure priority resilience characteristics. For example, many local authorities collect exhaustive data on education. However, where governments do not provide universal access to
secondary education, they may not be systematically collecting data on the percentage of households with at least one member having completed secondary education.

• It is relatively quick and inexpensive to undertake. A CoBRA assessment provides a substantial amount of information in a relatively short period of time and at significantly less cost than equivalent quantitative approaches. This is due to the participatory approach, which involves collaboration with local governmental and non-governmental organizations, which also provide technical and logistical backstopping support. Table 13 summarizes the direct costs of undertaking the four CoBRA assessments.

• It provides a good basis for strategic planning. CoBRA findings make a useful contribution to local strategic planning processes, as they represent community views on key issues. The communities’ ranking of the most useful interventions and services for building resilience provides valuable input in prioritizing local investment decisions. One of the main advantages of CoBRA stressed by the pilot users is that it can be undertaken without technical expertise (although actors working in development, DRR and community-based resilience-building will clearly be important to the process). The generic nature of the information generated means it can be equally useful to all government/NGO or development and humanitarian actors in a community. Consequently there are significant opportunities to share costs if organizations work together to undertake a CoBRA assessment in their sites.

Table 13. Direct costs of CoBRA assessments undertaken to date

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of districts</th>
<th>Number of FGDs</th>
<th>Number of KIs</th>
<th>Number of partners</th>
<th>Budget breakdown (US$)</th>
<th>Total (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marsabit</td>
<td>3</td>
<td>41</td>
<td>41</td>
<td>17</td>
<td>Training: 2,200</td>
<td>14,200</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Travel: 7,300</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Security: 400</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mobilization: 4,300</td>
<td></td>
</tr>
<tr>
<td>Turkana</td>
<td>6</td>
<td>42</td>
<td>42</td>
<td>26</td>
<td>Training: 3,000</td>
<td>16,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Travel: 5,100</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Security: 700</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mobilization: 7,200</td>
<td></td>
</tr>
<tr>
<td>Karamoja</td>
<td>2</td>
<td>36</td>
<td>40</td>
<td>30</td>
<td>Training: 1,900</td>
<td>12,600</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Travel: 3,200</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td>Security: 700</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mobilization: 6,800</td>
<td></td>
</tr>
<tr>
<td>Kajiado</td>
<td>5</td>
<td>36</td>
<td>36</td>
<td>21</td>
<td>Training: 1,500</td>
<td>9,700</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Travel: 1,000</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Security: 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mobilization: 7,200</td>
<td></td>
</tr>
</tbody>
</table>
5.2 Limitations of the methodology

Resilience is a highly complex concept. It is inherently multidimensional and dynamic, which is why so few practical measurement tools have been developed. Nonetheless it has limitations:

- **A CoBRA assessment is not a stand-alone measurement of resilience.** A CoBRA assessment should draw from and add to existing monitoring, measurement and assessment processes. It provides a community’s perspective on resilience and useful qualitative information on the important characteristics of resilience; however, it does not offer a definitive quantitative measurement of resilience in terms of clearly identifying how many communities or households in an area have achieved some or all of these characteristics.

- **Resilience attainment scores are perceptual and subject to change.** The resilience attainment scores are based on perceptions and are not statistically significant, so they cannot be extrapolated to a wider audience. In the pilot it was extremely difficult to assess how communities scored the current/normal period. Some communities focused on the current season rather than an average for the whole year, which has implications for seasonally variable characteristics such as water availability or security. The scores should rather be understood as a key reference to foster deliberations on specific livelihood/age/gender groups and sectoral resilience characteristics. During the review and feedback sessions, questions such as why certain groups score certain characteristics as they do often led to unique contextualized discussions, which provided rich information for decision-making. These tend to be overlooked in broad countywide or district-wide planning, implementation and monitoring processes.

- **Resilience attainment scores are not comparable between locations.** Resilience scores cannot be compared between locations, as they are derived from separate conversations in different contexts and therefore do not relate to each other in any systematic way. This is illustrated by the equally low attainment scores for Kajiado and Marsabit, despite Kajiado being seen as much more resilient to drought than Marsabit by most other resilience metrics. It is also not clear whether resilience attainment scores in a community can be tracked over time with any consistency. The priority characteristics are largely a function of the long-term visions and perspectives of the communities and hence are expected to remain unchanged for some time. However, as communities are constantly transforming their lives and livelihoods, a repeat CoBRA assessment in the same sites after several years might also result in the selection of a different set of priority characteristics. As demonstrated by the cases of Kenya between arid regions (e.g., Marsabit and Turkana) and semi-arid regions (e.g., Kajiado), it seems likely that as characteristics receive more attention over years, they may become less of a priority.

- **CoBRA cannot be used to evaluate individual programmes or services.** Many agencies are looking for resilience assessment tools that can be used to measure the degree to which their particular programme or support influenced a community’s resilience. CoBRA cannot respond to this demand, and it is questionable, given the nature of resilience, whether any tool can. CoBRA findings reinforce the multidimensional nature of resilience and the need for interventions involving several sectors and agencies, often at scale. Consequently, CoBRA cannot replace individual project or programme evaluations.
5.3 Indicators of resilience

The identification of appropriate indicators to measure resilience is a key debate among stakeholders working in the area of resilience-building. The conceptual framework for this study is based on the premise that resilience can be measured in two ways:

1. A universal measure or indicator(s) of resilience supports understanding of whether resilience is increasing, decreasing or staying the same; and
2. Composite and contextually specific indicators of resilience support understanding of how local drivers of resilience are expanding or contracting, and the impact of interventions on those drivers.

A universal measure of resilience

The almost uniform evidence of resilient households having multiple sources of income and a strong asset base indicates there is potential for measuring absolute resilience. Clearly, resilience involves several dimensions – so, for example, the drivers of change that allow a family to have multiple sources of income may include education (linked with broader income-generating opportunities such as wage labour), access to credit (to facilitate income generation and diversified livelihoods) and sufficient water (to support a livestock herd or improve agricultural output).

These findings confirm the hypothesis underpinning the conceptual framework: that households would define themselves as resilient if they were able to feed their families adequately every day and meet basic needs on a consistent basis in times of shock and stress as well as in ‘normal’ times without external relief. Quantifying this ability to cope, i.e., resilience threshold, would then provide a universal indicator of resilience.

One of the most suitable monitoring tools tracking resilience is the Household Economy Approach (HEA). Using detailed household-level data to compare conditions in a reference year to those in the current or modelled year, it assesses the impacts of changes on households’ ability to meet a set of defined minimum survival and livelihoods protection requirements. It collects data on all sources of household income and assets, as well as information on how these various sources expand and contract in response to shocks and stresses.

For the purpose of analysis, this study proposes to link the ‘resilience threshold’ to the ‘livelihoods protection threshold’, which represents the total income required to sustain local livelihoods (see Figure 2). To be disaster resilient, a household (or community) should be able to maintain a sufficient level of income and production above the livelihoods protection threshold during both normal periods and crisis periods to meet the minimum required expenditure and consumption. In the HEA, this threshold consists of multiple sources of income and assets sufficient for the family to ensure survival, maintain access to basic services and sustain livelihoods.11

11 Note that the CoBRA conceptual framework contains more detail on the HEA.
In the case of the most common climate-related shocks (such as drought and flood), households generally experience a reduction in income and production, largely related to a decline in weather-dependent activities, including rain-fed agriculture and livestock production. Households could be considered resilient if they have other sources of income and production or some form of contingency buffer exceeding the expected losses arising in a crisis period, and if they can resume levels of income and production in a timely manner after the crisis period.

This finding is supported by other efforts to measure resilience. For example, a recent study by Save the Children assessed consolidated data sets for the HEA and Cost of Diet (the minimum amount of money a household must spend to meet its energy, macronutrient and micronutrient requirements using locally available foods) in an attempt to find common trends around food security, assuming that a food-secure household can cope with disaster risk. The patterns suggest that households that can manage change have multiple sources of income and access to wage labour, and their livestock is an essential source of cash income. These findings hold in all livelihood zones, echoing the findings from the CoBRA assessment. To this end, the HEA, described in greater detail in the conceptual framework, may provide a potential tool for modelling the ability of households to access enough income and assets to meet basic needs, in both shock and ‘normal’ times. This would allow for quantitative tracking of resilience levels using existing data sets.

**Indicators for components of resilience**

At the same time, the CoBRA assessment also provides a wealth of information on the development of indicators for components of resilience. As mentioned in the previous section, the four assessments to date have consistently highlighted the same household characteristics of resilience. Community characteristics are more varied, but with strong commonalities. Linking these characteristics with quantitative indicators that could be tracked over time is the logical next step for the CoBRA methodology. Theoretically, this would provide more information on the number of households that are resilient and trends in the factors driving resilience.

---

Table 14 provides an example of impact and outcome indicators that could be used to track resilience more quantitatively in Marsabit based on CoBRA assessment results. For each indicator the table highlights some of the challenges and issues associated with this approach.

### Table 14. Mapping CoBRA characteristics of resilience using quantitative indicators: Marsabit, Kenya

<table>
<thead>
<tr>
<th>Marsabit CoBRA assessment findings</th>
<th>Top 3 community characteristics of resilience</th>
<th>Top 3 household characteristics of resilience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators</td>
<td>Peace and security</td>
<td>A household member has employment/wage labour</td>
</tr>
<tr>
<td></td>
<td>Education to secondary/tertiary level</td>
<td>Household has a business or IGA(s)</td>
</tr>
<tr>
<td></td>
<td>Water for humans</td>
<td>Household has a large herd (at least 200 shoats and 50 camels/cattle)</td>
</tr>
<tr>
<td>Challenges/issues</td>
<td>The income level (X) would need to be agreed. The national figure used to calculate the proportion in absolute poverty would likely be too low. Measures such as the ‘livelihoods protection’ threshold used in HEA could be used. The figure represents total income required to meet all basic needs, achieve an acceptable minimal living standard and sustain livelihoods in the medium to longer term. This would be locally defined drawing from local cost data.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>This indicator is rarely if ever measured, but it could be extrapolated from national census or household budget surveys. Such data are rarely collected more often than once per decade and rarely include a large sample size from sparsely populated drought-affected areas. Data are also unlikely to identify unsustainable or damaging income sources that need to be excluded, such as charcoal production or child labour.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pastoral households often understate livestock figures, which are hard to verify. Those with large herds may have low incomes, as the majority of their wealth is stored as livestock. Therefore it may still be difficult to understand the overlap between the suggested income and asset indicators mentioned to get a final figure on the percentage that has achieved ‘resilience’.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>There are few areas with ongoing systematic data collection on peace and security. Gaining consensus on a single proxy indicator such as the one shown is likely to be difficult as there is no single widely accepted indicator on peace and security. Consequently an index of several indicators may be required. Agencies would need to consider how and when these data should be collected as part of standard data collection processes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>There is a heavy focus on the collection of data on primary school attendance and completion rates in line with Millennium Development Goal and national targets. Census and household budget surveys may collect this information but not with sufficient frequency or sample size.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Data on water sources rarely capture information in this way. However, continuous access to water is likely to be a major factor affecting household productivity.</td>
<td></td>
</tr>
</tbody>
</table>
6. Conclusions and recommendations

6.1 Conclusions

Key findings

Four full CoBRA assessments have been completed to date. Overall assessment findings have highlighted the following:

- Communities consistently highlight several priority characteristics to describe a resilient community. The common characteristics that were highly prioritized in all the assessment locations include:
  - **Education**: All children would be able to complete primary/secondary/tertiary school;
  - **Water**: The whole community would have access to sufficient safe water at all times of the year; and
  - **Peace and security**: The whole community would enjoy continual peace and security.

There are also some prominent differences in ranking of these characteristics depending on local ecological and socioeconomic conditions.

- Resilient households are consistently described as those that have greater income and assets built through diverse sources. This is emerging as the potential basis for ‘universal’ indicators of resilience. The most common feature of resilient households noted through the FGDs and KIIIs is their multiple income sources, which tend to combine traditional on-farm activities (pastoral and crop farming) and other on- or off-farm IGAs such as wage labour and small business. The resilient households with single income sources have either a large herd or a large farm. Access to credit, savings groups, village savings and lending associations, and training on alternative livelihoods were all stressed as key resilience-building interventions to be promoted further.

- Communities perceive their attainment levels of resilience characteristics as extremely low, even in times of no crisis or hazard. This underlines the very low levels of development and high vulnerability experienced in these locations, and the very negative community perceptions of resilience. Drought and other hazards merely exacerbate these vulnerabilities. However, some characteristics and locations are more vulnerable to drought hazards than...
The priority characteristics of resilience identified in a target community through CoBRA can be used as a critical decision support tool to inform policy, planning and programme/project processes at different levels. The assessment highlights how these characteristics vary between different locations, groups or contexts, which can be used to help tailor resilience programming.

The characteristics identified and prioritized by the communities can in turn be used to identify keystone indicators of resilience for more systematic tracking. The keystone indicators can be both universal and contextually specific, leading to a potential resilience threshold. The priority resilience characteristics and their attainment scores collected through the initial CoBRA assessment may serve as the baseline, which can also be used to identify keystone indicators that can be monitored over time through repeat monitoring to see how communities perceive changes in these characteristics.

The CoBRA assessment provides data on the most highly rated interventions or services in building local resilience, which can also inform community-based programming and wider policy and practice. As part of the assessment, communities and resilient households are asked to prioritize the interventions they believe best build resilience. Unsurprisingly, the interventions tend to mirror the priority characteristics of resilience. Typically, top-rated interventions are improved access to, quality of and efficiency in education, water, human health, roads and markets. Importantly, such interventions include both long-term and short-term investments and factors that are not always considered a part of DRR and/or wider development strategies.

For the DRR approach to help affected populations become truly resilient and others. In Kajiado, for example, levels of development are relatively high, yet the people score themselves very poorly on resilience. This is believed to relate to the following factors: (1) Regardless of their development status, communities always feel they lack certain aspects of resilience, which they assign a low attainment score relative to other factors; (2) Kajiado suffers from a chronic lack of some basic services; and (3) rural/pastoral groups were the focus of the surveyed population in Kajiado, and they experience low development indicators compared with the wider urban population in the towns just outside Nairobi.

The most highly ranked characteristics of resilience do not often correspond with priority interventions by governments and their partners. When the most highly rated characteristics affecting resilience are compared with the portfolio of projects and interventions provided to the same communities, there is often a mismatch. For example, completing secondary and tertiary education is regularly cited as a key characteristic of resilience, but support for expansion of access to education is rarely prioritized in programming in these areas. Equally, communities do not always prioritize characteristics that should be part of any investment in resilience. For example, in feedback sessions, local stakeholders consistently cited communities’ failure to prioritize natural resource management, which stakeholders saw as a key gap.

Implications for community-based resilience programming

The findings from the CoBRA assessment can be used to support DRR and resilience programming in a number of very practical ways. These can be summarized in relation to the CoBRA model presented in Figure 1, as well as the four objectives of the CoBRA assessment outlined previously:
cope with future shocks and stresses independently, the risk reduction concept and strategy need to be broadened.

- The study provides strong evidence that interventions that demonstrably increase and diversify income should be a core focus of any community-based programming. The feedback consultation strongly and consistently supported the principle that resilience is a factor of income and assets. However, it is critical to incorporate the sources of income into this analysis. Diversification of income can lead to increased reliance on unsustainable activities, such as charcoal production, that may increase resilience in the short term but are not suitable for the long term and could ultimately undermine resilience. In general, resilient households undertake a combination of on-farm and off-farm IGAs.

6.2 Recommendations

The findings from the CoBRA assessments lead to a number of practical policy recommendations to spur innovative and entrepreneurial capacities of drought-affected dryland communities in the Horn of Africa.

1. CoBRA findings should be used to identify a locally validated list of resilience indicators that government authorities and other stakeholders can use to monitor progress and impact. Including communities’ definitions of resilience is important not only as a participatory exercise, but also as a means of understanding local contextual factors that drive or undermine resilience.

   CoBRA findings should also support the development of more streamlined monitoring frameworks for both national/regional (i.e., regional and county programming papers of the Intergovernmental Authority for Development’s Drought Disaster Resilience and Sustainability Initiative) and local climate-resilient development planning processes. Stakeholders need to review current data sets to determine if and how indicators identified through the CoBRA process are already being collected. Data collection processes may need to be revised or standardized to ensure that appropriate information is collected regularly on certain topics, such as secondary school completion rates or peace and security.

2. Policy and planning frameworks need to refocus on activities that build and diversify incomes and assets in the drylands. The finding on the link between resilience and higher levels of income and assets derived from multiple sources has important implications for governments and donors seeking to understand how to allocate resources to best build resilience. Increasing access to credit, strengthening savings groups and improving commercial literacy and business skills are all key interventions in this regard.

3. Activities that support the achievement of community-identified characteristics of resilience need to be a key focus. The high ratings universally given to education, water, health and peace and security for community resilience mean that these factors will drive change that enables households to develop multiple sources of income and make other positive changes. Education can link people to broader income-generation opportunities, especially off-farm activities such as wage labour. Access to credit can facilitate various IGAs and help diversify livelihoods. Water is key to both human and ecosystem health and economic development, contributing directly to livestock/agricultural production and productivity. These linkages are not necessarily systematically addressed in current policy and planning frameworks.
4. Policy and planning need to increase their emphasis on raising awareness of natural resource management, particularly the critical role natural resources can play in the drylands in the face of shocks and stresses. The CoBRA assessment demonstrates a key gap in communities’ awareness of the importance of natural resources and of maintaining the long-term health of local ecosystems that form the basis for their livelihoods. There is a risk that people will be more prone to engage in activities that may build diverse incomes that are unsustainable (such as charcoal production).

5. CoBRA results stress the need for coordinated and concerted action among actors at different scales – including hardware and software, long term and short term, and small and large investments. Some of the perceived priority characteristics – such as peace and security, secondary/tertiary education and roads – are not systematically integrated into development and humanitarian support. Ignoring these costly and long-term interventions and instead focusing on less costly investment may lead to false economies. Communities consistently highlighted interventions that enhance access to markets, savings and credit as highly beneficial for enhancing community/household resilience, and these should be prioritized in the short term. Their success, however, may be handicapped if larger scale interventions continually fail to be developed in tandem. Greater support for a coordinated approach will be required to ensure resilience in the long term.

### 6.3 Next steps

- **Work to improve the mapping of CoBRA-identified characteristics of resilience with standard indicators from existing data sets.** The CoBRA assessments to date have identified a repeated set of household and community characteristics of resilience. Further work needs to be done, ideally with a wider group of stakeholders, to identify proxy indicators (in each country or sublocation context) that would best statistically measure their attainment. In the Horn of Africa many efforts are under way to develop and monitor resilience frameworks, and few have successfully implemented any monitoring systems. CoBRA-identified indicators could be used to feed into this process.

- **Use CoBRA assessment findings to identify and analyse existing datasets to examine the links between household and community characteristics.** Once a set of resilience indicators has been identified, existing data sets can be examined to ascertain the statistical relationship between household and community level indicators. Effectively this would enable the verification and triangulation of the hypothesis emerging from CoBRA findings – that improvements in community-level characteristics of resilience will result in an increase in the proportion of ‘resilient’ households as defined by indicators around income and asset wealth and diversity.

- **Continue to rollout CoBRA Assessments to improve the methodology.** CoBRA is not designed to use statistically significant, quantitative data collection processes, for two reasons. First, the cost would be prohibitive and would limit the ability of agencies to engage in the process. Second, resilience is made up of a variety of quantitative and qualitative factors, and therefore a purely quantitative assessment would not capture the full picture of characteristics of resilience. However, it could be helpful to design a more systematic research sample in a given location, using control and sample communities, to test whether the findings of CoBRA are corroborated by a more statistically significant approach, such as by focusing on a single livelihood zone, sublocation...
or parish type. In the latter case an assessment of 35 to 40 FGDs would likely provide a representative sample of the population. It may also be possible to examine the impact (retrospectively) of some forms of interventions, particularly long-term multisectoral approaches such as community managed disaster/drought risk reduction when compared with control villages in the same area. Each additional CoBRA assessment improves our understanding of the methodology and how it can be improved or revised to become more effective. In particular there is a need to consider undertaking smaller scale CoBRA assessments.

- **Consider how often to undertake repeat CoBRA assessments.** The CoBRA assessment is designed to measure changes in resilience over time. It is not recommended that the assessment be repeated in the same set of sublocations every year. Instead, it may be possible to monitor change using proxy indicators as they are developed. Given the longer term and multisectoral nature of resilience and the interventions the CoBRA highlights as most valuable, it may be some years before a repeat assessment would offer significant additional information. However, repeat monitoring is likely to be particularly important after a crisis period, to measure perceived change in response to a crisis.

6.4 **Suggested improvements to the CoBRA methodology**

The following recommended improvements emerged from a comprehensive review of the results of the four CoBRA assessments undertaken in 2013. They apply to use of the methodology in the Horn of Africa and beyond.

- **Reduce the focus on resilience ‘scores’.** The scores provided by communities on attainment of key resilience characteristics have some value, particularly in highlighting the underlying lack of many services and amenities and the areas that are most or least affected by hazards. However, they should not be the focus of the CoBRA methodology, in part because attempting to establish a single score for resilience in any absolute sense may be impossible given the contextual nature of the concept. It is recommended to instead concentrate on measuring communities’ perceptions of trends in the key characteristics of resilience. An example would be the extent to which they feel that a particular characteristic, such as access to water, has improved, declined or stayed the same over a specific period of time. The pilot assessments revealed that communities consistently score their achievement of priority characteristics very low, but it is not clear if this low score is higher or lower than previously. Measuring trends would help to clarify whether communities see themselves on a positive or negative resilience pathway despite ongoing hazards and shocks.

Therefore, once the group has prepared a short list of top-ranked resilience statements, it is recommended that participants be asked, “Over the last five years, has your community’s attainment of this characteristic improved, worsened or stayed the same?” Answers should be coded 1–5 as follows:
1. Significantly better
2. Somewhat better
3. Stayed the same / no difference
4. Somewhat worse
5. Significantly worse

This question would be asked before participants are asked to score their current levels of attainment from 0–10. Clearly this modification should be tested and revised depending on results.
• Improve the identification of key resilience indicators. The CoBRA assessment reports completed to date make recommendations addressing indicators that agencies could consider collecting to track progress on key resilience characteristics. If successive CoBRA assessments highlight similar characteristics, particularly the household characteristics, it might be useful to work with other stakeholders to identify standard proxy indicators for each. The challenges outlined in Table 14 should be considered by wider groups of stakeholders, ideally led by the appropriate government agency.

• Revise the graphics used to depict the characteristics identified by communities. The CoBRA implementation guidelines include a set of standard photos or graphics that attempt to represent the characteristics they mention. These are very useful in helping communities with high proportions of illiterate members to ‘bean score’ their priority characteristics. However, some photos can be misleading or poorly understood by communities, so it may be easier to use simpler graphics to represent some characteristics, such as community empowerment or diversified livelihoods.

• Expand the selection of survey sites to include those receiving humanitarian as well as developmental interventions. The selected survey sites for FGDs and KIs include a balance of ‘high’ and ‘low’ intervention areas. This mapping of interventions is done with local facilitators as part of the CoBRA training. The interventions mapped to date have tended to focus on ‘development’ oriented services, such as health and education facilities and roads. It is suggested to include in intervention mapping some humanitarian interventions, such as commercial/slaughter destocking or water tankering, that were provided during the last crisis. This might enable better analysis of changes in resilience scores between normal and crisis periods.

• Widen the list of interventions selected by communities to include private and community sources. The long list of interventions given by focus group participants tends to focus heavily on NGO and government services and programmes. This is understandable given that FGDs are generally undertaken by teams comprised of staff from these organizations. However, our understanding of the value of support and changes emerging from the private sector and within community sources is more limited. It is not clear how facilitators can support groups to consider these more fully without being too suggestive and thereby skewing the list. More consideration and testing of different facilitation techniques should take place.
Annex 1

Community-based Resilience Analysis Assessment Report

Marsabit Central, Laisamis and Maikona districts
Marsabit county, Kenya

Commissioned by UNDP Drylands Development Centre

Under the framework of the
European Commission Directorate General for Humanitarian Aid and Civil Protection’s
Drought Risk Reduction Action Plan
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1. Introduction

The comprehensive Community-Based Resilience Analysis (CoBRA) assessment was undertaken in three districts of Marsabit county, Kenya, from 3 to 15 June 2013. The exercise was carried out with financial support from the European Commission Directorate General for Humanitarian Aid and Civil Protection under the framework of its Drought Risk Reduction Action Plan. This assessment builds on an initial field trial of the draft CoBRA tool undertaken in late 2012.

The multi-agency assessment was jointly led by the United Nations Development Programme (UNDP) Drylands Development Centre (DDC) and the Government of Kenya's National Drought Management Authority (NDMA). Logistical and practical support was provided by Food for the Hungry's (FH) Kenya office. A wide range of international and local NGOs operating in the area also participated in the assessment by providing local staff as facilitators to undertake CoBRA training and fieldwork. A list of agencies participating in CoBRA training and/or field data collection is included in Appendix 1.

CoBRA assessment has four broad objectives:

1. Identify the priority characteristics of resilience for a target community;
2. Assess the communities’ achievement of these characteristics at the time of the assessment and during the last crisis/disaster;
3. Identify the characteristics and strategies of resilient households; and
4. Identify the most highly rated interventions or services in building local resilience.

This report outlines findings of CoBRA Marsabit assessment. It also incorporates the key feedback and consolidated inputs generated at review and validation workshops for the draft assessment report. These were conducted for community representatives on 3 September and for local government and non-governmental technical stakeholders working in the area on 4 September.

A detailed explanation of the conceptual framework underpinning the methodology is contained in the CoBRA Conceptual Framework and Methodology document.¹

2. Approach

2.1 Characteristics of field site

The field assessment was conducted in three districts (Marsabit Central, Laisamis and Maikona) of the newly formed Marsabit county, in northern Kenya, bordering Ethiopia. The population of these randomly sampled districts represents 61 percent of the total county population, which is estimated at 291,166.² Within these 3 sampled sub-districts, 17 administrative sampling locations were selected for the assessment (Figure 1), reflecting pastoral, agropastoral and urban/peri-urban livelihood zones. The sampling frame listing the locations where focus group discussions (FGDs) and key informant interviews (KIIIs) were undertaken is shown in Table 1.

Marsabit was chosen for CoBRA assessment because it is one of the most arid and drought-affected areas of Kenya.³ It remains one of the poorest counties in the nation, with 76 percent of the population living under the poverty line, according to the Kenya National Bureau of

Statistics.\textsuperscript{4} Education and health indicators are unsatisfactory, and the county has limited infrastructure. Substantial portions of the population are either food-insecure or chronically hungry. Just 26 percent of the people can read and write.\textsuperscript{5}

With a surface area of 70,961 square kilometres, Marsabit is a sparsely populated county with an average density of four persons per square kilometre. It is predominantly inhabited by the pastoral communities of the Rendille, Gabra and Borana. The population is concentrated in the higher and slightly less arid areas around Marsabit town and Moyale. The people are predominantly semi- or fully mobile pastoralists with some agropastoralists on the mountain around Marsabit town and the hilly areas of Moyale. The first tarmac road, to Merille, in the far south of the county, was completed only in the last couple of years.

In common with much of northern Kenya, Marsabit has experienced repeated droughts in recent years. The most recent was in 2011, when the Kenyan government\textsuperscript{6} classified Marsabit’s status as ‘emergency’, with 77 percent of the population identified as needing food aid. Drought impact is exacerbated by

\textsuperscript{5} Kenya Commission of Revenue Allocation, County Fact Sheets, December 2011.
\textsuperscript{6} Kenya Food Security Steering Group, 2011/2012 Short Rains Season Assessment Report, January 2012.
Table 1. FGDs and KIIs undertaken for CoBRA Marsabit assessment

<table>
<thead>
<tr>
<th>District</th>
<th>Location</th>
<th>Population</th>
<th>Livelihood zone</th>
<th>No. of FGDs</th>
<th>FGD composition</th>
<th>No. of KIIs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marsabit Central</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dakabaricha</td>
<td></td>
<td>4,240</td>
<td>Peri-urban</td>
<td>2</td>
<td>Females (all ages); mixed youth</td>
<td>1</td>
</tr>
<tr>
<td>Hula Hula</td>
<td></td>
<td>2,880</td>
<td>Agropastoral</td>
<td>2</td>
<td>Male elders; mixed youth</td>
<td>4</td>
</tr>
<tr>
<td>Karare</td>
<td></td>
<td>3,365</td>
<td>Agropastoral</td>
<td>2</td>
<td>Females (all ages); mixed youth</td>
<td>2</td>
</tr>
<tr>
<td>Songa</td>
<td></td>
<td>3,079</td>
<td>Peri-urban</td>
<td>2</td>
<td>Females (all ages); mixed youth</td>
<td>2</td>
</tr>
<tr>
<td>Dirib Gombo</td>
<td></td>
<td>4,220</td>
<td>Agropastoral</td>
<td>2</td>
<td>Male elders; mixed youth</td>
<td>2</td>
</tr>
<tr>
<td>Sagante</td>
<td></td>
<td>4,737</td>
<td>Agropastoral</td>
<td>2</td>
<td>Male elders; female elders</td>
<td>2</td>
</tr>
<tr>
<td>Jaldesa</td>
<td></td>
<td>3,452</td>
<td>Agropastoral</td>
<td>2</td>
<td>Male elders; females (all ages)</td>
<td>2</td>
</tr>
<tr>
<td><strong>Maikona</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hurri Hills</td>
<td></td>
<td>4,008</td>
<td>Agropastoral</td>
<td>3</td>
<td>Male elders; females (all ages)</td>
<td>2</td>
</tr>
<tr>
<td>Maikona</td>
<td></td>
<td>7,253</td>
<td>Pastoral/Peri-urban</td>
<td>3</td>
<td>Male elders; females (all ages); mixed youth</td>
<td>3</td>
</tr>
<tr>
<td>Bubisa</td>
<td></td>
<td>4,811</td>
<td>Pastoral</td>
<td>2</td>
<td>Male elders; female elders</td>
<td>2</td>
</tr>
<tr>
<td>Shura</td>
<td></td>
<td>1,204</td>
<td>Pastoral</td>
<td>2</td>
<td>Male elders; females (all ages)</td>
<td>2</td>
</tr>
<tr>
<td>Turbi</td>
<td></td>
<td>4,321</td>
<td>Pastoral</td>
<td>3</td>
<td>Male elders; females (all ages); mixed youth</td>
<td>3</td>
</tr>
<tr>
<td><strong>Laisamis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Korr</td>
<td></td>
<td>13,012</td>
<td>Pastoral/Peri-urban</td>
<td>4</td>
<td>Male elders; female elders; males (all ages); females (all ages)</td>
<td>4</td>
</tr>
<tr>
<td>Njurunit</td>
<td></td>
<td>8,293</td>
<td>Pastoral</td>
<td>2</td>
<td>Males (all ages); female youth</td>
<td>2</td>
</tr>
<tr>
<td>Laisamis</td>
<td></td>
<td>6,423</td>
<td>Pastoral/Peri-urban</td>
<td>2</td>
<td>Male elders; mixed youth</td>
<td>2</td>
</tr>
<tr>
<td>Logologo</td>
<td></td>
<td>5,144</td>
<td>Pastoral</td>
<td>2</td>
<td>Male elders; Females (all ages)</td>
<td>2</td>
</tr>
<tr>
<td>Lontolio</td>
<td></td>
<td>2,423</td>
<td>Pastoral</td>
<td>2</td>
<td>Male elders; female youth</td>
<td>2</td>
</tr>
<tr>
<td>Merille</td>
<td></td>
<td>4,263</td>
<td>Pastoral</td>
<td>2</td>
<td>Females (all ages); mixed youth</td>
<td>2</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td>87,128</td>
<td></td>
<td>41</td>
<td></td>
<td>41</td>
</tr>
</tbody>
</table>
chronic inter-clan and ethnic insecurity and conflict. The conflict in Marsabit is partly linked to scarce resources such as pasture for grazing and water, but it is also attributed to ethnic, tribal and political tensions between tribes and groups, all exacerbated by the impacts of frequent drought.

2.2 Data collection

Complete details of the methodology used to undertake a CoBRA assessment are included in the main CoBRA assessment report\(^7\) and implementation guidelines. Data were collected using qualitative methods, in the form of FGDs and KIIs.

Field work was undertaken by a team of 12 facilitators and 3 supervisors. The team was divided into three groups of five people each, with a supervisor and two pairs of facilitators. Each group covered one of the three districts surveyed. Each FGD was facilitated by two staff from the participating government departments and NGOs. The facilitators and supervisors, who were familiar with the local context, jointly selected the locations and compositions of focus groups, using statistical data and criteria such as livelihood zones and level of interventions. Whenever possible, separate FGDs were organized for men, women and youth (aged 15–30, both sexes) to ensure that views on resilience from different gender and age groups would be adequately captured in the discussions. Each group had around 15 participants.

In each focus group location, one to four KIIs were undertaken with households perceived to be resilient, as identified by focus group participants during their discussions. In some cases, the households were also identified as resilient through conversations with local chiefs or other senior residents. A total of 41 FGDs took place along with 41 KIIs. Table 1 summarizes the number and locations of FGDs and KIIs undertaken for this assessment.

FGD and KII data were captured using preconfigured Excel spreadsheets. For analysis, the Excel data were reformatted into statistical analysis software such as SPSS Statistics and recoded when required (such as by classifying some categories of variables together).

2.3 Constraints and limitations of data collection process

Dealing with raised expectations

Initially, most focus groups thought the teams of facilitators were there to undertake some form of needs assessment that might result in a benefit or intervention for the community. In order to manage inaccurate assumptions, expectations and biases, a community mobilization exercise was undertaken in most locations prior to the FGDs to explain the purpose of CoBRA assessment and clarify that no direct interventions in their community were likely as part of it. Furthermore, an effort was made to maintain the multi-agency nature of the assessment by combining facilitators from different agencies and sectors. This arrangement was particularly helpful in the data collection process as many communities were not used to being interviewed by representatives of both government agencies and NGOs.

Scoring the attainment of resilience characteristics

Following the identification and ranking of resilience characteristics, FGD participants were asked to score how far they had attained the top-ranked characteristics. Before the field assessment, facilitators were trained to undertake this exercise by asking the participants to score on a scale of 0–10, with 10 being the perfect or ideal situation and 0 an absolute lack of

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\(^7\) UNDP-DDC, Understanding Community Resilience: Findings from Community-Based Resilience Analysis Assessments – Marsabit, Turkana and Kajiado counties, Kenya, and Karamoja sub-region, Uganda (Nairobi, UNDP-DDC, 2014 [in press]).
attainment of resilience characteristics. The purpose was to adopt a uniform approach for measuring the attainment level of the diverse set of characteristics, including the non-household-related characteristics, such as peace and security, and the more qualitative characteristics, such as health care services. Some lack of consistency was found in scoring, which had to be corrected. Where data were unclear, they were excluded to ensure that only accurate data were used in the final analysis.

Reluctance to being identified as ‘resilient’
In some locations, individuals identified by FGD participants as ‘resilient’ households refused to accept this designation. They were often concerned that accepting might lead to high expectations for peer support from other community members or result in their exclusion from development/humanitarian programmes or assistance. The assessment team took this sensitivity into consideration and strived to identify perceived ‘disaster-resilient households’ in a discrete manner, while explaining the purpose and implications of the exercise fully to the identified individuals and focus group participants.

3. Findings
This section reports on the summarized findings from CoBRA field work conducted during the month of June 2013 in Marsabit. Specifically, the findings are presented according to the following categories:

- What are the main hazards or shocks facing the communities?
- What are the characteristics of a resilient community?
- To what extent has the community achieved resilience characteristics?
- What does a resilient household look like?
- What interventions contributed to household resilience?
- What additional interventions would best build resilience?
- How did key informants achieve and maintain resilience?

3.1 Main hazards or shocks
The main hazard reported in all the FGDs was drought. Communities viewed drought hazard as the most significant contributor to livestock losses and the single most important factor limiting their resilience capacity. Communities also reported the most recent drought of 2010–2011 as the main ‘crisis’ period to be referred to for CoBRA assessment. It was the most severe, although some of the past droughts lasted for a longer period than the 2010–11 drought. The impacts of the 2010–2011 drought were exacerbated by extremely high food prices, reduced coping capacity and a slow and limited humanitarian response. Communities further indicated that conditions had improved since the last drought. The current period was perceived principally as a “normal” period, with a few communities stating that it was a “good” or “above normal” period. (This process involved comparing a current period – here represented by the preceding 12 months – to the long-term climatic normal for the specific location under assessment.)

Other hazards or crises that were reported included political and resource-based conflict, largely clan-based raiding of livestock among the three major ethnic groups. Competition over scarce grazing fields, water resources and pasture has escalated inter-ethnic animosity, often resulting in violent conflicts, which are predatory in nature and very destructive. To a limited extent, the communities also reported livestock and human diseases as hazards.

3.2 Characteristics of a resilient community
Focus group participants were asked to describe what they viewed as the characteristics of a resilient community. The data are first presented for the entire set of
respondents, to give an overall picture of the most highly rated characteristics. This is followed by an analysis by category of respondent, gender/age, livelihood group and level of intervention in the community, which are used to disaggregate findings and identify differences across groups.

**Analysis – all respondents**

Focus group participants were asked to identify and rank statements used to describe a resilient community. Each member was given six beans to rank the three most significant statements in terms of priority for building resilience, with three beans for the most significant statement, two for the second most significant and one for the third. The bean scores were then totalled for each statement. For ease of comparison, the statements were grouped into the five sustainable livelihood framework (SLF) categories.8

Table 2 lists the most highly ranked characteristics used to describe a resilient community within each of the five SLF categories according to the ‘bean scores’. (Note that many more characteristics/statements were included in the ranking, but were given low scores and hence are not reported here.) The full list of statements with scores is provided in Appendix 2.

Figure 2 shows the highest scored characteristics used to describe a resilient community by all focus group participants in the three districts. Figure 3 presents the total bean score under each of the five SLF categories.

Peace and security received the highest bean score followed by education and water for human use. In terms of the SLF categories, statements addressing

<table>
<thead>
<tr>
<th>SLF category</th>
<th>Top-ranking resilience characteristics (according to ‘bean scores’)</th>
<th>Total bean score*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td>Productive farms (114) Diversified income-generating activities (IGAs) (102) Livestock herds (84) Pasture and fodder (73) Employment (68) Access to credit (61)</td>
<td>554</td>
</tr>
<tr>
<td>Human</td>
<td>Education (608) Health care for humans (232) Food security (145)</td>
<td>1,032</td>
</tr>
<tr>
<td>Natural</td>
<td>Natural resource management (NRM) (83)</td>
<td>105</td>
</tr>
<tr>
<td>Physical</td>
<td>Water for humans (598) Telecommunications (247) Access to markets (232) Roads (149) Water for livestock (146) Shelter (103)</td>
<td>1,657</td>
</tr>
<tr>
<td>Social</td>
<td>Peace and security (792)</td>
<td>829</td>
</tr>
</tbody>
</table>

* Total bean score does not match the sum of the bean scores in the middle column because the middle column reflects only the top-ranking characteristics while the total in the right column reflects all the characteristics discussed in each category.

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8 The sustainable livelihood framework presents the main factors that affect people’s livelihoods and typical relationships between them. It identifies five core asset categories or types of capital upon which livelihoods are built: financial, human, natural, physical and social. For further details, please refer to: UK Department for International Development (DFID), Sustainable Livelihoods Guidance Sheets (London, DFID, 1999).
physical capital were ranked most highly, followed by human, social and financial scores. Natural capacity received the lowest number of statements and overall bean scores.

Analysis by gender and age
The priority resilience statements were also analysed by gender and age group, through groups comprised of women, men and youth (aged 15–30, both sexes). The
bean score allocated to each of the five SLF categories was taken as a percentage of the total bean score. The results are represented in Figure 4 to demonstrate the differing priorities that men, women and youth place on resilience statements.

Further to this, the most highly ranked resilience characteristics by gender/age group are presented in Table 3.

The data suggest the following points:

- All three groups consistently ranked education, peace and security, and water for human use as the most important characteristics of resilience.

Table 3. Top-ranking resilience characteristics by gender/age group*

<table>
<thead>
<tr>
<th>Gender/age group</th>
<th>Top 3 resilience characteristics</th>
<th>Total score**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>Peace and security (291)</td>
<td>1,589</td>
</tr>
<tr>
<td></td>
<td>Education (266)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water for humans (177)</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>Peace and security (339)</td>
<td>1,598</td>
</tr>
<tr>
<td></td>
<td>Water for humans (257)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Education (183)</td>
<td></td>
</tr>
<tr>
<td>Youth</td>
<td>Education (119)</td>
<td>490</td>
</tr>
<tr>
<td></td>
<td>Peace and security (82)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water for humans (47)</td>
<td></td>
</tr>
</tbody>
</table>

* Results from the mixed focus groups that do not fit the categories of male, female and youth were excluded from the analysis.

**Total score does not match the sum of the scores in the middle column because the middle column reflects only the top-ranking characteristics while the total in the right column reflects all the characteristics discussed in each category.

- Women placed the greatest emphasis on physical characteristics of resilience (for example, water) reflecting the fact that women are the ones responsible for collecting water for household use.
- Men placed greater emphasis on financial statements of resilience (for example, agricultural inputs and pasture and fodder for livestock) compared to women and youth.
- Youth placed far greater value on human capital, which includes statements on education and health care. They also placed far less emphasis on physical capital compared to men and women.

Analysis by livelihood group

Resilience statements were also analysed for a range of livelihood groups: agropastoral, pastoral and peri-urban. Figure 5 illustrates the differences in bean score allocation according to the five SLF categories among the three livelihood groups.

Further to this, the most highly ranked resilience characteristics by livelihood group are presented in Table 4.

The data suggest the following points:

- Agropastoral groups placed significant emphasis on physical characteristics of resilience, with water and access to markets being two of the most commonly cited characteristics in this category.
• Pastoral households also ranked physical characteristics very highly, but they also put strong emphasis on human characteristics, compared to agropastoral households. This may reflect the generally lower provision of education and health services in the more remote pastoral areas.

• Peri-urban households put less emphasis on physical characteristics, instead ranking social and human characteristics most highly when compared to the other two groups. Again this may reflect the fact that peri-urban groups already have the greatest access to physical infrastructure.

• All three groups consistently cited education, peace and security, and water for human use as the most important characteristics of resilience overall.

Analysis by intervention level
The three districts assessed comprise between 6 and 11 administrative locations. Consultation with field teams, the National Drought Management Authority and other government line departments was used to map accessibility to and presence of the following basic services and interventions in each location:

• Number and level of health facilities;
• Tarmac road;
• Other main road;
• Mobile phone coverage;
• Well-functioning livestock market;
• Savings and credit programs;
• Number and level of education facilities;
• Banks; and
• Bank agents/M-Pesa.9

Interventions that are universally provided in all the locations, such as food aid and water interventions, or provided only at very low scale, such as for less than 500

Table 4. Top-ranking resilience characteristics by livelihood group

<table>
<thead>
<tr>
<th>Livelihood group</th>
<th>Top 3 resilience characteristics</th>
<th>Total score*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agropastoral</td>
<td>Peace and security (371)</td>
<td>1,592</td>
</tr>
<tr>
<td></td>
<td>Water for humans (311)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Education (162)</td>
<td></td>
</tr>
<tr>
<td>Pastoral</td>
<td>Education (366)</td>
<td>2,085</td>
</tr>
<tr>
<td></td>
<td>Peace and security (302)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water for humans (221)</td>
<td></td>
</tr>
<tr>
<td>Peri-urban</td>
<td>Peace and security (119)</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td>Education (80)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water for humans (65)</td>
<td></td>
</tr>
</tbody>
</table>

* Total score does not match the sum of the scores in the middle column because the middle column reflects only the top-ranking characteristics while the right column reflects all the characteristics discussed in each category.

9 M-Pesa is a mobile phone-based money transfer and microfinancing service offered by Safaricom and Vodacom in Kenya and Tanzania. (M stands for mobile and pesa means money in Kiswahili.)
beneficiaries, were excluded from this mapping exercise. The locations were then divided into three even groups:

- The bottom third, representing low intervention areas, which have up to 8 categories of interventions implemented in their area;
- The middle third, representing medium intervention areas, which have 9 or 10 categories of interventions implemented in their area; and
- The top third, representing high intervention areas, which have between 11 and 14 categories of interventions implemented in their area.

Figure 6 shows the differences in bean score allocation according to the five SLF categories among the three location groups with different service/intervention levels.

Further to this, the most highly ranked resilience statements by intervention level are presented in Table 5.

The data suggest the following points:

- All three intervention groups consistently placed the greatest emphasis on physical characteristics of resilience.
- Notably, the high intervention areas also put more weight on financial characteristics of resilience, for example agricultural inputs, pasture and fodder, and employment.
- All three groups consistently cited education, peace and security, and water for human use as the most important characteristics of resilience.

### 3.3 Extent to which the community has achieved resilience

Focus group participants were asked to score the extent to which they had achieved their priority characteristics of resilience. They were asked to score each statement twice, first for the current period (agreed to be a normal period) and second for the last significant crisis period (almost universally identified as the drought period of 2010–2011).

#### Table 5. Top-ranking resilience characteristics by intervention level

<table>
<thead>
<tr>
<th>Intervention level</th>
<th>Top 3 resilience characteristics</th>
<th>Total score*</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Peace and security (233) Education (165) Water for humans (128)</td>
<td>1,199</td>
</tr>
<tr>
<td>Medium</td>
<td>Peace and security (316) Education (227) Water for humans (125)</td>
<td>1,583</td>
</tr>
<tr>
<td>Low</td>
<td>Water for humans (245) Peace and security (242) Education (217)</td>
<td>1,395</td>
</tr>
</tbody>
</table>

* Total score does not match the sum of the scores in the middle column because the middle column reflects only the top-ranking characteristics while the right column reflects all the characteristics discussed in each category.

Figure 6. Top-ranking resilience categories by level of intervention

![Figure 6. Top-ranking resilience categories by level of intervention](image-url)
As with the previous section, the findings are presented first for all respondents and are then disaggregated by subgroups. This section does not include analysis by gender because focus groups were asked to rank the attainment of the resilience characteristic statements for the entire community, and therefore any differences between men and women would be based on perceptions.

Table 6 presents the scores by SLF category for the top-ranked characteristics of resilience. Figure 7 illustrates the spider diagram of perceived resilience characteristics attainment rates per each SLF category. The outer ring represents a perfect or ideal score for all statements in that SLF category. The blue band shows communities’ average attainment of those characteristics in the current period, and the red line represents the last crisis period. The scores are ranked on a scale from 0 to 10, with 10 being perfect attainment of that characteristic (for example, the entire community has access to sufficient, good quality water at all times in the current/crisis period), and 0 being no attainment (no one in the community has access to sufficient, good quality water at all times in the current/crisis period).

Social characteristics of resilience have the highest score (6.1). In other words, communities ranked social characteristics as the area in which they had attained the greatest degree of resilience. This category was dominated by responses related to peace and security, and the high ranking is because these communities have gone

<table>
<thead>
<tr>
<th>SLF category</th>
<th>Top-ranked characteristics</th>
<th>Current period score</th>
<th>Crisis period score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall average</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Productive farms</td>
<td>2.0</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>Pasture and fodder</td>
<td>6.7</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>3.0</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>Access to credit</td>
<td>1.0</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Diversified IGAs</td>
<td>3.6</td>
<td>2.6</td>
</tr>
<tr>
<td>Human</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>3.0</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>Health care for humans</td>
<td>3.5</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>Food security</td>
<td>5.1</td>
<td>2.5</td>
</tr>
<tr>
<td>Natural</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Natural resource management</td>
<td>3.7</td>
<td>3.1</td>
</tr>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water for humans</td>
<td>4.0</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>Access to markets</td>
<td>3.7</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Telecommunications</td>
<td>2.1</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>Roads</td>
<td>2.5</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>Water for livestock</td>
<td>5.9</td>
<td>2.9</td>
</tr>
<tr>
<td></td>
<td>Shelter</td>
<td>2.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Social</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Peace and security</td>
<td>6.1</td>
<td>4.1</td>
</tr>
</tbody>
</table>
through a recent period of much stronger peace and security. However, these scores could quickly deteriorate if the current security situation changes. The remainder of the categories were ranked similarly in current and crisis years, suggesting that, in a normal year, community members rank their attainment of characteristics of resilience below 4 out of 10.

Other characteristics that were highly ranked for attainment in normal times include pasture and fodder (6.7), food security (5.1) and water for livestock (5.9). Characteristics ranked as low attainment include financial characteristics, namely productive farms (2.0) and access to credit (1.0), and several physical characteristics – roads (2.5), shelter (2.4) and telecommunications (2.1).

Table 7 aggregates the scores given to each of the five SLF categories to provide an overall ‘resilience score’. While this clearly masks differences between SLF categories, it is useful to provide an overall indicator of where communities see themselves, for comparison across groups. Clearly, figures should be viewed with some caution, as these scores represent community perceptions around attainment, and thus could overstate or understate reality.

Overall, the average level of attainment of resilience characteristics is 3.7 out of 10 at present, as opposed to 2.4 out of 10 during the crisis period in the three districts.
Results by livelihood group show some important differences:

- Pastoral and peri-urban groups ranked their current overall resilience in a normal period much more highly than agropastoral groups – 4.1/3.9 compared with 2.6 out of 10. Laisamis district is considered more resilient than the other districts, and it had a sample that consisted mostly of pastoralists. It also benefits from greater access to services, such as a tarmac road, functioning livestock markets and access to savings and credit services.
- Despite higher scores in the current period, peri-urban groups appeared to experience a much sharper decline in the crisis period. Possibly this is because relief efforts during crises (such as food aid and water tankering) often focus on rural populations, so urban groups do not benefit from the same support. Further analysis may be required on how drought and other climate hazards affect urban/peri-urban livelihoods.
- When the scores are broken down by SLF category, agropastoral groups estimated their attainment of social characteristics most highly – likely because of the recent significant improvement in peace and security, which makes up the bulk of this category.

When the scores are disaggregated by the level of services and interventions, high intervention areas ranked their level of attainment of resilience characteristics more highly than medium and low intervention areas. This could suggest that provision of basic services and interventions contribute to resilience. Equally, it could suggest that interventions are targeted to high-resilience areas. Longitudinal data would have to be studied to draw inferences on the causality of levels of intervention on resilience.

3.4 What a resilient household looks like

Focus group participants were asked to describe the characteristics of households that are more resilient compared to others, i.e. the households that have already attained many (or all) of the resilience characteristics prioritized. The top three characteristics of a resilient household, cited consistently by focus groups, consist of the following:

- The household has a business or IGA (41 out of 41 FGDs);
- A member of the household has employment or wage labour (39 out of 41 FGDs); and
- The household has a large herd (30 out of 41 FGDs).

Typically a large herd was described as at least 200 shoats and 50 cattle and/or 50 camels. The fact that groups always highlighted a mix of livestock implies that both size and diversity of the herd is important. Interestingly, while these statements were fairly consistently cited across gender/age and livelihood groups, high intervention areas were much more likely to cite business/employment, with only a few citing large herds.

A few other characteristics of resilient households were mentioned but significantly less often:

- The household has educated members (and where this was mentioned it was often in relation to the ability of the educated person to obtain employment);
- The household uses advanced agricultural techniques/tools/inputs; and
- The household has good planning, management and organization.

Focus groups were then asked whether the number of resilient households is increasing, decreasing or staying the same. As Table 8 shows, out of 41 FGDs, the
majority – 60 percent – said that resilience is increasing. These findings were similar across gender/age groups.

When the data were disaggregated by livelihood group, agropastoralists had a more pessimistic view, with equal numbers saying that resilience was increasing and decreasing. Pastoralists, on the other hand, were much more likely to say that resilience was increasing (75 percent). In general, the positive outlook exhibited by pastoralists was largely attributed to a relatively good build-up of livestock herds due to availability of pasture resources resulting from normal or above normal seasonal rainfall since the last major drought of 2010–2011, combined with the fact that more and more of their sons and daughters were completing schooling and finding gainful employment.

Low and medium intervention groups were much more likely to say that resilience was increasing, whereas high intervention groups were more heavily weighted towards decreasing resilience (50 percent). This likely represents the pastoral groups, which are typically in low intervention locations but have a positive outlook due to increasing herd sizes. By contrast, most high intervention areas are urban, peri-urban and agropastoral, which in most cases (particularly for the latter) see their resilience decreasing.

### 3.5 Interventions that contributed to household resilience

Communities were asked to list all the services and interventions they had benefited from in the last two to five years. A reasonably wide range of interventions was mentioned, including water, education, livestock restocking, cash transfer, health care services, mobile phone coverage, agricultural inputs, roads and other livestock support. From this long list, each community (through FGDs) was asked to identify jointly the three current or previous interventions that had been most beneficial in building their resilience and why. Table 9 shows that interventions relating to water, education and restocking were prioritized most regularly.
Groups were also asked to list the three further or additional interventions they felt would best build their resilience. Many communities restated interventions mentioned in the first list, with the justification that the current provision or scale of intervention was too limited and should be expanded. The highest scoring interventions are summarized in Table 9.

The table shows the repeated and clear priority given to water and education interventions. These interventions reflect the high ranking given to these factors as characteristics of resilience by all focus groups. Water interventions were prioritized by all livelihood groups, particularly as a means for improving food security and livelihoods. Interventions that improved water storage as well as supply were all seen as important for expanding the production of crops and livestock. Water interventions were also justified for time savings and health reasons.

Education was seen as a benefit in itself since it would lead to improved life chances, such as employment for children. Scholarships and bursaries, essential for continuing education to secondary and tertiary levels, were mentioned more frequently than education facilities. This

### Table 9. Ranking of resilience-building interventions

<table>
<thead>
<tr>
<th>Type of intervention</th>
<th>Currently/recently provided</th>
<th>Further or future provision</th>
<th>Total score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water source improvement or improved storage capacity</td>
<td>27</td>
<td>21</td>
<td>48</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bursaries, scholarships or construction/refurbishment of school facilities including boarding facilities</td>
<td>25</td>
<td>13</td>
<td>38</td>
</tr>
<tr>
<td><strong>Restocking</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programmes restocking livestock particularly with drought-resilient breeds or animals such as camels</td>
<td>19</td>
<td>9</td>
<td>28</td>
</tr>
<tr>
<td><strong>Cash transfers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer of resources to vulnerable people, such as the chronically food insecure (e.g. hunger safety net programmes) and children (e.g. child sponsorship programmes)</td>
<td>10</td>
<td>8</td>
<td>18</td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvements to health services, staffing or facilities</td>
<td>5</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td><strong>Inputs to productive farms</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrigation, greenhouses, oxen, agricultural extension, etc.</td>
<td>7</td>
<td>9</td>
<td>16</td>
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<tr>
<td><strong>Mobile phone coverage</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td><strong>Roads</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td><strong>Access to credit or other forms of business support</strong></td>
<td>6</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td><strong>Other livestock support</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livestock markets, health services, fodder for production, etc.</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>
again relates directly to communities’ ranking of secondary and tertiary education as a key characteristic of resilience.

Restocking was also rated highly. This is unsurprising given that the majority of focus group participants were from pastoral or agropastoral areas, where livestock numbers are a critical factor in household wealth. The extent to which restocking results in resilient or viable herd sizes was not explored.

Other livestock interventions were also rated highly in pastoral areas, as were agricultural inputs in agropastoral areas. All these interventions were justified on the basis that they would improve productive capacity, thereby increasing income levels and/or food security. Cash transfers were justified on the same basis. Mobile phone coverage was seen as very important in locations with limited or no coverage, particularly by pastoral groups, possibly because mobile communications allow pastoralists to get data on livestock market prices.

When disaggregated by livelihood group, agropastoralists placed the greatest emphasis on water storage, agricultural interventions and education facilities. By contrast, pastoralists placed a strong focus on health facilities and mobile communications.

### 3.6 How key informants achieved resilience

A total of 41 key informant interviews were undertaken with members of households identified as resilient. Between one and four interviews were undertaken in each sampled location. KIIIs examined the following four areas:

- Composition and characteristics of the household;
- Pathways to resilience;
- Ability to cope with recent shocks and hazards; and
- Priority interventions recommended by resilient households.

#### Composition and characteristics of resilient households

The KII record sheet records the age, gender, education level and economic activity of all members of the resilient household interviewed. The resilient households varied in size from 1 to 11 members, with an average of 6 members, which is typical for the area. In Marsabit Central and Laisamis the vast majority of households interviewed (86 percent) had members who had completed primary education, and over half (55 percent) had members who had completed secondary or tertiary education. By contrast, in Maikona only half (50 percent) had completed primary education, and only 33 percent had completed secondary or above. This probably reflects Maikona’s more remote location and lower access to secondary education. Government statistics indicate that about 68 percent of the population in Marsabit county has no education. Only 26 percent of the county’s population has a primary education and 6 percent has completed secondary or higher education. From these figures, it would seem that resilient households are significantly more highly educated than the average.

All 41 KII respondents had household members engaged in one or more of the following:

- Wage employment or casual labour;
- Business or petty trade;
- Raising livestock; and/or
- Agricultural production.

Most households interviewed (33 out of 41, or 80 percent) had a livestock and/or agricultural income source; however, only 7 resilient households (17 percent)
relied exclusively on livestock. These were predominantly pastoralists with large herds, the majority located in the pastoral locations of Maikona and Laisaimis. Only two resilient households in the locations relied on pastoral and some agricultural production. No resilient households survived on agricultural production alone.

Overall, the vast majority of resilient households (31 out of 41, or 75 percent) reported multiple income sources, including members with wage labour and/or a business interest. Only three households (7 percent) survived solely on income from wages (1/41) or a single business income (2/41). Most resilient households with multiple income sources (26/31, or 83 percent) also maintained a pastoral or agricultural income source. One household was receiving a pension from previous employment. Consequently the diversification of income sources is clearly a key strategy for resilient households, with most retaining their agricultural or pastoral activities as well as wage and/or business incomes. According to government statistics, 10 percent of the county’s population is working for pay.11

Most wage earners were government employees, civil servants, teachers or military personnel. Other employment mentioned included NGO workers, a driver and a religious minister. Several households relied on casual or temporary labour, but no details were recorded. No private sector employment was mentioned, reflecting the dearth of any significant private sector employers in the area.

Pathways to resilience
All respondents cited their multiple sources of income as the reason for their resilience. Those with multiple incomes (31 respondents) cited the capacity to rely on other sources if one was reduced or affected by drought. Households with a wage earner or business regularly explained that income from either of these sources had been saved and used to start/grow businesses, grow livestock herds or invest in agricultural production. Typically this included the purchase and construction of water storage and irrigation systems. Several households mentioned poultry production as a further source of agricultural income. The business activities described were mostly kiosks or petty trading of food, fuel, phone credits, soap powder or other household items. Some respondents ran bars or lodges. Animal trading was repeatedly mentioned by pastoral households as both a source of income and a coping strategy.

In addition to diversified income sources, nine households attributed their resilience to being organized, carefully managing household expenditures and income, and refraining from wasteful expenditures such as alcohol. Twelve mentioned use of their own savings (often as part of self-help/credit groups) and three cited support from family or friends in terms of loans or remittances. One household reported that the camel provided by an NGO enabled them to become resilient.

Ability to cope with recent shocks and hazards
Almost all key informants referred to the 2010–2011 drought as the last major hazard. Most indicated they were better placed to cope with it than others due to the additional income sources outlined above. Wage earners and most businesses were not affected by the drought.

Critically, 17 (65 percent) of the households with income from livestock stated that they sold animals and used the proceeds to support the remaining livestock (to access water, fodder, health care) and pay for the household’s basic needs such as food and school fees. Moving livestock to areas of good grazing and water was also mentioned.
Two households with agricultural income sources cited the use of irrigation and/or market gardens, which enabled them to continue producing and selling crops during drought. Many mentioned that these income sources had enabled them to amass savings that were used to get their households through the drought period. Several households mentioned their involvement in savings and credit or self-help groups. Others mentioned loans from friends and family as well as credit from traders as factors enabling them to cope.

Some households mentioned interventions as important coping factors. These included cash/food for work schemes, cash transfers (such as the Hunger Safety Net Programme), training from NGOs, peace forums and water tanks.

**Priority interventions**

Key informants were asked for the three most important interventions to improve their communities’ resilience. Interventions most frequently mentioned were justified on the basis that they would increase productive assets and business skills, and hence income.

- **Livestock production:** Interventions around improving livestock production were cited most frequently (18 respondents). These included improving livestock market access, livestock management practices, restocking with more drought-resistant breeds, pasture management, fodder production and animal health care.
- **Business skills and savings and credit:** Expansion of business skill and savings and credit opportunities were also widely cited (15 respondents). These interventions included business training, promotion of IGAs through savings and credit/self-help groups, and increased access to credit and banking services.
- **Water:** Water interventions (13 respondents) were highly rated, usually in relation to the ability to store more water for livestock, crop production and business uses.
- **Farm production:** Interventions to improve farm production were highly rated (10 respondents), particularly in agropastoral locations in Marsabit Central. Many of the interventions relate to expanded use of irrigation and market gardens. The use/distribution of oxen and more agricultural extension services were also cited. Other interventions mentioned included peace and security, educational support and improved health facilities and services.

This list is somewhat similar to interventions mentioned by the focus group participants. However, it is notable that resilient households did not mention interventions related to humanitarian response, such as restocking and cash transfer programmes. Compared to the focus group participants, they put greater emphasis on business skills and savings and credit, most likely because of the positive role that small business and IGAs have played on their ability to cope.

### 4. Summary of feedback from local consultations

The findings presented above emerged during feedback sessions with local stakeholders in Marsabit. Separate sessions were held with community representatives (on 3 September) and with technical stakeholders (on 4 September) to accommodate their differing requirements due to varying levels of literacy, language skills and technical sophistication (see Appendix 3 for the list of the technical stakeholders participants). Participants in the meeting with technical stakeholders were briefed on the discussions with community representatives. No major gaps or disparities were found between the views of the two groups. The main feedback points on the data presented are included here, to provide additional understanding and context.
Participants felt that the ranked resilience characteristics resonated with the reality in these communities. Generally speaking, there were no surprises, and both community representatives and technical stakeholders confirmed that the statements prioritized by the communities were what they expected. However, the participants felt that several characteristics were missing or under-prioritized. Some of the key observations and comments made regarding the priority characteristics and their attainment rates are as follows:

- Road networks: Road networks were mentioned but not ranked highly because they were not associated with trade. Road networks may have been mentioned partly because of the massive infrastructure development being undertaken in the county by the national government.

- Natural resource management: Forest conservation supports lives and livelihoods, particularly in the mountain areas of Marsabit Central, by maintaining reliable flows of water downstream and providing trees for timber and charcoal. However, the communities interviewed failed to make this connection, and seemed to have little if any awareness of the importance of natural resource management.

- Livestock markets: Communities did not rank livestock markets highly as a priority resilience characteristic because they lost a lot of animals during the last drought and have been focused on rebuilding stocks, not trading at market. As a result, this characteristic was underscored, though it is very important for resilience.

- Productive farms: Productive farms did not rank highly compared to other identified resilience characteristics, despite the critical importance of the sector for local livelihoods, especially in Marsabit Central. This may be because crop farming has declined over the last few years due to the lack of rain, particularly in highland areas.

Participants agreed with the resilience-building measures cited. The only intervention participants considered critical that was not mentioned was livestock support services such as veterinary services and extension services on animal husbandry practices. In addition, participants stressed the need for interventions to enhance community and household capacity across all sectors so as to avoid dependency on external support and maximize the long-term impacts and sustainability of these interventions.

Participants felt the characteristics of a resilient household – employment, other small business enterprises and large herd size – were accurate. They felt these characteristics reflected the local reality in Marsabit. No particular comments were made.

Attainment of resilience scores is based on perception and was seen as subjective. Hence, the participants noted the risk that the scores could be arbitrary and heavily influenced by how the community was feeling at the time of the interview, including in relation to the current seasonal conditions (i.e., wet season or dry season). Accordingly, the conclusion was made that the attainment scores are useful indicators of community perceptions but are not fully objective and therefore should not be relied upon in isolation but should be viewed together with other quantitative data. For example, local peace and security fluctuates significantly over the short term, and the situation can vary from location to location. Hence the attainment scores may not fully capture the real and detailed picture of what is happening on the ground over an extended period. While the attainment score in June 2013 demonstrated relative local safety and
stability, it could drop considerably in other months.

- Participants highlighted the following specific recommendations related to building resilience:
  - Provide continued support for pastoralists and the overall livestock sector as the principal livelihood group in the county. Focus services and interventions on improving livestock production and productivity.
  - Map out alternative income-generation opportunities in view of the specific contexts of different locations, as the next step towards livelihood diversification support.
  - Conduct further analysis of priority resilience characteristics, for example, what has hindered or improved education, what areas require greater investments (quality, enrolment levels, etc.).

5. Conclusions and recommendations

5.1 Conclusions
The evidence presented above is extensive, adding a significant amount of understanding to the community perspective on resilience. The following conclusions are drawn from the evidence presented.

- Many of the community perspectives on the building blocks of resilience converged around widely used sectoral indicators. The top five statements used to describe a resilient community for all three districts included peace and security (score of 792), education (608), water for humans (598), health care for humans (232) and access to markets (232). When categorized by SLF category, physical characteristics of resilience ranked most highly, followed by human and social characteristics. Interestingly, women and men placed the greatest weight on physical characteristics of resilience, while youth focused on human characteristics. Men placed more weight on financial characteristics than did women and youth.
- When asked to describe the specific characteristics of resilient households in their communities, focus group participants consistently emphasized income and assets. Resilient households were described as having access to employment, diversified income-generation opportunities and/or large herds, almost to the exclusion of any other characteristics. Critically, it was the diversity of these three characteristics in combination that seemed to be key, by allowing households to spread risk across income sources. This was consistent with the findings from interviews with resilient households, who cited access to multiple incomes as the primary reason for their resilience. Access to education and credit were consistently described as the direct means to achieving higher income and greater assets and hence key driving factors to reaching a resilient status.
- The level of attainment of resilience characteristics was consistently low across all groups even at the time of the assessment, which was considered normal or above normal in terms of precipitation. However, the drop in crisis times was not as great as might be expected. Overall, for all three districts in the current period (attributed as a normal year), overall scores hovered around 3.7 out of 10 in terms of attainment. The only exception was social characteristics, which were ranked closer to 5 out of 10, likely due to the success of recent initiatives on peace and security. In crisis times, scores for different resilience characteristics typically contracted to an approximate score of 2.4 out of 10.
- Pastoralists scored themselves as the most resilient relative to other groups. However, their scores may still be considered low (4.1 current and
2.8 during crisis). Most of them (76 percent) also viewed their resilience level as increasing. Agropastoral groups scored themselves as the least resilient (2.6 current and 1.6 during crisis), with highly mixed views on the change in their resilience level over time (38 percent saw it as increasing, 38 percent as decreasing and 25 percent as unchanged).

- **High intervention areas scored themselves as the most resilient.** However, this group was also most likely to say their resilience was decreasing. Causality cannot be inferred; high intervention areas could be more resilient because of interventions, or it could be that interventions are targeted to groups with higher levels of resilience.

- **The interventions that are most highly rated for helping to build resilience link directly to the most highly rated characteristics of resilience – water, education and restocking.** Interestingly, resilient households cite a different set of priority interventions, namely measures to improve livestock production, business skills, savings and credit, water interventions and measures to improve agriculture.

- **The community perspective on resilience is central to our understanding, but it does not capture all relevant issues.** Clearly, for instance, the fact that communities gave less weight to natural resource management does not mean it is not important; quite the opposite. Feedback from the stakeholder group was critical in shining light on some of these gaps in community awareness, including the importance of livestock markets, agricultural inputs and road networks.

5.2 **Recommendations**

- **The high priority given to a relatively small set of indicators for building resilience indicates that disaster risk reduction (DRR) strategies should focus on these areas first and foremost.** These include peace and security, education, water, health care for humans and access to markets. Importantly, this set of indicators encompasses both long-term and short-term issues and includes factors that are not always immediately considered part of DRR strategies, as well as factors that require a long-term commitment to investment. Hence a broader conception of DRR is required if resilience is to be built. Specifically:
  
  - In the short term, interventions such as access to markets and credit are less costly and could be prioritized (bearing in mind that their success will be handicapped if longer term interventions are not developed in tandem).
  
  - In the long term, interventions such as education and development of infrastructure such as roads and mobile communication facilities are critical – ignoring them because they are expensive and instead investing in cheaper short-term programmes is likely to be a false economy.
  
  - Maintaining peace and security must move higher up the agenda and must reflect understanding of the multi-sectoral nature of the causes and underlying factors that contribute directly and indirectly to insecurity.

- **Planning and implementation of future interventions should be based on the extent to which they build and diversify incomes and assets, either directly or indirectly.** Employment, income generation and large herds were consistently and uniformly used to describe resilient households. When these households were asked about the pathways that led to resilience, access to services such as education and markets were the factors that helped them diversify their income base.

- **The community perspective must be incorporated into the DRR/resilience agenda.** The assessment findings show
that communities are highly aware of the long-term and short-term factors that contribute to or undermine their resilience. Too often consultations with communities focus on interventions that are already designed by ‘technical experts’ approved by ‘decision-makers’ in a top-down manner or for which there is budget available. Failure to respond to the local context and integrate the needs and priorities of the beneficiaries may partially account for the fact that the districts where the assessment was conducted have faced drought crises every few years despite the level of humanitarian and development support provided in the region. Stakeholders involved in building resilience need to be aware of the wider spectrum of factors that affect it and consider how they can re-focus their efforts (or those of others) and budgets in these areas.

- Ongoing monitoring and evaluation are critical to measuring changes in resilience. The consistency in community comments suggests that a few key indicators could be identified to monitor resilience more systematically. Some of these indicators (such as household income levels) are already being measured as part of ongoing data collection exercises. Others (such as peace and security) would require some level of consensus to agree an appropriate indicator(s) and methods of collection.
Appendix 1. Participants in CoBRA Marsabit assessment

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Organization</th>
<th>Phone number</th>
<th>Email address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Henry Halakano</td>
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<tr>
<td>3</td>
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<td>4</td>
<td>Mary Philip Soso</td>
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<td>5</td>
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<td>8</td>
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<tr>
<td>9</td>
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<tr>
<td>10</td>
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<tr>
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<td>13</td>
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</tr>
</tbody>
</table>
# Appendix 2. Complete resilience statements and scores for CoBRA Marsabit

<table>
<thead>
<tr>
<th>Resilience characteristic</th>
<th>Full resilience statement</th>
<th>Bean score</th>
<th>Total bean score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Financial</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Productive farms</td>
<td>Farmers would be more productive and profitable (i.e., they would have inputs like quality tools, oxen, fertilizers and improved knowledge of good farming practices).</td>
<td>114</td>
<td>554</td>
</tr>
<tr>
<td>Diversified IGAs</td>
<td>Many households would be involved in other IGAs such as small businesses and trading.</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>Livestock herds</td>
<td>Pastoralists would have herds large enough to sustainably support their families.</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>Pasture and fodder</td>
<td>There would be sufficient pasture (or fodder) for livestock at all times of the year.</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td>There would be many opportunities for jobs and other forms of paid employment through government, factories and other businesses.</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>Access to credit</td>
<td>People would have good access to affordable credit and would be saving money (through banks, microfinance organizations, community savings and credit).</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>Health care for livestock</td>
<td>The community would have access to high-quality and affordable animal health services, including veterinary services and vaccinations, whenever they need them.</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Land</td>
<td>Everyone would have secure access to/ownership of land/property.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Human</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>All children would be able to complete primary/secondary/tertiary education.</td>
<td>608</td>
<td>1,032</td>
</tr>
<tr>
<td>Health care for humans</td>
<td>The community would have access to quality and affordable basic health care locally.</td>
<td>232</td>
<td></td>
</tr>
<tr>
<td>Food security</td>
<td>All households would be able to feed themselves well every day.</td>
<td>145</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>The community would have access to high-quality and affordable basic health care locally [unspecified as to whether this is for human or animal purposes]</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>Skills</td>
<td>The community would have the skills and structure to plan and implement solutions to their own problems.</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td><strong>Natural</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural resource management</td>
<td>Local rangelands and other natural resources would be well managed so they do not become degraded over time.</td>
<td>83</td>
<td>105</td>
</tr>
<tr>
<td>Wildlife conservation</td>
<td>The natural environment and wildlife would be conserved for tourism and other purposes.</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Forests</td>
<td>Trees and forest cover would be well and sustainably managed to provide various services for future generations.</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Alternative fuel</td>
<td>Communities would use environmentally friendly/sustainable sources of fuel for cooking.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Resilience characteristic</td>
<td>Full resilience statement</td>
<td>Bean score</td>
<td>Total bean score</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------------------</td>
<td>------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water for humans</td>
<td>The whole community would have access to sufficient, good-quality water at all times of the year.</td>
<td>598</td>
<td>1,657</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>There would be a reliable mobile phone network to all communities all the time.</td>
<td>247</td>
<td></td>
</tr>
<tr>
<td>Access to markets</td>
<td>The community would have easy access to markets to buy goods and sell their produce.</td>
<td>232</td>
<td></td>
</tr>
<tr>
<td>Roads</td>
<td>There would be good-quality roads to the community.</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td>Water for livestock</td>
<td>Livestock would have access to sufficient water at all times of the year.</td>
<td>146</td>
<td></td>
</tr>
<tr>
<td>Shelter</td>
<td>Everyone would live in good-quality housing.</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Irrigation</td>
<td>Farmers would be irrigating land to improve the production of crops for consumption and sale.</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>[Human or livestock use not specified]</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Sanitation</td>
<td>Everyone would have good sanitation.</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>The community would have access to affordable electricity supply.</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td></td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Recreation facilities</td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Access to processing</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peace and security</td>
<td>The whole community would enjoy continual peace and security.</td>
<td>792</td>
<td>829</td>
</tr>
<tr>
<td>Good governance</td>
<td>The community would be served by efficient and non-corrupt community leaders and management structures.</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Community empowerment</td>
<td>The community would have the skills and structures to plan and implement solutions to their own problems.</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>Women would be fully involved in local development and leadership.</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

12 Note that blank statements indicate characteristics that were added by communities during focus group discussions, and as such did not have a generic full statement associated with them.
## Appendix 3. Participants in CoBRA Marsabit technical stakeholders’ feedback session

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Organization</th>
<th>Email address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Henry Halakano</td>
<td>NDMA</td>
<td><a href="mailto:halakez@yahoo.com">halakez@yahoo.com</a></td>
</tr>
<tr>
<td>2</td>
<td>Sora Adano Wario</td>
<td>NDMA</td>
<td><a href="mailto:soraademo@yahoo.com">soraademo@yahoo.com</a></td>
</tr>
<tr>
<td>3</td>
<td>Qanchora Huqa</td>
<td>NDMA</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Benjamin Mwigolo</td>
<td>FH-Kenya</td>
<td><a href="mailto:bmigolo@fh.org">bmigolo@fh.org</a></td>
</tr>
<tr>
<td>5</td>
<td>Mary Philip Soso</td>
<td>FH-Kenya</td>
<td><a href="mailto:msoso@fh.org">msoso@fh.org</a></td>
</tr>
<tr>
<td>6</td>
<td>Forole Paul Karimi</td>
<td>FH-Kenya</td>
<td><a href="mailto:Forole.k2013@gmail.com">Forole.k2013@gmail.com</a></td>
</tr>
<tr>
<td>7</td>
<td>Michael Ngutu</td>
<td>Food and Agriculture Organization of the United Nations</td>
<td><a href="mailto:micheal.ngutu@fao.org">micheal.ngutu@fao.org</a></td>
</tr>
<tr>
<td>8</td>
<td>Orge G. Bajji</td>
<td>Community Initiative Facilitation and Assistance</td>
<td><a href="mailto:orgebaji@cifakenya.org">orgebaji@cifakenya.org</a></td>
</tr>
<tr>
<td>9</td>
<td>Mohamed Hassan</td>
<td>Horn of Africa Development Initiative</td>
<td><a href="mailto:mohamed.hassan@hodiafrica.org">mohamed.hassan@hodiafrica.org</a></td>
</tr>
<tr>
<td>10</td>
<td>Doyi Barako</td>
<td>Pastoralist Community Initiative Development and Assistance</td>
<td><a href="mailto:d.barako@pacida.org">d.barako@pacida.org</a></td>
</tr>
<tr>
<td>11</td>
<td>Meshack Omarre</td>
<td>Building Owners and Managers Association International</td>
<td><a href="mailto:meshack@bomaproject.org">meshack@bomaproject.org</a></td>
</tr>
<tr>
<td>12</td>
<td>Letikirich S.R</td>
<td>Ministry of Agriculture</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Alex Sharamo</td>
<td>Ministry of Education – Chalbi</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Abdullah Boya</td>
<td>Ministry of Health</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Christopher Muia</td>
<td>Ministry of Health</td>
<td><a href="mailto:kiambamuia@gmail.com">kiambamuia@gmail.com</a></td>
</tr>
<tr>
<td>16</td>
<td>Peter Gelkuku</td>
<td>Kenya Agricultural Research Institute - Marsabit</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Ruto Chepchumba</td>
<td>Office of the President</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Mamo Sora</td>
<td>Agricultural Sector Development Support Programme</td>
<td><a href="mailto:mamosora@gmail.com">mamosora@gmail.com</a></td>
</tr>
<tr>
<td>19</td>
<td>Amos Kipruto</td>
<td>Concern</td>
<td><a href="mailto:Amos.kipruto@concern.net">Amos.kipruto@concern.net</a></td>
</tr>
<tr>
<td>20</td>
<td>Guyo Yattni Tocha</td>
<td>Kanacho Nomadic Education Foundation</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Dub Guyo</td>
<td>Resilience and Economic Growth in the Arid Lands–Accelerated Growth – REGAL - IR</td>
<td><a href="mailto:dubguyo@yahoo.com">dubguyo@yahoo.com</a></td>
</tr>
<tr>
<td>22</td>
<td>Tesso Dido Hifo</td>
<td>Marsabit</td>
<td><a href="mailto:cessodido@yahoo.com">cessodido@yahoo.com</a></td>
</tr>
<tr>
<td>23</td>
<td>Francis Opio</td>
<td>UNDP DDC</td>
<td>francis <a href="mailto:opiyo@undp.org">opiyo@undp.org</a></td>
</tr>
<tr>
<td>24</td>
<td>Laban Macopiyio</td>
<td>UNDP Consultant</td>
<td><a href="mailto:labanmacopiyo@gmail.com">labanmacopiyo@gmail.com</a></td>
</tr>
</tbody>
</table>
Annex 2

Community-based Resilience Analysis Assessment Report

Turkana North, Turkana West, Loima, Turkana Central, Turkana South and Turkana East districts

Turkana county, Kenya

Commissioned by UNDP Drylands Development Centre

Under the framework of the European Commission Directorate General for Humanitarian Aid and Civil Protection’s Drought Risk Reduction Action Plan
## Contents

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   5.1 Conclusions ...................................................................................... 83  
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1. Introduction

The comprehensive Community-Based Resilience Analysis (CoBRA) assessment was undertaken in six districts of Turkana county, Kenya, from 1–6 July 2013. The exercise was carried out with financial support from the European Commission Directorate General for Humanitarian Aid and Civil Protection under the framework of its Drought Risk Reduction Action Plan. This assessment builds on the initial field trial of the draft CoBRA tool undertaken in late 2012.

The multi-agency assessment was jointly led by the UNDP Drylands Development Centre (DDC) and the Government of Kenya’s National Drought Management Authority (NDMA). Logistical and practical support was provided by Oxfam. A wide range of international and local NGOs operating in the area also participated in the assessment by providing local staff as facilitators to undertake CoBRA training and fieldwork. A list of agencies participating in the CoBRA training and/or field data collection is provided in Appendix 1.

The CoBRA assessment has four broad objectives:

1. Identify the priority characteristics of resilience for a target community;
2. Assess communities’ achievement of these characteristics at the time of the assessment and during the most recent crisis or disaster;
3. Identify the characteristics and strategies of resilient households; and
4. Identify the most highly rated interventions or services in building local resilience.

This report outlines findings of the Turkana CoBRA assessment. It also incorporates the key feedback and consolidated inputs generated at review and validation workshops for the draft assessment report, attended by technical stakeholders from local government and non-governmental organizations working in the area on 2 October and by community representatives on 3 October.

A detailed explanation of the conceptual framework that underpins the methodology is contained in the CoBRA Conceptual Framework and Methodology document.1

2. Approach

2.1 Characteristics of field site

The field assessment was conducted in six districts (Turkana North, Turkana West, Loima, Turkana Central, Turkana South, Turkana East) of Turkana county, Kenya. Within these six sampled subdistricts, 20 administrative locations were selected for the assessment (Figure 1), based on the county’s four livelihood zones: pastoral, agropastoral, urban and fishing.2 Pastoralism is still the predominant livelihood, accounting for 55 percent of the population. Almost one quarter (23.4 percent) of the people are in urban/peri-urban areas, and the remainder are agropastoralists (15.6 percent) and fisherfolk (6 percent).

The sampling frame listing the locations where focus group discussions (FGDs) and key informant interviews (KIIs) were undertaken is shown in Table 1.

Turkana county is situated in the arid north-western region of Kenya, sharing international borders with Ethiopia, Sudan and Uganda. The district has an estimated total population of 855,399 as per the 2009 census, and the majority of the population is ethnic Turkana. The county covers an...
area of 77,000km.\textsuperscript{2} It has recently been divided into 6 districts comprised of 17 administrative divisions.

Turkana county is the poorest in Kenya; an estimated 88 percent of the population lives below the absolute poverty line.\textsuperscript{3} Poverty in Turkana is exacerbated by the harsh environment, poor infrastructure and low access to basic services, in addition to other underlying causes of poverty that are experienced elsewhere in Kenya. The county is classified as part of the Arid and Semi Arid Lands (ASALs).

Turkana consists mostly of low-lying plains with isolated mountains and hill ranges. It receives unreliable and erratic rainfall of less than 100 mm annually, coming in two seasons: the long rains occur between April and July and the short rains between October and November. The county has a warm and hot climate with temperatures ranging between 33°C and 40°C. As

an ASAL county, Turkana experiences frequent, successive and prolonged droughts. The last severe drought was experienced between 2010 and 2012, when 58 percent of the population was assessed as needing food aid.4

Drought puts pressure on natural resources and escalates the area’s chronic insecurity. Cattle rustling is common between the Turkana and neighbouring pastoral tribes in Kenya and in adjacent countries. This insecurity regularly leads to heavy loss of life and livestock and undermines both population movements and development efforts.

### 2.2 Data collection

Full details of the methodology used to undertake a CoBRA assessment are included in the main CoBRA assessment

---

Field work was undertaken by a team of 12 facilitators and 3 supervisors. The team was divided into three groups of five people each, consisting of a supervisor and two pairs of facilitators. Each group covered two of the six districts surveyed. Each FGD was facilitated by two staff from the participating government departments and NGOs. Table 1 summarizes the number and locations of FGDs and KIIs undertaken for this assessment. The facilitators and supervisors, who were familiar with the local context, jointly selected the locations and compositions of the focus groups, using statistical data and criteria such as livelihood zones and level of interventions. Whenever possible, separate FGDs were organized for men, women and youth (aged 15–30, both sexes) to ensure that views on resilience from different gender and age groups would be adequately captured in the discussions. Each group had around 15 participants.

In each focus group location, one to four KIIs were undertaken with households perceived to be resilient, as identified by focus group participants during their discussions. In some cases, the households were also identified as resilient through conversations with local chiefs or other senior residents. A total of 36 FGDs and KIIs took place, in addition to those at the 8 trial sites.

2.3 Constraints and limitations of data collection process

Scoring the attainment of resilience characteristics

After jointly defining resilience, focus group participants were asked to score the extent to which the community had attained the top-ranked characteristics of resilience. The trained facilitators asked communities to select the level of attainment on a scale of 0–10, with 10 being the perfect or ideal situation and 0 an absolute lack of attainment. This approach had been adopted to enable scores to incorporate non-household related issues, such as peace and security, and those that require a more qualitative assessment, such as health care services. It was difficult for communities to objectively define the scale or levels of attainment, which presented a challenge in most cases both to facilitators and to focus group participants.

Long distances between communities

Turkana county is very large, and it was not quite clear from the assessment whether the sample size was adequate to cover the diversity of communities that live there (but far apart) and their livelihoods, and whether the aggregation of sample strata actually represented shared community values and opinions. From the feedback workshop, however, it emerged that the manner in which sampling area and locations were selected – with a focus on major geographic areas (North, Central and South in combination with livelihood zones) – allowed for a significant amount of variation and good representation.

3. Findings

This section reports on the summarized findings from the CoBRA field work conducted during June 2013 in Turkana. Specifically, the findings sought answers to the following questions:

- What are the main hazards or shocks facing the communities?
- What are the characteristics of a resilient community?
- To what extent has the community achieved resilience characteristic?

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• What does a resilient household look like?
• What interventions contributed to household resilience?
• What additional intervention would best build resilience?
• How did key informants achieve and maintain resilience?

3.1 Main hazards or shocks

The main hazard reported in all the FGDs was drought. Communities viewed drought as the most significant contributor to livestock losses and the single most important factor limiting their resilience capacity. Communities also reported that, while past droughts have been longer, the most recent drought, of 2010–2011, was the most severe. The current period was perceived as principally “normal”, with a few of the communities stating that it was a “good” year.

Other hazards/crises reported include conflict (largely cattle rustling with bordering communities of Pokot and also cross-border raids with communities from Ethiopia, Sudan and Uganda). Competition over scarce grazing fields, water resources and pasture escalate inter-tribal animosity especially during drought, often resulting in armed conflicts, which are predatory in nature and very destructive. To a limited extent, the communities also reported livestock diseases and human diseases as other hazards that plague them.

3.2 Characteristics of a resilient community

Focus group participants were asked to describe what they viewed as the characteristics of a resilient community. The data are first presented for the entire set of respondents to give an overall picture of the most highly rated statements. This is followed by an analysis by category of respondent—gender/age, livelihood group and level of intervention in the community are used to disaggregate findings and identify differences across groups.

Analysis – all respondents

Focus group participants were asked to identify and rank statements used to describe a resilient community. Each participant was given six beans to rank the three most significant statements (three beans for the most significant statement, two for the second and one for the third) in terms of priority for building resilience. The bean scores were then totalled for each statement. For ease of comparison, the statements were grouped into the five sustainable livelihood framework (SLF) categories.

Table 2 lists the most highly ranked statements used to describe a resilient community within each of the five SLF categories. (Note that many more statements/characteristics were included in the ranking, but were given low scores and hence are not reported here.) The full list with scores is provided in Appendix 2, which also lists the total scores for all the resilience characteristic statements identified by the focus group participants in each category.

Figure 2 shows the highest scored statements used to describe a resilient community by all focus group participants in the three districts in the order of scores. Figure 3 presents the total score under each of the five SLF categories.

The results show that the surveyed communities perceived education as the most important characteristic of resilience. It should be noted that in almost all focus groups, this meant access to secondary and/or tertiary levels of education. Water

---

6 The sustainable livelihood framework presents the main factors that affect people's livelihoods and typical relationships between them. It identifies five core asset categories or types of capital upon which livelihoods are built: financial, human, natural, physical and social. For further details, please refer to: UK Department for International Development (DFID), Sustainable Livelihoods Guidance Sheets (London, DFID, 1999).
Table 2. Community ranking of resilience characteristics by SLF category

<table>
<thead>
<tr>
<th>SLF category</th>
<th>Top-ranking resilience characteristics ('bean scores')</th>
<th>Total bean score*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td>Diversified income generating activities (IGAs) (375)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Access to credit (287)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Employment (135)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Livestock herds (125)</td>
<td>1,162</td>
</tr>
<tr>
<td>Human</td>
<td>Education (763)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Health care for humans (231)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Food security (173)</td>
<td>1,170</td>
</tr>
<tr>
<td>Natural</td>
<td>Natural resource management (NRM) (118)</td>
<td>118</td>
</tr>
<tr>
<td>Physical</td>
<td>Water for humans (396)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Access to markets (265)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Irrigation (260)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Roads (109)</td>
<td>1,295</td>
</tr>
<tr>
<td>Social</td>
<td>Peace and security (367)</td>
<td>437</td>
</tr>
</tbody>
</table>

*Total bean score does not match the sum of the bean scores in the middle column because the middle column reflects only the top-ranking characteristics while the total in the right column reflects all the characteristics discussed in each category.

Figure 2. Top-ranking resilience characteristics – all respondents

for humans, diversified IGAs and peace and security followed, with similar scores. The statements covering physical capital rank most highly, largely due to the very high ranking given to access to adequate water for humans. The human and financial categories are also ranked highly, while statements relating to social and natural capacity received the lowest overall ranking.

Analysis by gender and age
The priority resilience statements were analysed by gender and age group, through groups comprised of women, men and youth (aged 15–30, both sexes). The
Figure 3. Top-ranking resilience characteristics by SLF category – all respondents

Figure 4. Top-ranking resilience categories by gender/age group

bean score allocated to each of the five SLF categories was taken as a percentage of the total bean score, and the results are represented in Figure 4 to demonstrate the differing priorities that men, women and youth place on resilience statements.

Further to this, the most highly ranked resilience statements by gender/age group are presented in Table 3.

The data suggest the following points:

- All three groups ranked education as the most important characteristic of resilience. Access to clean water for humans was also listed by all three groups.

<table>
<thead>
<tr>
<th>Gender/age</th>
<th>Top 3 resilience characteristics</th>
<th>Total score*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>Education (284)</td>
<td>1,500</td>
</tr>
<tr>
<td></td>
<td>Diversified IGAs (209)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water for humans (143)</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>Education (253)</td>
<td>1,485</td>
</tr>
<tr>
<td></td>
<td>Peace and security (202)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water for humans (162)</td>
<td></td>
</tr>
<tr>
<td>Youth</td>
<td>Education (227)</td>
<td>1,197</td>
</tr>
<tr>
<td></td>
<td>Access to markets (119)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Access to credit (113)</td>
<td></td>
</tr>
</tbody>
</table>

* Total score does not match the sum of the scores in the middle column because the middle column reflects only the top-ranking characteristics while the total in the right column reflects all the characteristics discussed in each category.
• Access to credit and diversified IGAs (which are closely linked) also feature very highly, particularly among women and youth.

Analysis by livelihood group
The analysis included a range of livelihood groups: agropastoral, pastoral, urban and fisherfolk. Figure 5 illustrates the differences in bean score allocation according to the five SLF categories among the four livelihood groups.

The data suggest the following points:
• Education was the top-ranked characteristic of resilience across all groups, with the exception of agropastoral communities, where it is trumped by peace and security. Agropastoral groups are soft targets for rustlers because they are sedentary and unarmed, and therefore peace and security are high on their agenda.

Further to this, the most highly ranked resilience statements by livelihood groups are shown in Table 4.

Table 4. Top-ranking resilience characteristics by livelihood group

<table>
<thead>
<tr>
<th>Livelihood group</th>
<th>Top 3 resilience characteristics</th>
<th>Total score*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agropastoral</td>
<td>Peace and security (190)</td>
<td>1,085</td>
</tr>
<tr>
<td></td>
<td>Education (156)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Food security (86)</td>
<td></td>
</tr>
<tr>
<td>Fisherfolk</td>
<td>Education (66)</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>Water for humans (59)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diversified IGAs (49)</td>
<td></td>
</tr>
<tr>
<td>Pastoral</td>
<td>Education (272)</td>
<td>1,697</td>
</tr>
<tr>
<td></td>
<td>Irrigation (166)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water for humans (153)</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>Education (268)</td>
<td>1,100</td>
</tr>
<tr>
<td></td>
<td>Diversified IGAs (143)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water for humans (124)</td>
<td></td>
</tr>
</tbody>
</table>

* Total score does not match the sum of the scores in the middle column because the middle column reflects only the top-ranking characteristics while the total in the right column reflects all the characteristics discussed in each category.

• Diversified IGAs and water for humans also feature highly among the majority of groups.

Analysis by intervention level
The assessment was conducted in 20 administrative locations in the six districts. Consultation with field teams, NDMA and other government line departments was used to map accessibility to and presence of basic services and interventions in each location as follows:

- Number and level of health care facilities;
- Tarmac road;
- Other main road;
- Mobile phone coverage;
- Well-functioning livestock market;
- Savings and credit programmes;
- Number and level of education facilities;
• Banks; and
• Bank agents/Mpesa. 7

The mapping exercise excluded interventions that are universally provided in all locations, such as food aid and water interventions, or provided only at very low scale, such as less than 500 beneficiaries. The locations were then divided into three even groups:

• The bottom third, representing low intervention areas, which have up to 5 categories of interventions implemented in their area;
• The middle third, representing medium intervention areas, which have 6 to 11 categories of interventions implemented in their area; and
• The top third, representing high intervention areas, which have 12 to 34 categories of interventions implemented in their area.

Figure 6 shows the differences in bean score allocation according to the five SLF categories among the three location groups with different service/intervention levels.

Further to this, the most highly ranked resilience characteristics by group are presented in Table 5.

The data suggest the following points:

• Education was the top-ranking characteristic, with diversified IGAs and water also playing a key role.
• High intervention areas seem to have a greater focus on education, diversified IGAs and credit, whereas low intervention areas placed a greater emphasis on peace and security.

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7 M-Pesa is a mobile phone-based money transfer and microfinancing service offered by Safaricom and Vodacom in Kenya and Tanzania. (M stands for mobile and pesa means money in Kiswahili.)
3.3. Extent to which the community has achieved resilience

Focus group participants were asked to score the extent to which they had achieved their priority characteristics of resilience. They were asked to score each statement twice, first for the current period (agreed to be a normal period) and second for the last significant crisis period (almost universally identified as the drought period of 2010–2011).

Table 6 presents the scores by SLF category for the top-ranked characteristics of resilience. Social and natural characteristics of resilience have the highest scores: in other words, communities ranked social and natural characteristics as the area where they have the greatest degree of attainment of resilience. This category was dominated by responses relating to peace and security and NRM. The remainder of the categories were scored similarly in current and crisis years, suggesting that, in a normal year, community members score their attainment of characteristics of resilience at approximately 2 out of 10.

As with the previous section, the findings are presented first for all respondents and then disaggregated by specific livelihood groups. In this section, the analysis by gender is not included, because focus groups were asked to rank the attainment of the resilience characteristic statements for the entire community, and therefore any differences between men and women in the same community would be based on perceptions.

Figure 7 shows a spider diagram with several rings. The outer ring represents a perfect or ideal score for all statements in that SLF category. The blue band shows communities’ average attainment of those characteristics in the current period, and the red line represents the last crisis period. The scores are ranked on a scale from 0 to 10, with 10 being perfect attainment of that characteristic (for example, the entire community has access to sufficient, good quality water at all times in the period) and 0 being no attainment (no one in the community has access to sufficient, good quality water at all times in the period).

Table 6. Community attainment of resilience by SLF category – top-ranked characteristics

<table>
<thead>
<tr>
<th>SLF category</th>
<th>Top-ranked characteristics</th>
<th>Current period score</th>
<th>Crisis period score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall average</td>
<td></td>
<td>2.5</td>
<td>1.3</td>
</tr>
<tr>
<td>Financial</td>
<td>Diversified IGAs</td>
<td>2.3</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>Access to credit</td>
<td>1.4</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>2.5</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>Livestock herds</td>
<td>3.2</td>
<td>2.0</td>
</tr>
<tr>
<td>Human</td>
<td>Education</td>
<td>2.1</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>Health care for humans</td>
<td>3.0</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>Food security</td>
<td>2.5</td>
<td>1.6</td>
</tr>
<tr>
<td>Natural</td>
<td>NRM</td>
<td>3.1</td>
<td>0.7</td>
</tr>
<tr>
<td>Physical</td>
<td>Water for humans</td>
<td>2.0</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>Access to markets</td>
<td>2.7</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>Irrigation</td>
<td>0.9</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>Roads</td>
<td>1.8</td>
<td>1.1</td>
</tr>
<tr>
<td>Social</td>
<td>Peace and security</td>
<td>3.3</td>
<td>1.8</td>
</tr>
</tbody>
</table>
Table 7 aggregates the scores given to each of the five SLF categories to provide an overall ‘resilience score’. While this clearly masks differences between SLF categories, it is useful to provide an overall indicator of where communities see themselves, for comparison across groups. Clearly, figures should be viewed with some caution, as these scores represent community perceptions around attainment and could therefore overstate or understate reality.

All groups rank their attainment of resilience characteristics at 2.5 out of 10, on average. This drops to 1.3 out of 10 in a crisis year.

There is very little difference between groups, with the exception that fishing communities rank their attainment of resilience characteristics very low, at 1.4 in the current year. It emerged during consultation that most of the families and locals there do not significantly benefit from fishing; the main winners are traders, middlemen and people higher up the value chain who offer the fisherfolk minimal prices, transport the fish in cooled trucks to major urban areas and sell them at higher prices.

### Table 7. Aggregate resilience scores

<table>
<thead>
<tr>
<th></th>
<th>Current year</th>
<th>Crisis year rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>All groups</td>
<td>2.5</td>
<td>1.3</td>
</tr>
<tr>
<td>Livelihood group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agropastoral</td>
<td>2.5</td>
<td>1.4</td>
</tr>
<tr>
<td>Pastoral</td>
<td>2.5</td>
<td>1.4</td>
</tr>
<tr>
<td>Urban</td>
<td>2.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Fisherfolk</td>
<td>1.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Intervention level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>2.4</td>
<td>1.5</td>
</tr>
<tr>
<td>Medium</td>
<td>3.1</td>
<td>1.2</td>
</tr>
<tr>
<td>Low</td>
<td>2.4</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Note: Maximum possible score of 10

3.4. What a resilient household looks like

Focus group participants were asked to describe the characteristics of households that are more resilient compared to others, that is, the households that have already attained many (or all) of the resilience characteristics prioritized. The top three characteristics of a resilient household,
cited consistently by focus groups, were as follows:

- Households that have a business or IGA (34 out of 42 focus groups);
- Households with large herds (27 out of 42 focus groups); and
- Households in which a member has employment/wage labour (26 out of 42 focus groups).

There was little difference between gender/age, livelihood and intervention groups.

A few other household characteristics were mentioned but significantly less often:

- Household has educated members (where this was mentioned it was often in relation to the ability of the educated person to find employment); and
- Household has land.

Focus groups were asked whether the number of resilient households is increasing, decreasing or staying the same (Table 8).

Out of 42 focus groups, the majority (46 percent) said that resilience was increasing. These findings were similar across gender/age groups, with the exception of youth, who were more likely to say that resilience was increasing (58 percent compared with 40 percent for the women and 43 percent for the men).

When disaggregated by livelihood group, agropastoralists had a more pessimistic view; only 9 percent said that resilience was increasing. Urban groups, on the other hand, were much more likely to say that resilience was increasing (73 percent).

When disaggregated by intervention group, high intervention groups were much more likely to say that resilience was increasing (59 percent).

Table 8. Is resilience increasing, decreasing or staying the same?

<table>
<thead>
<tr>
<th></th>
<th>Increasing</th>
<th>Decreasing</th>
<th>Staying the same</th>
<th>Mixed response</th>
</tr>
</thead>
<tbody>
<tr>
<td>All respondents</td>
<td>46%</td>
<td>27%</td>
<td>5%</td>
<td>22%</td>
</tr>
<tr>
<td>Gender/age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>40%</td>
<td>33%</td>
<td>0%</td>
<td>27%</td>
</tr>
<tr>
<td>Men</td>
<td>43%</td>
<td>21%</td>
<td>7%</td>
<td>29%</td>
</tr>
<tr>
<td>Youth</td>
<td>58%</td>
<td>25%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Livelihood group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agropastoral</td>
<td>9%</td>
<td>45%</td>
<td>9%</td>
<td>36%</td>
</tr>
<tr>
<td>Pastoral</td>
<td>44%</td>
<td>25%</td>
<td>6%</td>
<td>25%</td>
</tr>
<tr>
<td>Urban</td>
<td>73%</td>
<td>18%</td>
<td>0%</td>
<td>9%</td>
</tr>
<tr>
<td>Fisherfolk*</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Intervention level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>59%</td>
<td>23%</td>
<td>0%</td>
<td>18%</td>
</tr>
<tr>
<td>Medium</td>
<td>36%</td>
<td>36%</td>
<td>18%</td>
<td>9%</td>
</tr>
<tr>
<td>Low</td>
<td>25%</td>
<td>25%</td>
<td>13%</td>
<td>38%</td>
</tr>
</tbody>
</table>

*The fishing response is based on only one observation.
3.5 Interventions that contributed to household resilience

Communities were asked to list all the services and interventions they had benefited from in the last two to five years. From this long list, each community (through focus groups) was asked to identify jointly the three current or previous interventions that had been most beneficial in building their resilience and why. Table 9 shows that interventions relating to education, water, cash transfers and health were prioritized most regularly.

Groups were also asked to list the three further or additional interventions they felt would best build their resilience. Many communities restated interventions mentioned in the first list, with the justification that the current provision or scale of intervention was too limited and should be expanded. However, it is also interesting to note that education and cash transfers were mentioned much less frequently, while access to credit was given a much higher priority as a future intervention.

The highest scoring interventions are summarized in Table 9, which shows the repeated and clear priority given to water and education interventions. These reflect the high ranking given to these factors as characteristics of resilience by all focus groups. Water interventions were prioritized by all livelihood groups for obvious reasons, particularly for improving food security and livelihoods.

Education was seen as a benefit in itself and also as leading to improved life chances, such as employment for children. Education facilities were ranked more frequently than scholarships and bursaries.

When disaggregated by livelihood group, agropastoralists placed the greatest emphasis on cash transfers and education, while pastoralists also ranked health and credit highly. High and medium intervention areas tended to rank education and water services most highly, whereas low intervention areas focused on cash transfers. This may reflect the higher prevalence of cash transfers as a coping mechanism in low intervention areas where resilience is likely to be lower.

Interestingly, irrigation did not feature as highly as the other interventions, despite high levels of investment in irrigation schemes in this area. Feedback from

<table>
<thead>
<tr>
<th>Type of intervention</th>
<th>Currently/ recently provided</th>
<th>Further or future provision</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>Bursaries, scholarships or construction/refurbishment of school facilities including boarding facilities</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>Water</td>
<td>Water source improvement or improved storage capacity</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>Health</td>
<td>Improvements to health care services, staffing or facilities</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Cash transfers</td>
<td>Transfer of resources to vulnerable people, such as the chronically food insecure (e.g., Hunger Safety Net Programme) and children (e.g., child sponsorship programmes)</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Access to credit or other forms of business support</td>
<td>4</td>
<td>13</td>
<td>17</td>
</tr>
<tr>
<td>Irrigation</td>
<td>0</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>
local consultations suggested that this is because many of the irrigation projects have failed due to poor involvement of the community and inappropriate technologies; limited land ownership, leading to less farmer control over irrigation schemes; and frequent flooding in 2013 within most schemes, resulting in near total crop failure in the county.

3.6. How key informants achieved resilience

A total of 42 key informant interviews were undertaken with members of households identified as ‘resilient’. One to three KIIs were undertaken in each sampled location. KIIs examined the following four areas:

- Composition and characteristics of the household;
- Pathways to resilience;
- Ability to cope with recent shocks and hazards; and
- Priority interventions recommended by resilient households.

Composition and characteristics of resilient households

The KII record sheet records the age, gender, education level and economic activity of all members of the household. The resilient households varied in size from 1 to 10 members with an average of 5.7 members, which is typical for the area. The majority of households interviewed (69.1 percent) had members who had completed at least primary education, and 18 households (42.9 percent) had members who had completed secondary or tertiary education. Government statistics indicate that in Turkana county, 82 percent of the population has no education. Only 15 percent of the county’s population has a primary education and 3 percent has a secondary or higher education.8 From these figures, it would seem that resilient households in Turkana are significantly better educated than the average.9

All 42 KII respondents had household members engaged in one or more of the following activities:

- Business or petty trade (35 respondents out of 42);
- Raising livestock (30);
- Waged employment or casual labour (19);
- Fishing (3); and
- Agricultural production (9).

Overall, the vast majority of resilient households (38, or 90 percent) reported multiple income sources, including members with wage labour and/or a business interest. Most households interviewed (33, or 78 percent) had a source of income from livestock and/or agriculture or fishing. Only four households (9.5 percent) survived solely on one income source: fishing (two) or a single business income (two). A business interest or activity was the most common income source for most resilient households interviewed (33) combined with either a pastoral or agricultural income and/or a wage labour source. The diversification of income sources is clearly a key strategy for resilient households. According to government statistics, only 6 percent of the county’s population is working for pay.10

Most wage earners were government employees, civil servants, chiefs and workers in schools or hospitals. Other workers mentioned included a guard, a mason and NGO staff. Four households cited reliance on casual labour, but no details were recorded.

Pathways to resilience

Virtually all respondents cited their multiple sources of income as the reason

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9 Kenya Commission on Revenue Allocation, Kenya County Fact Sheets, December 2011.
10 Ibid.
for their resilience. The presence of a wage earner or business income was mentioned 9 and 13 times respectively. Fifteen households mentioned that having a large herd and/or the efficient trading and sale of livestock was an important factor or strategy in making them resilient. At least eight respondents described themselves as having good business skills, being ‘business oriented’ or having hard-working or well-managed households.

Households with a wage earner or business regularly explained how income from either of these sources had been saved and used to start/grow businesses, grow livestock herds and/or invest in agricultural production. The business activities described were mostly shops and small kiosks or charcoal production. Unfortunately limited detail was recorded on the types of goods or services provided by shop/kiosk owners. Trading in animals was repeatedly mentioned by households in all livelihood zones as both a source of income and a coping strategy.

In addition to diversified income sources, nine households stated that the use of their own savings (often as part of saving and credit groups) had contributed to their resilience. Two cited inheritance or gifts from family. One household reported that a voucher scheme by an NGO had enabled them to become resilient.

Ability to cope with recent shocks and hazards
Almost all key informants referred to the 2010–2011 drought as the last major hazard. Most indicated that they were better placed to cope with this than others due to the additional income sources outlined above. Wage earners and most businesses were not affected by the drought.

Responses on this issue mostly reiterated the strategies and actions mentioned when describing how the household became resilient. Again, over 15 households mentioned the timely sale of livestock, while others mentioned use of savings, loans from family and reliance on business or wage incomes. Two respondents said they cut back on expenditures and food intake and two others mentioned the value of school feeding programmes for school-age children.

Few households mentioned any specific external interventions as valuable in coping with the drought period. The only programmes mentioned were school feeding (two households) and an NGO voucher programme (one household). It was interesting that there was no explicit mention of food aid, cash transfers or water interventions, all of which are widespread in Turkana.

Priority interventions
Key informants were asked for the three most important interventions to improve their communities’ resilience. Those most highly mentioned were justified on the basis that they would increase productive assets and business skills, and hence income.

- **Expansion of savings and credit opportunities** (21 respondents): These were cited most widely. The importance of accessing affordable credit was seen as very important, with a few also mentioning business training and the promotion of diversified IGAs.
- **Irrigation** (18 respondents): This was also highly rated particularly, but not exclusively, by agropastoralists. The presence of significant irrigation projects in Turkana seems to have influenced the resilient households, and there is much support for expansion of irrigation, even for projects supporting small market gardens.
- **Education** (15 respondents): Most respondents referred to the construction of tertiary facilities or bursaries for secondary or tertiary education.
- **Water interventions** (11 respondents): These were commonly cited, particularly by pastoral groups.
Other interventions mentioned by more than five respondents included roads (eight) and livestock-related interventions including markets (eight) and health (six).

The interventions prioritized by resilient households are very similar to those mentioned by the focus group participants, but with different prioritization. Interventions to expand savings and credit and business support, etc., receive much higher priority. This is not surprising given that respondents are much more involved in business and commercial activities.

4. Summary of feedback from local consultations

The findings were presented at feedback sessions with local stakeholders in Turkana. Separate sessions were held with technical stakeholders (on 2 October) and with community representatives (on 3 October) to accommodate their differing requirements due to varying levels of literacy, language skills and technical sophistication (see Appendix 3 for the list of the technical stakeholders participants). Participants in the meeting with community representatives were briefed on the discussions with technical stakeholders. No major gaps or disparities were found between the views of the two groups. The major feedback on the data presented is included here, to help add understanding and context to the findings.

• Participants felt that the ranked resilience characteristics resonated with the reality in these communities. Generally speaking there were no surprises, and the statements prioritized by the communities were confirmed by both the community representatives and technical stakeholders as what they expected. They also felt that the list was adequately exhaustive. Meeting participants agreed that many of the highly ranked statements reflected issues that were not addressed adequately in the county. They highlighted access to credit and water as sectors that are critical to resilience but are largely neglected. They also felt that education was critical as the county had only a handful of schools (largely supported by the Catholic Diocese of Lodwar) beyond primary schools and until recently only one or two tertiary institutions.

• Participants agreed with the resilience-building measures cited. The only intervention they considered critical that was not mentioned was livestock support services, namely health services and water. They mentioned that this was likely due to the fact that livestock were relatively healthy at the time of the assessment and therefore not a high-priority issue.

• Participants felt that the characteristics of a resilient household – employment, diversified IGAs and large herds – were accurate. They made no particular comments.

• Attainment of resilience scores is based on perception as well as timing of the assessment. There is a risk that the scores can be taken as precise and not placed within the local context. Further, they are heavily influenced by seasonality and current conditions. As a result, an assessment undertaken in a few years might not provide a sense of whether or how resilience has improved, as it could be affected equally by the set of unique local conditions of that period, rather than truly reflecting how conditions have changed over time.

• The meeting concluded that the assessment results could be usefully adopted by identifying ‘keystone’ indicators for monitoring. CoBRA highlighted a few resilience statements that the communities in Turkana county largely view as common priorities, which can be monitored independently as a small set of key markers of resilience. These indicators could also be compared to standard
data sets, such as poverty indicators and Household Economy Analysis data, to identify the gaps in long-term monitoring frameworks on building resilience.

- Participants felt the CoBRA results would enable the county government to better understand community perspectives and needs. They suggested that the time was ripe to explore methods to incorporate the findings into the county strategic planning process.

5. Conclusions and recommendations

5.1 Conclusions

The evidence presented above is extensive and adds a significant amount of understanding of the community perspective on resilience. The following conclusions are drawn from the evidence presented.

- Education emerged as the most widely cited characteristic of resilience. With a score of 763, education remained among the top three characteristics across all age, gender and livelihood groups. The other top characteristics were water for humans (396), diversified IGAs (375), peace and security (367), and access to credit (287).

- When asked to describe the specific characteristics of resilient households in their community, focus group participants consistently emphasized income and assets. Resilient households were described as having multiple income sources, most typically a diversified IGA combined with a primary livelihood activity such as crop agriculture, pastoralism and/or fishing. This was consistent with findings from the KIIs with resilient households, who cited access to multiple income sources as the primary reason for their resilience. Access to education and credit were strongly linked with having the means to achieve higher income and acquire more assets, and hence were key driving factors to reach a resilient status.

- The level of attainment of resilience characteristics was consistently low across all groups even at the time of the assessment, which was considered normal or above normal in terms of precipitation. Overall, for all livelihood zones, resilience scores in the current period (attributed as a normal year) hovered around 2.5 out of 10 in terms of attainment. During a crisis period the scores of all resilience characteristics typically fell to half this, 1.3 out of 10 on average. The woefully low scores in all characteristic areas may reflect the high levels of underlying vulnerability of all groups in Turkana. The scores do not vary much in areas with different levels of intervention. Fishing communities score themselves much lower than the other livelihood groups.

- There was a general level of optimism that the number of resilient households is increasing. This optimism is most marked among youth in urban areas and groups already living in areas with a high level of services, where 58 to 73 percent felt that resilience was increasing.

- There was significant overlap between interventions that were most highly rated for helping to build resilience and the most highly rated characteristics of resilience: education, water and credit/business support. Resilient households cited a similar set of priority interventions, but they ranked access to credit and business skills and irrigation much higher. It would seem that communities in Turkana are keen to expand and diversify their livelihoods and move beyond sole reliance on pastoral and rain-fed agricultural income sources. Education, irrigation and credit are seen as central requirements for this transformation.
5.2 Recommendations

Despite the significant variations in livelihoods and topography in Turkana, communities repeatedly prioritized a relatively small set of resilience characteristics. These included education, water, diversified IGAs, peace and security, and access to credit. Importantly, these indicators encompass both long-term and short-term issues and include factors that are not always immediately considered a part of disaster risk reduction strategies, as well as factors that require a long-term commitment to investment. Thus:

- **A broader conception of disaster risk reduction is required if resilience is to be built.** Specifically:
  - Investment in expanding access to higher level education must be a priority. Increasing access to education will result in significant capital and revenue costs, but it is a prerequisite if communities are to expand and diversify their income sources, which appears to be a high priority.
  - **Water requires continual investment,** particularly to ensure that communities can access water more reliably throughout the year.
  - Parts of the county need more focus on peace and security, as conflict fundamentally undermines progress and development. Communities seem to lack understanding about how to tackle insecurity or who should do it. Clearly efforts to date appear to have had limited impact.
  - In the short term, less costly interventions, such as access to credit and business skills, could be prioritized. However it should be borne in mind that the success such interventions could be handicapped if longer term interventions, as mentioned above, continually fail to be developed in tandem.

- **Planning and implementation of future interventions should be based on the extent to which they build and diversify incomes and assets either directly or indirectly.** Diversified IGAs, employment opportunities and large herds were consistently and uniformly used to describe resilient households. When these households were asked about the pathways that led to resilience, they mentioned access to education, credit, markets, etc., as the factors that helped them reach a diversified income base.

- **The community perspective must be incorporated into the disaster risk reduction/resilience agenda.** The assessment findings show that communities are highly aware of the long-term and short-term factors that contribute to or undermine their resilience. Too often consultations with communities focus on interventions that are already designed by ‘technical experts’ approved by ‘decision-makers’ in a top-down manner or for which budget is available. Failure to respond to local contexts and integrate the needs and priorities of the beneficiaries may partially account for the fact that the districts where the assessment was conducted have been facing drought crises repeatedly every few years despite the level of humanitarian and development support provided in the region. Stakeholders involved in building resilience need to be aware of the wider spectrum of factors that affect resilience and consider how they can re-focus their (or others’) efforts and budgets in these areas.

- **Continuous monitoring and evaluation is critical to measuring changes in resilience.** The consistency in statements by communities suggests that a few key indicators could be identified to monitor resilience more systematically. Some of these indicators are already being measured as part of data collection exercises, such as household income sources and levels. Agreeing on an appropriate indicator and method of collection, such as for peace and security, would require some level of consensus.
## Appendix 1. Participants in CoBRA Turkana assessment

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Organization</th>
<th>Phone no.</th>
<th>Email address</th>
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<tbody>
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</tr>
</tbody>
</table>
Appendix 2. Complete resilience statements and scores for CoBRA Turkana

<table>
<thead>
<tr>
<th>Resilience characteristics</th>
<th>Full resilience statement(^{11})</th>
<th>Bean score</th>
<th>Total bean score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Financial</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diversified IGAs</td>
<td>Many households would be involved in other IGAs, such as small businesses and trading.</td>
<td>375</td>
<td>1,162</td>
</tr>
<tr>
<td>Access to credit</td>
<td>People would have good access to affordable credit and would be saving money (through banks, microfinance institutions, community savings and credit).</td>
<td>287</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td>There would be many opportunities for jobs and other forms of paid employment through government, factories and other businesses.</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td>Livestock herds</td>
<td>Pastoralists would have herds large enough to sustainably support their families.</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Health care for livestock</td>
<td>The community would have access to high-quality and affordable animal health services, including veterinary services and vaccinations, whenever they need them.</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>Land</td>
<td>Everyone would have secure access to/ownership of land/property.</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>Productive farms</td>
<td>Farmers would be more productive and profitable (i.e., they would have inputs like quality tools, oxen, fertilizers and improved knowledge of good farming practices).</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Cash transfers</td>
<td>Households would receive cash transfers.</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Fishing inputs</td>
<td></td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Remittances</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Human</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>All children would be able to complete primary/secondary/tertiary education.</td>
<td>763</td>
<td>1,170</td>
</tr>
<tr>
<td>Health care for humans</td>
<td>The community would have access to high-quality and affordable basic health care locally.</td>
<td>231</td>
<td></td>
</tr>
<tr>
<td>Food security</td>
<td>All households would be able to feed themselves well every day.</td>
<td>173</td>
<td></td>
</tr>
<tr>
<td>Skills</td>
<td>The community would have the skills and structure to plan and implement solutions to their own problems.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Natural</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NRM</td>
<td>Local rangelands and other natural resources would be well managed so they do not become degraded over time; trees and forest cover would be well and sustainably managed to provide for future generations.(^ {12})</td>
<td>118</td>
<td>118</td>
</tr>
</tbody>
</table>

\(^{11}\) Note that blanks indicate statements that were added by communities during focus group discussions, and as such did not have a generic full statement associated with them.

\(^{12}\) Note that several statements relating to NRM were merged for natural capital.
## Resilience characteristics

<table>
<thead>
<tr>
<th>Resilience characteristics</th>
<th>Full resilience statement</th>
<th>Bean score</th>
<th>Total bean score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water for humans</td>
<td>The whole community would have access to sufficient, good-quality water at all times of the year.</td>
<td>396</td>
<td>1,295</td>
</tr>
<tr>
<td>Access to markets</td>
<td>The community would have easy access to markets to buy goods and sell their produce.</td>
<td>265</td>
<td></td>
</tr>
<tr>
<td>Irrigation</td>
<td>Farmers would be irrigating land to improve the production of crops for consumption and sale.</td>
<td>260</td>
<td></td>
</tr>
<tr>
<td>Roads</td>
<td>There would be good-quality roads to the community.</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>Water for livestock</td>
<td>Livestock would have access to sufficient water at all times of the year.</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>The community would have access to affordable electricity supply.</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>Telecommunications</td>
<td>There would be a reliable mobile phone network to all communities all the time.</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td>Sanitation</td>
<td>Everyone would have good sanitation.</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Shelter</td>
<td>Everyone would live in good-quality housing.</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>[Human or livestock use not specified]</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peace and security</td>
<td>The whole community would enjoy continual peace and security.</td>
<td>367</td>
<td>437</td>
</tr>
<tr>
<td>Community empowerment</td>
<td>The community would have the skills and structures to plan and implement solutions to their own problems.</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>Women would be fully involved in local development and leadership.</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Good governance</td>
<td>The community would be served by efficient and non-corrupt community leaders and management structures.</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Wives</td>
<td>Men would have many wives (dowry).</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 3. Participants in CoBRA Turkana technical stakeholders feedback session

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Organization</th>
<th>Email address</th>
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</tbody>
</table>
Annex 3

Community-based Resilience Analysis Assessment Report

Kotido and Kaabong Districts
Karamoja Sub-region, Uganda

Commissioned by UNDP Drylands Development Centre

Under the framework of the
European Commission Directorate General for Humanitarian Aid and Civil Protection’s Drought Risk Reduction Action Plan
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1. Introduction

The comprehensive Community-Based Resilience Analysis (CoBRA) assessment was undertaken in the districts of Kotido and Kaabong, Karamoja sub-region, Uganda, from 15–26 July 2013. The exercise was carried out with financial support from the European Commission Directorate General for Humanitarian Aid and Civil Protection under the framework of its Drought Risk Reduction Action Plan. This assessment builds on an initial field trial of the draft CoBRA tool undertaken in late 2012.

The multi-agency assessment was jointly led by the United Nations Development Programme (UNDP) Drylands Development Centre and the Office of the Prime Minister (OPM). Logistical and practical support was provided by the Drylands Development Centre. A wide range of international and local NGOs operating in the area also participated in the assessment by providing local staff as facilitators to undertake CoBRA training and fieldwork. A list of agencies that participated in the CoBRA training or the field data collection is provided in Appendix 1.

The CoBRA assessment has four broad objectives:

1. Identify the priority characteristics of resilience for a target community;
2. Assess the communities’ achievement of these characteristics at the time of the assessment and during the last crisis or disaster;
3. Identify the characteristics and strategies of existing resilient households; and
4. Identify the most highly rated interventions or services in building local resilience.

This report outlines findings of the Kotido/Kaabong CoBRA assessment. It also incorporates key feedback and consolidated inputs generated at review and validation workshops of the draft assessment report by community representatives in Kotido on 29 October 2013 and local government and non-governmental technical stakeholders working in the area in Moroto on 31 October 2013. The report also summarizes the comments and recommendations made at the ‘National Workshop on Enhancing Community Resilience: Learning from the CoBRA’, which was convened jointly by OPM and UNDP on 28 November 2013 in Kampala.

A detailed explanation of the conceptual framework that underpins the methodology is contained in the CoBRA Conceptual Framework and Methodology document.\(^1\)

2. Approach

2.1 Characteristics of field site

The field assessment took place in Kotido and Kaabong districts of Uganda, in the country’s northeast near the border with Kenya. The population of these two districts represents 49 percent of the Karamoja sub-region and all the livelihood zones in the sub-region. This enabled sampling of parishes in pastoral,\(^2\) agropastoral, agricultural and urban/peri-urban livelihood zones. A total of 18 parishes were sampled for the assessment (Figure 1).

Kotido and Kaabong districts cover more than 20,100 square kilometres and face a multitude of human development and environmental challenges. They have the lowest development indicators in the country, with more than 80 percent of

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2 Pastoral livelihood groups include those households whose income sources are mainly (more than 90 percent) livestock based.
the population living below the poverty line. Average population density in the two districts is just under 50 people per square kilometre. Resident tribes include the Dodoth, Jie, Minig and Nyagea, who practise agropastoral livelihoods, and the Napore and Ik, who are engaged in agriculture.

Kotido and Kaabong occupy a semi-arid zone characterized by recurrent long dry spells and erratic rainfall. The area is chronically food insecure and often experiences livestock disease outbreaks; limited access to agricultural and livestock inputs and markets; persistent cattle raiding; and inter-communal conflicts. The districts face widespread gaps in access to basic services of health, water and education, along with poor road infrastructure and limited trade opportunities.

2.2 Data collection

Full details of the methodology used to undertake a CoBRA assessment are

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3 United Nations Office for the Coordination of Humanitarian Affairs, Uganda Humanitarian Profile, 2011.
included in the main CoBRA assessment report and implementation guidelines. Data were collected using qualitative methods, i.e., focus group discussions (FGDs) and key informant interviews (KIIs).

Field work was undertaken by a team of 15 facilitators and 3 supervisors. The group was divided into three teams of five people each, comprising a team supervisor and two pairs of facilitators. The facilitators and supervisors, who were familiar with the local context, jointly selected the locations and compositions of focus groups, using statistical data and criteria such as livelihood zones and level of interventions. Whenever possible, separate focus groups were organized for men, women and youth (aged 15–30, both sexes) to ensure that views on resilience from different gender and age groups would be adequately captured in the discussions. Each group had around 15 participants.

In each focus group location, one to four KIIs were undertaken with households perceived to be resilient, as identified by focus group participants during their discussions. In some cases, the households were also identified as resilient through conversations with local chiefs or other senior residents. A total of 36 FGDs took place, along with 40 KIIs. Table 1 summarizes the number and locations of FGDs and KIIs undertaken for this assessment.

2.3 Constraints and limitations of data collection process

Reluctance about being identified as resilient

By its very nature, knowledge about wealth systems is sensitive, and people are secretive about their wealth. The timing of the study coincided with inflated food prices and elevated food insecurity due to poor crop performance. Accordingly, some focus group participants feared to be associated with wealth and were reluctant to be identified as resilient since such households are at times excluded from food assistance. Nevertheless, the facilitators managed to clear most doubts by organizing prior community mobilization exercises and explaining the purposes of the assessment to the participants.

Changing livelihoods

Livestock holdings in Kotido and Kaabong districts have generally fallen over the years, mainly because of cattle raids, recurrent drought and livestock diseases. The introduction of ox ploughs has increased the acreage devoted to crop farming as well as yields. Thus, some communities that used to be pastoral and have lost their livestock appear to have transitioned to crop farming, despite the climatic challenges. They have acquired ploughs and started large crop gardens, which made it difficult for facilitators to identify the appropriate livelihood in some parishes. Consequently limited weight can be given to analysis of findings by livelihood zone as many ‘pastoralists’ are in reality now agropastoralists.

Rain and poor road infrastructure

Rain coupled with poor road infrastructure often restricted the mobility of the assessment team, especially in Kaabong district. Consequently, some FGDs and KIIs had to be rescheduled.

Gender representation

There was poor representation of women in the assessment team as most of the local partners provided male participants. Of 15 facilitators, there was only 1 woman.


5 World Food Programme and Food and Agriculture Organization of the United Nations, Karamoja Rapid Crop and Food Security Assessment, August 2013.
<table>
<thead>
<tr>
<th>District</th>
<th>Parish</th>
<th>Population</th>
<th>Livelihood</th>
<th>No. of FGDs</th>
<th>Focus group composition</th>
<th>No. of KIIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaabong</td>
<td>Kalapata</td>
<td>6,900</td>
<td>Pastoral</td>
<td>2</td>
<td>Male elders, male youth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Kathile</td>
<td>15,900</td>
<td>Agropastoral</td>
<td>2</td>
<td>Females (all ages); Mixed youth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Lolelia</td>
<td>10,000</td>
<td>Agropastoral</td>
<td>2</td>
<td>Females (all ages); Mixed youth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Loteteleit</td>
<td>9,800</td>
<td>Agropastoral</td>
<td>2</td>
<td>Females (all ages); Mixed youth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Loyoro Napore</td>
<td>7,700</td>
<td>Agriculture</td>
<td>2</td>
<td>Females (all ages); Female youth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Narengepak</td>
<td>8,200</td>
<td>Agropastoral</td>
<td>2</td>
<td>Females (all ages); Mixed youth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Lomeris</td>
<td>13,200</td>
<td>Pastoral</td>
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<td>Male elders; Male youth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Lobongia</td>
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<td>Pastoral</td>
<td>2</td>
<td>Male elders; Male youth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Kamion</td>
<td>5,800</td>
<td>Agriculture</td>
<td>2</td>
<td>Female elders, Female youth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Kathimeri</td>
<td>6,100</td>
<td>Pastoral</td>
<td>2</td>
<td>Male elders; Male youth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Kaabong Central</td>
<td>3,000</td>
<td>Urban</td>
<td>2</td>
<td>Females (all ages); Mixed youth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Kangigetei</td>
<td>*</td>
<td>Pastoral</td>
<td>2</td>
<td>Male elders; Male youth</td>
<td>2</td>
</tr>
<tr>
<td>Kotido</td>
<td>Narikapet</td>
<td>3,700</td>
<td>Peri-urban</td>
<td>2</td>
<td>Males (all ages); Females (all ages)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Lokitelakebu</td>
<td>9,600</td>
<td>Peri-urban</td>
<td>2</td>
<td>Female elders, Female youth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Lochedimeo</td>
<td>*</td>
<td>Agropastoral</td>
<td>2</td>
<td>Mixed elders; Mixed youth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Kotyiang</td>
<td>6,000</td>
<td>Agropastoral</td>
<td>2</td>
<td>Mixed (all ages); Female elders</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Kamoru</td>
<td>20,300</td>
<td>Agropastoral</td>
<td>2</td>
<td>Female elders, Female youth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Loposa</td>
<td>21,400</td>
<td>Agropastoral</td>
<td>2</td>
<td>Female elders, Female youth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Kanawat</td>
<td>17,300</td>
<td>Agropastoral</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Kotido Central</td>
<td>2,800</td>
<td>Peri-urban</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Lokadeli</td>
<td>6,300</td>
<td>Agropastoral</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>160,300</td>
<td></td>
<td>36</td>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>

* Census figures are not available for these parishes.
Note: Empty cells indicate locations where no FGDs took place.
3. Findings

This section reports on the summarized findings from the CoBRA field work conducted during July 2013 in Kotido and Kaabong districts in Karamoja sub-region. Specifically, the findings are presented according to the following categories:

- What are the main hazards or shocks facing the communities?
- What are the characteristics of a resilient community?
- To what extent has the community achieved resilience characteristics?
- What does a resilient household look like?
- What interventions contributed to household resilience?
- What additional interventions would best build resilience?
- How did key informants achieve and maintain resilience?

3.1 Main hazards or shocks

Overall, drought and associated food shortages, malnutrition and famine were perceived by the focus groups as the most common hazards facing the districts and affecting most if not all the households in the communities. Participants cited the drought of 2010–2011 most frequently and agreed it was the main crisis period to be considered in the CoBRA assessment. While nearly 80 percent of the population in the country experienced some degree of food insecurity in 2011, Kotido and Kaabong districts were classified as emergency in terms of the Integrated Food Security Phase Classification. Another hazard reported was conflict (largely clan-based livestock raiding), which has decreased in impact, but nonetheless was experienced constantly in the past decade in several parishes. Flood was also reported; it affects fewer people but scores high in severity. To a limited extent, the communities reported the hazards of livestock/crop diseases, human diseases, animal-human conflict and wildfire.

To a large extent and compared to these crisis periods, the communities viewed current conditions as “normal”. However, some communities saw the situation as still “bad” due to the dry spell, which was resulting in reduced crop yields and food shortage as well as some crop diseases.

3.2 Characteristics of a resilient community

Focus group participants were asked to describe what they viewed as the characteristics of a resilient community. In the following subsections, the data are first presented for the entire set of respondents to give an overall picture of the most highly rated statements. The results are analysed further by category of respondent – gender/age, livelihood group and level of intervention in the community – which are used to disaggregate findings and identify differences across groups.

Analysis – all respondents

Focus group participants were asked to identify and rank statements used to describe a resilient community. Each member was given six beans to rank the three most significant statements (three beans for the most significant statement, two for the second most significant and one for the third) in terms of priority for building resilience. The bean scores were then totalled for each statement. For ease of comparison, the statements were grouped into the five sustainable livelihood framework (SLF) categories.¹⁷

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¹⁶ Uganda, Uganda Humanitarian Profile 2012.
¹⁷ The sustainable livelihood framework presents the main factors that affect people’s livelihoods and typical relationships between them. It identifies five core asset categories or types of capital upon which livelihoods are built: financial, human, natural, physical and social. For further details on SLF, please refer to: UK Department for International Development (DFID), Sustainable Livelihoods Guidance Sheets (London, DFID, 1999).
Table 2 lists the 14 most highly ranked statements used to describe a resilient community within each of the five SLF categories. (Note that many more statements/characteristics were included in the ranking, but were given low scores and hence are not reported here.) The full list of the characteristics identified by the communities with scores and expanded statements is provided in Appendix 2.

Figure 2 shows the highest scored characteristics used to describe a resilient community by all focus group participants.
in the two districts in the order of bean scores. Figure 3 presents the total bean score under each of the five SLF categories.

In terms of the characteristics, productive farms, education and peace and security received the highest bean scores. In terms of the SLF categories, characteristics addressing financial capital and capacity ranked most highly, followed by human and physical capital. Social and natural categories received lower scores.

The stakeholder review and validation meeting in October 2013 deliberated on these findings and confirmed that the high ranking of productive farms as the priority resilience characteristic represents the local reality. It reflects the ongoing diversification of livelihood options in the region, in particular the transition from pure pastoralism to agropastoralism or crop farming for increased food security. Communities in Kotido and Kaabong districts are transitioning away from livestock rearing as the main source of livelihoods due to challenges such as the outbreak of transboundary animal diseases, which has led to the loss of thousands of livestock.

Internal and external conflicts have led the communities in Kotido and Kaabong districts to gradually shift to crop production as their main source of livelihoods. Peace and security have recently been realized in most parts of Karamoja, so communities have also expanded their settlements to previously less cultivated areas, including Lobonya, Karwakol, Lolelia, Moruitit, Nyarkidi, Kottidany and Adual, for the purpose of expanding sedentary farming.

Favourable climate patterns, with more reliable and frequent rains in the last four years, have also encouraged more crop production in the greenbelt areas of Karamoja sub-region, which include

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8 Diseases mentioned include peste des petits ruminants, contagious bovine pleuropneumonia, contagious caprine pleuropneumonia, East Coast fever and Brucellosis.
Kaabong and Kotido districts. These circumstances account for growing demand for agricultural inputs such as improved seeds, drought-resilient plant species, management technology and fertilizers.

The high ranking of education was also confirmed as extremely relevant. The communities understand that education is a means to improve livelihood diversification and access to basic services in the long run. This is particularly applicable in view of the pastoralists’ shift to other economic activities.

With regard to the low ranking of food security in the list of resilience characteristics, participants in the review and validation workshop shared the insight that food security is indirectly represented in the other characteristics. Communities feel that attaining the other key factors – having productive farms, education, peace and security, health, natural resources, roads, markets, etc. – contributes to overall food security in the long run. Nonetheless, a recommendation was made to analyse further the food-related community statements to better understand local food security priorities in terms of access, availability, quality, etc.

Analysis by gender and age
The priority resilience statements were also analysed by gender and age group, through groups comprised of women, men and youth (aged 15–30, both sexes). The score allocated to each of the five SLF categories was taken as a percentage of the total bean score, and the results are represented in the bar chart in Figure 4 to demonstrate the differing priorities that men, women and youth place on resilience statements.

The most highly ranked resilience characteristics and their scores by gender/age group are presented in Table 3, which shows how highly both women and men rate productive farms. Men also rank peace and security in their top three, possibly reflecting the fact that men are primarily involved in herding and therefore are more likely to be affected by cattle rustling and
tribal clashes. Youth rank education and financial factors highly. This may reflect aspirations to move away from pastoral and agricultural livelihoods.

The review and validation workshop provided further insight on the results as follows:

**Women**

- **Productive farms**: Women’s high priority on productive farms reflects the division of labour, as women are more involved in farm work than men. Women also have greater access to and control of agricultural produce as they are responsible for feeding the family.
- **Education**: Women are widely seen as prioritizing education as a long-term component of resilience, as it leads to better employment opportunities that can supplement household livelihoods.
- **Livestock**: Having large numbers of livestock is still seen as an important coping strategy in the districts during disasters.

**Men**

- **Productive farms**: Sole dependence on livestock is risky, and the need to transform and diversify livelihoods has been strongly felt in the districts. Agricultural crop production is increasingly perceived as a direct source of livelihoods in terms of household consumption and commercialization, as a result of awareness-raising campaigns undertaken by the Government and NGOs, particularly in recognition of recent favourable rainfall patterns.
- **Peace and security**: Men are traditionally involved in raiding and fighting with other ethnic groups and thus are direct victims of insecurity, while women tend to remain home to take care of the household and children. In this context, men are better positioned to appreciate the current level of peace and security and to stress the importance of maintaining social stability as a driver for attainment of all other characteristics of resilience.

**Youth**

- **Education**: Young people envisage a brighter future with higher education in that it should provide them with more opportunities and livelihood options. Educated youth in the districts are seen as role models and agents of change. Awareness on the importance of education is also increasing with support from the Government and other partners. Additionally, culture and tradition are gradually giving way to modern life in Karamoja. For example, electricity finally arrived in Moroto in May 2013 and has had a great impact on the lives of many Karamojong.
- **Access to markets**: Youth are more proactive in commercialization, so are naturally more inclined to see market access as a component of resilience.
- **Access to credit**: Credit is a benchmark for increased commercialization.

**Analysis by livelihood group**

Resilience statements were also analysed for three livelihood groups – agropastoral, pastoral and peri-urban. Figure 5 illustrates the differences in bean score allocation by the five SLF categories among the three livelihood groups.

Further to this, the most highly ranked resilience characteristics by livelihood groups are presented in Table 4.

The data suggest the following:

- **Pastoral and agricultural groups** place far greater weight on financial characteristics, whereas peri-urban and agropastoral groups give more weight to the physical characteristics of resilience.
following basic services and interventions, which were mapped out in all the surveyed parishes in Kotido and Kaabong districts:

- Number and level of education facilities;
- Police, prisons, army barracks;
- Number and level of health facilities;
- Tarmac road;
- Other main road;
- Well-functioning livestock market;
- Water supply;
- Savings and credit programmes;
- Cash transfers;
- Mobile money services;
- Banks/banking services; and
- Mobile phone coverage.

Excluded from the mapping exercise were interventions that are universally provided in all the parishes, such as food aid, or provided only at very low scale, such as to less than 500 beneficiaries. The parishes were then divided into three even groups:

- The bottom third represents low intervention areas, where up to four categories of interventions are implemented.
- The middle third represents medium intervention areas, where five categories of interventions are implemented.
- The top third represents high intervention areas, where six or more categories of interventions are implemented.

### Analysis by intervention level

Consultations with the local CoBRA assessment team and government line departments were used to map accessibility to and presence of the following basic services and interventions, which were mapped out in all the surveyed parishes in Kotido and Kaabong districts:

- Agropastoral, pastoral and agricultural groups all rank productive farms as the most important characteristic of resilience, whereas peri-urban households focus on peace and security. It is interesting to note that agricultural and peri-urban households rank access to credit as the second most important characteristic of resilience, while this does not come up with the other groups.

### Table 4. Top-ranking resilience characteristics by livelihood group

<table>
<thead>
<tr>
<th>Livelihood group</th>
<th>Top 3 resilience characteristics</th>
<th>Total score*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agropastoral</td>
<td>Productive farms (452) Education (346) Health care for humans (207)</td>
<td>2,411</td>
</tr>
<tr>
<td>Pastoral</td>
<td>Productive farms (200) Livestock herds (156) Peace and security (120)</td>
<td>996</td>
</tr>
<tr>
<td>Agricultural</td>
<td>Productive farms (67) Access to credit (61) Education (49)</td>
<td>400</td>
</tr>
<tr>
<td>Peri-urban</td>
<td>Peace and security (78) Education (76) Access to credit (49)</td>
<td>400</td>
</tr>
</tbody>
</table>

* Total score does not match the sum of the scores in column 2 because column 2 reflects only the top-ranking characteristics while the total reflects all the characteristics discussed in each category.
Figure 6 shows the differences in scores according to the five SLF categories among the three location groups with different services/intervention levels.

Further to this, the most highly ranked resilience characteristics by group are presented in Table 5.

The data suggest the following:

- All three groups consistently place the greatest emphasis on financial characteristics of resilience.
- The weightings are more or less consistent across intervention groups, though low intervention areas tend to put more emphasis on human characteristics of resilience than do the medium and high intervention groups.
- While all three groups rank productive farms and education as their top characteristics of resilience, high and low intervention groups ranked human health in the top three, while medium intervention groups ranked livestock.

### 3.3 Extent to which the community has achieved resilience

Focus group participants were asked to score the extent to which they had achieved their priority characteristics of resilience. They were asked to score each statement twice, first for the current period (agreed to be a normal period) and second for the last significant crisis period (almost universally identified as the drought period of 2010–2011).

The following subsections present the findings first for all respondents and then disaggregated by specific livelihood groups. The analysis by gender is not included in this section, because focus groups were asked to rank the attainment of the resilience characteristic statements for the entire community, and therefore any differences between men and women in the same community would be based on perceptions.

Figure 7 shows a spider diagram with several rings. The outer ring represents a perfect or ideal score for all statements in that SLF category. The blue band shows

<table>
<thead>
<tr>
<th>Intervention level</th>
<th>Top 3 resilience characteristics</th>
<th>Total score*</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Productive farms (433) Education (332) Health care for humans (291)</td>
<td>2,406</td>
</tr>
<tr>
<td>Medium</td>
<td>Productive farms (123) Education (77) Livestock herds (77)</td>
<td>1,202</td>
</tr>
<tr>
<td>Low</td>
<td>Productive farms (206) Education (176) Health care for humans (121)</td>
<td>599</td>
</tr>
</tbody>
</table>

* Total score does not match the sum of the scores in the middle column because the middle column reflects only the top-ranking characteristics while the total in the right column reflects all the characteristics discussed in each category.
communities’ average attainment of those characteristics in the current period, and the red line represents the last crisis period. The scores are ranked on a scale from 0 to 10, with 10 reflecting perfect attainment of that characteristic (for example, the entire community has access to sufficient, good-quality water at all times during a calendar year), and 0 reflecting no attainment (no one in the community has access to sufficient, good-quality water at all times of the calendar year).

Table 6 presents the scores by SLF category for the top-ranked characteristics of resilience. Overall in a normal period, community members rank their attainment of characteristics of resilience on average 4.8 out of 10, as opposed to 1.9 during the crisis period. Clearly, figures should be viewed with some caution, as these scores represent community perceptions and have no statistical significance, and they could overstate or understate reality.

Social characteristics of resilience have the highest score (7.1). In other words, communities ranked social characteristics as the area where they have the greatest degree of attainment of resilience. This category was dominated by responses relating to peace and security, and the high ranking reflects the benefits these communities have gained from the recent period of much higher social stability and safety. However, these scores could quickly deteriorate if the security situation deteriorates.

On the whole, there are distinct differences in the resilience characteristic attainment scores between the current period (perceived to be normal) and the crisis period (the 2010–2011 drought), indicating the communities are highly vulnerable to shocks. In particular, the dynamic nature of the 2010–2011 drought, which was characterized not only by severe rainfall deficits but also by occasional flash floods and sporadic ethnic clashes, may partially account for the large gaps. The scores may also reflect the need for more timely support in response to disasters in the districts at the onset of climatic hazards, before the impacts of shocks undermine resilience characteristics.

After peace and security, the characteristics most affected by shocks are water for livestock, sanitation, education and
markets. Drought clearly affects the availability of water for livestock; however sanitation and markets are often more highly affected by floods. Education (scores reflect school attendance) can be affected by all shocks, including price inflation, which reduces household ability to pay education fees and other costs.

The characteristics least affected by shocks are livestock herds, food security, diversified IGAs, employment and health. While some of these characteristics may be less dependent on weather, the chronically low attainment rates in both normal and crisis periods may imply the need for long-term development support to improve fulfilment of these characteristics in the districts in the future. For instance, livestock herds are now significantly smaller than before; a herd of more than 10 cattle is now considered large in the area. This leaves little room for mass livestock loss in a drought. Similarly, food insecurity reflects chronically low agricultural production and incomes.

The review and validation meeting in October 2013 confirmed the accuracy of the current high attainment rate of peace and security characteristics (score of 7.1 overall). The participants noted that the score can possibly be higher in some areas. The police presence in almost every subcounty and the highly visible Uganda Peoples’ Defence Forces patrolling roads and borders have contributed tremendously to improving the security in Karamoja, justifying the score. Effective community mobilization for conflict resolution and peace building, led by politicians, the local authority and partners, was also highlighted as an important driver for peace. The International Day of Peace was commemorated on 21 September 2013 in Moroto. Former warriors are now engaged in IGAs, such as brick-making, food for work, cash for work and quarry, apiary and charcoal businesses.

As for the attainment of characteristics related to productive farms, participants

<table>
<thead>
<tr>
<th>SLF category</th>
<th>Top-ranked characteristics</th>
<th>Current period score (July 2013)</th>
<th>Crisis period score (2010–2011 drought)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall average</td>
<td></td>
<td>4.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Financial</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to credit</td>
<td>3.7</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Livestock herds</td>
<td>3.6</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td>4.0</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Diversified income-generating activities (IGAs)</td>
<td>4.9</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>Human</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>5.6</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>Health care for humans</td>
<td>4.7</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Food security</td>
<td>4.2</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water for humans</td>
<td>4.6</td>
<td>1.4</td>
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</tr>
<tr>
<td>Water for livestock</td>
<td>5.2</td>
<td>1.6</td>
<td></td>
</tr>
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<td>Sanitation</td>
<td>5.1</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Access to markets</td>
<td>5.2</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peace and security</td>
<td>7.1</td>
<td>2.2</td>
<td></td>
</tr>
</tbody>
</table>
raised concerns about the score attained. They stressed the need to analyse the scores carefully, noting the possibility of bias or dependency syndrome among the respondents, particularly in view of the overwhelming amount of agricultural support provided to these communities by the Government and non-governmental actors such as OPM, National Agricultural Advisory Services and Northern Uganda Social Action Fund.

Views on attainment of the education characteristics were more varied: Some noted the increase in schools all over the districts, while others pointed out low education quality, such as inadequate teacher-student ratios. Further analysis may be required to determine what indicator should be measured – rates of enrolment or completion.

As for the unique rating of the livestock herd characteristics (showing higher resilience in the crisis period than in the normal period), participants commented that the increased access to markets due to improved peace and security in the recent past (i.e., the normal period) might have encouraged the pastoralists to shift from livestock-based livelihoods to other IGAs, such as agriculture. Such a shift has reduced the number of livestock overall, hence diminishing supply and demand in the livestock sector.

Table 7 aggregates the scores by livelihood groups and intervention levels. While it clearly masks differences between SLF categories, it is useful to provide an overall indicator of where different community groups see themselves as per their livelihood activities and locations.

Results by livelihood group show some important differences. Peri-urban groups ranked their resilience characteristics most highly (5.7). Agropastoral groups also gave their resilience a relatively high score in normal periods (5.3), whereas purely pastoral or agricultural groups ranked their resilience much lower even during the “normal” period, at 3.9, falling slightly to 3.2 in the crisis period.

When the scores are disaggregated by level of services and interventions, high intervention areas rank their level of attainment of resilience characteristics more highly than medium and low intervention areas, though only by a slim margin.

The joint review and validation meeting deliberated on the gaps in resilience scores between agropastoral/peri-urban (higher) and pastoral/agricultural (lower) livelihood groups. The participants’ insights are as follows:

**Agropastoral**

- The present favourable climate in Karamoja has resulted in good food production. Food crises have been a huge challenge in the sub-region over the years because of drought and insecurity. Food security in Karamoja links directly to building resilience.
- Government policy puts a strategic focus on crop production. Under this framework, agropastoralists are the main recipients of increasing

### Table 7. Aggregate resilience scores

<table>
<thead>
<tr>
<th>Livelihood Group</th>
<th>Current year rank</th>
<th>Crisis year rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>All groups</td>
<td>4.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Livelihood group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agropastoral</td>
<td>5.3</td>
<td>2.1</td>
</tr>
<tr>
<td>Pastoral</td>
<td>3.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Peri-urban</td>
<td>5.7</td>
<td>2.1</td>
</tr>
<tr>
<td>Agricultural</td>
<td>3.2</td>
<td>0.9</td>
</tr>
<tr>
<td>Intervention level</td>
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<td></td>
</tr>
<tr>
<td>High</td>
<td>5.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Medium</td>
<td>4.7</td>
<td>2.2</td>
</tr>
<tr>
<td>Low</td>
<td>4.6</td>
<td>2.9</td>
</tr>
</tbody>
</table>

Note: Maximum possible score of 10
support from the government and other partners in Kotido and Kaabong districts, as part of the transition from the former purely pastoral practices to more diversified livelihoods. Many of them also benefit from free and subsidized farm inputs.

- Improved animal health through vaccination and disease control has been instrumental in improving resilience in the Karamoja sub-region. In addition, restocking interventions have been led by OPM through the Ministry of Karamoja Affairs. Initiatives by other partners – such as the Peace Recovery and Development Plan, Second Northern Uganda Social Action Fund Project, Karamoja Integrated Development Programme and Karamoja Livelihoods Programme – have also improved livelihoods in Kotido and Kaabong districts.

Peri-urban

- Exploration of alternative livelihoods and diversification of income sources in peri-urban areas was suggested as largely responsible for the high scoring by this livelihood group.
- Better access to basic services such as health centres, schools, transport and markets might account for the positive outlook, along with access to information on related livelihood opportunities and various supporting interventions such as credit services (e.g., village saving and loan associations).

Pastoral

- Limited opportunity for livelihoods expansion through pastoralism in the districts was suggested as an explanation for the low rating.

3.4 What a resilient household looks like

Focus group participants were asked to describe the characteristics of households that are more resilient compared to others, that is, the households that have already attained many (or all) of the resilience qualities prioritized. Five characteristics of a resilient household were cited consistently by focus groups:

- Having a large herd (mentioned by 26 out of 36 focus groups);
- Earning a certain level of income (19);
- Having a large farm (18);
- Having a business or IGA (16); and
- Having access to employment/wage labour (10).

Focus groups were asked whether the number of resilient households was increasing, decreasing or staying the same. Table 8 presents findings for the group as a whole as well as findings disaggregated by gender/age, livelihood groups and intervention level. The disaggregation is based on a small sample size and therefore should be viewed cautiously.

Overall, 52 percent of the respondents said their resilience was increasing. Women were more likely to say it was increasing (62 percent) than men and youth.

Peri-urban groups, who ranked their resilience scores the highest, were also the most likely to say that resilience was increasing (75 percent). This is probably because urban dwellers are more likely to benefit from access to employment, markets and diversified IGAs, all of which are considered key characteristics of a resilient household.

Agropastoral households, who also scored their resilience relatively highly, were also very likely to say that resilience is increasing (67 percent). Opinions in agricultural households were divided, and pastoral groups were much more likely to say that resilience was decreasing. Pastoralists’ pessimism is possibly due to the significant decline in herd size in the last decade, which has undermined the social and financial status that pastoralists once had in Kotido and Kaabong districts.
When disaggregated by intervention group, all groups reported similar findings, with more or less half reporting increasing resilience.

### 3.5 Interventions that contributed to household resilience

Communities were asked to list all the services and interventions they had benefited from in the last two to five years. A reasonably wide range of interventions was mentioned, falling into the following categories: water, education, livestock inputs, agricultural inputs, IGAs, peace and security measures, roads and environmental improvement. From this long list, each community (through focus groups) was asked to identify jointly the three current or previous interventions that had been most beneficial in building their resilience, and to explain why. Table 9 shows that, among existing interventions, those relating to water, education, health, productive farms and access to credit were prioritized most regularly.

Groups were also asked to list the three additional interventions they felt would best build their resilience. Many communities restated interventions similar to those mentioned in the first list, with the justification that the current provision or scale of intervention was too limited and should be expanded.

The repeated and clear priority given to water and education interventions reflects the high ranking assigned to these factors as characteristics of resilience by all focus groups. Water interventions were prioritized by all livelihood groups, not surprising given their direct impacts, particularly on improving food security and livelihoods. Education was seen as a benefit in itself and one that would improve life chances, such as future employment. Scholarships and bursaries were seen as essential to help poorer children access education facilities.

Access to credit, specifically village savings and loans schemes, was also frequently cited. It enables households...
to access money that can be used to start businesses, and also to buy necessities in times of hardship.

There were no distinct differences in ranking when disaggregated by age/gender, livelihood group or intervention level.

3.6 How key informants achieved resilience

A total of 40 KIIs were undertaken with members of households identified as resilient. One to three interviews were conducted in each sampled parish, examining these topics:

- Composition and characteristics of the household;
- Pathways to resilience;
- Ability to cope with recent shocks and hazards; and
- Priority interventions recommended.

Composition and characteristics of resilient households

The KII record sheet listed the age, gender, education level and economic activity of all members of the resilient household interviewed. The households varied in size from 1 to 13 members with an average of 6.2 members, which is typical for the area.\(^9\) The number of children and adults was virtually equal, with an average of 3.2 adults and 3.0 children. Households with a higher proportion of adults have more productive labour available, which may be a significant factor in their increased prosperity.

Two thirds of households interviewed (65.8 percent) had members who had completed primary education, and one third (34.3 percent) had members who had completed secondary or tertiary education. According to government statistics, the literacy rate in Karamoja/Kotido is only 21 percent,\(^10\) so it seems that resilient households are significantly more educated than average.

All 40 KII respondents had household members engaged in one or more of the following activities:

- Business or petty trade (32);
- Agriculture (31);
- Wage employment or casual labour (21); and/or
- Livestock raising (16).

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Most households interviewed (38 out of 40, or 95 percent) mentioned income from livestock\textsuperscript{11} and/or agriculture, but only one resilient household relied exclusively on agricultural income. It had a large herd and a large land holding. No resilient household interviewed survived solely on agricultural or pastoral production.

All other resilient households (39/40, or 98 percent) reported multiple income sources. Business activities such as grain and livestock trading were mentioned by 32 households (80 percent). The majority of these households (26/32) mentioned more than one business activity. A wide range of business activities were mentioned:

- Brewing (20);
- Grain trading (8);
- Shop or retail business (8);
- Livestock trading (7);
- Charcoal or firewood production and sale (6);
- Rental of property or land (5);
- Rental of ox or other farm equipment (5);
- Brick production (4); and
- Other (9).

None of the 21 households reporting wage income relied solely on this income. Two households also cited remittances from employed family members living elsewhere. Most wage earners were either government employees (e.g., local councilors, teachers or community workers) or involved in casual labour. Gold mining was the most frequently mentioned casual employment. Most of these wages would be low and insufficient to support families alone, hence the continued reliance on business and agricultural income streams.

It is clear that diversification of income sources is a key strategy for resilient households. Multiple small business incomes and agricultural or pastoral production is the most common model.

Pathways to resilience

Most respondents stated that they had always been resilient, and they cited the income generated from the multiple sources as the key factor in their resilience. Trading in cereals and livestock, by buying when prices are low and selling when they rise, seems a very common route to raising the capital required for another business activity, such as brewing or petty trading. Four households mentioned using their own savings (often as part of self-help/credit groups) and two cited inheritance or dowry payments as enabling them to expand herds or invest in business activities.

Ability to cope with recent shocks and hazards

The types and nature of hazards affecting the key informant households varied and included drought and floods. The most commonly stated coping strategy was reliance on business or wage income not affected by natural hazards. Some indicated temporary measures such as charcoal production and employment in gold mines (out of the area) as common coping strategies used only at certain times of the year or when agricultural production was poor.

Three households reported stockpiling food and/or reducing consumption or expenditures. One household mentioned a cash transfer from an NGO. No other external interventions were mentioned.

Priority interventions

Key informants were asked for the three most important interventions to improve their communities’ resilience. Interestingly, the same five intervention areas emerged for the key informants as for the focus groups.

\textsuperscript{11} Some households mentioned trading in animals but it was not totally clear from the data if that meant they also produced or held livestock.
Interventions relating to agricultural inputs (24 responses) rated most highly. These included a range of specific actions such as distribution of oxen and drought-resistant seeds, grain stores and agricultural tools, and capacity building. The importance of expanding agricultural production and hence improving both food security and income was clearly a high priority for this group.

Education interventions (23 responses) were equally highly ranked. Focus groups also ranked education second. Bursaries and scholarships for secondary or tertiary education accounted for nearly half of the responses. Two responses specified nursery education and one mentioned adult education. Education was always justified as an investment in the future and a way to increase employment opportunities.

Expansion of savings and credit groups and business training opportunities (11 respondents) was also widely cited. This was seen as essential not only to raise capital for business activities that would increase incomes but also to pay for household expenditures such as school fees. The higher priority given to accessing credit among this group is unsurprising given that so many are involved in business and trading activities. Water interventions (11 respondents) were also frequently cited for a range of health, food security and irrigation reasons.

Other interventions mentioned by at least five respondents included health (8) and security (5).

4. Summary of feedback from local and national consultations

The findings were presented as part of feedback sessions with local stakeholders some months after the assessment. Separate sessions were held with community representatives (in Kotido on 29 October) and with local government and non-governmental technical stakeholders (in Moroto on 31 October) to accommodate their differing requirements due to varying levels of literacy, language skills and technical sophistication (see Appendix 3 for the list of the technical stakeholders participants). Participants in the meeting with technical stakeholders were briefed on the discussions with community representatives. No major gaps or disparities were found between the views of the two groups. The findings were also discussed at a national workshop, ‘Enhancing Community Resilience: Learning from the CoBRA’, convened jointly by OPM and UNDP on 28 November in Kampala (see Appendix 4 for the list of participants).

- Participants felt that the ranked resilience characteristics resonated with the reality in the communities where the data were collected. Generally speaking, there were no surprises. Both community representatives and technical stakeholders confirmed that the statements prioritized by the communities were as they expected. The increasing number of government and development partners in the districts had contributed to improving local conditions, as measured by reduced human and animal mortality rates and improved health/nutrition status. Participants also noted that service delivery had improved in the Karamoja sub-region generally: the police had become a permanent presence in almost every subcounty, and health and education facilities and veterinary services had become consistently available. Security officers even participated in the validation workshops in Kotido and Moroto.

In particular, the assessment elaborated the local contexts very clearly, including the ongoing livelihood transition from livestock raising to crop farming. The
participants stressed the importance of maintaining the delivery of basic services in both normal and crisis periods and establishing an enabling environment for resilience building through provision of technical, technological and mechanical/infrastructure support.

- **Participants felt that several characteristics were missing or given insufficient priority.** These included:
  - Natural resource management, which is critical to protecting the assets that are the foundation of local livelihoods. Natural resources are often misused for short-term economic gain, such as through charcoal production, particularly during crisis periods, without due consideration of the long-term consequences. Natural resource management was not captured and prioritized clearly by the communities during the assessment because of the difficulty in tracing the link to resilience. Participants in the workshops also commented that the community might have incorporated the issue of natural resources (land, water, soil, forest/trees pasture, etc.) in the economic, human, physical and social categories rather than the environmental category, making the community’s consideration of it less apparent.
  - Productive pastoralism, with an emphasis on the need for support for fodder production and livestock health. Kotido and Kaabong districts still have many pastoralists, and a nomadic lifestyle prevails in the Karamoja sub-region. Support must therefore be balanced between the livestock and agricultural sectors to improve land use and food production. For example, vaccination services in the villages have been inadequate, so more attention is needed on animal treatment.
  - Road access, such as in Kacheri subcounty of Kotido District. Roads are needed to facilitate access to farmland and markets and to transport goods.
  - Land-related issues, such as land ownership, including both formal tenure and customary systems, particularly in light of the trend towards opening up land for agriculture. More attention may also be needed on other infrastructure such as electricity and dams.
  - Employment, particularly for youth. After acquiring an education, young people need gainful employment to meet their livelihood needs and be resilient.

- **Participants agreed with the resilience-building measures cited.** They highlighted the importance of incorporating the results into the district development plan for Karamoja, as the results represented the views of the communities.

- **Participants largely agreed that the rate of attainment of community resilience characteristics (4.8) reflects the improved local situation, understanding that the scores are based on perceptions that have no statistical significance.** Crop production has increased in recent years because of improved peace and security in Kaabong and Kotido and continuous support from the Government and development partners, coupled with adequate and regular rainfall in the region.

- **Participants felt that the characteristics of a resilient household identified by the focus group participants – employment, diversified IGAs and large herd size – were accurate.** They made no particular comments on this topic.

- **Participants highlighted the following specific recommendations related to building resilience:**
  - **Coordination:** Many agencies are supporting disaster risk reduction
(DRR) and resilience-building in Karamoja, but their interventions are not being coordinated. This has caused duplication of services and inefficient use of funds. The Government needs to revamp coordination from top to bottom as part of the planning and programming process.

- **Natural resource management**: It was felt that management of natural resources should be included in the ranking of resilience-building interventions. Communities’ limited focus on this issue may be because they feel it is represented indirectly through other resilience characteristics or because they have limited awareness of its role in attaining other resilience characteristics. Daily life in Karamoja involves activities linked to natural resource management, including gold mining and use of pasture and trees for charcoal production, so appropriate natural resource management is crucial to community resilience.

- **Continuous assessment**: The need for continuous assessment and monitoring of priority resilience characteristics/indicators was recommended in the validation workshops in Kotido and Kaabong districts. Participants also recommended verifying the resilience characteristics and their attainment rates, for example, vis-à-vis other quantitative data sets.

• **Participants recommended a number of next steps for CoBRA**:
  - **Conduct further analysis on CoBRA methodology and findings**: A detailed analysis of the CoBRA findings should be undertaken for both of the surveyed districts to produce more contextualized policy and practice recommendations. This exercise could be led by the Government with partners from academia and development/humanitarian agencies. Careful analysis of the assessment could also help address some of the remaining research questions on the CoBRA methodology and provide inputs on how the tool can be refined further.
  - **Make use of CoBRA recommendations**: The Government and development/humanitarian partners should consider incorporating the CoBRA findings and recommendations into planning and programming processes at both local and national levels, including Vision 2040, Uganda’s long-term development framework, which will inform other short- and medium-term planning frameworks. The process of mainstreaming the CoBRA findings should be guided by the National Development Authority, the main government planning unit. The National Platform for Disaster Risk Reduction could support the process through technical backstopping.
  - **Complement other DRR works and resilience measurement tools**: CoBRA findings are expected to inform various actions related to DRR and climate change adaptation in the country. Today many agencies are undertaking important related interventions, yet these are often not coordinated, resulting in duplication of services. The multi-agency and multi-sector nature of the CoBRA helps bridge this gap, enhancing local coordination among DRR/climate change adaptation interventions under a common vision of resilience. Further efforts should be made to link the CoBRA tool with other initiatives related to DRR and climate change adaptation. An example is the Regional Analysis Unit, jointly implemented by the Food and Agriculture Organization of the United Nations (FAO), World
Food Programme and the United Nations Children’s Fund in support of the Drought Disaster Resilience and Sustainability Initiative of the Intergovernmental Authority on Development.

- **Develop a roll-out strategy:** Participants expressed concern about whether COBRA would be a sustainable tool. UNDP, the Government and other UN/NGO partners should explore opportunities to roll out the CoBRA methodology in other drought-affected districts in Karamoja and beyond. The assessments should be implemented together with the ongoing livelihood zone updating exercise in the sub-region, being led by OPM and FAO.

- **Incorporate missing resilience characteristics:** Natural resource management was repeatedly mentioned as a missing resilience characteristic that needs to be addressed. Deforestation, mineral mining and bush burning are destructive and unsustainable practices commonly observed in Karamoja, undermining the health of ecosystems. Participants also recommended assessing various community assets derived from pastoralism and crop farming to determine how they contribute to resilience building in Kotido and Kaabong districts.

5. **Conclusions and recommendations**

5.1 **Conclusions**

Some of the key findings from the focus groups:

- Participants in Kotido and Kaabong repeatedly described the top five resilience characteristics as productive farms (bean score of 762), education (586), peace and security (411), access to credit (341) and livestock herds (320). The extremely high ranking of productive farms may reflect the recent shift away from pastoralism to more settled agricultural and agropastoral lifestyles. The community clearly senses a lack of knowledge, skills, tools and equipment.

- Productive farms are highly ranked by women, possibly reflecting their primary role as farmers. Men, on the other hand, rank peace and security higher, not surprising given their primary activity of herding, which makes them more vulnerable to cattle rustling and tribal clashes. Youth rank education and financial factors highly, possibly reflecting aspirations to move beyond pastoral and agricultural livelihoods.

- Focus group participants consistently described income and assets as the most specific characteristics of resilient households. They were described as having one or multiple sources of income through business activities, access to employment or a large herd and/or farm. The critical factor was the diversity of these assets, allowing households to spread risk against a range of crises and shocks. This was consistent with comments made by key informants from resilient households, who cited access to multiple incomes as the primary reason for their resilience. Access to education and credit were consistently described during both FGDs and KII as key to achieving higher incomes and larger assets, and hence was a critical factor in reaching a resilient status.

- Overall, the focus groups felt they were halfway to attaining most of the highly rated resilience characteristics, with an overall resilience score of 4.8 out 10. However, resilience scores were perceived to drop significantly during crisis periods, to an average of 1.9 out of 10, showing these communities’ extreme vulnerability to drought shocks. Access to credit and
sustainable livestock herds were the characteristics reaching the lowest levels of attainment in normal periods, while water for both humans and livestock was scored lowest during crisis periods.

- Urban and agropastoral groups scored themselves as the most resilient relative to other groups (5.7 and 5.3 respectively in the current period). The majority of these groups (75 percent and 67 percent respectively) also believed that the number of resilient households was increasing. Focus groups were generally optimistic; 52 percent agreed that the number of resilient households was growing. Women were more optimistic than men or youth.

- There is significant overlap between the interventions most highly rated in helping to build resilience and the most highly rated characteristics of resilience. Education, productive farms and access to credit were highly rated interventions. Water and health were also highly rated as interventions but not so highly rated as resilience characteristics. Interestingly, peace and security interventions were not rated as a tool for building resilience, despite the fact that peace emerged as a key resilience characteristic. Resilient households gave similar ratings to interventions to build resilience, with higher priority to productive farms and savings and credit.

5.2 Recommendations

- The high priority given to a relatively small set of resilience characteristics should be used to inform programming in this area.

Households are adapting to a more sedentary lifestyle by expanding their participation in agriculture and agropastoral livelihoods. The ability to survive purely on nomadic pastoralism has declined in the districts covered by the CoBRA assessment, and households are adapting to this changing environment by diversifying their livelihood sources. In planning and prioritizing investments in these districts, therefore, priority attention should be given to the following:

- **Support the sustainable expansion of agricultural production:** Comprehensive agricultural extension services are required to enhance the capacity of farming households to sustainably expand agricultural production. Rainfed agriculture in semi-arid areas may generate only marginal incomes. Expansion of agricultural activities in these areas should be strategically planned with due consideration to the type and strains of crops to be grown and the kinds of farming technology (such as irrigation) and water and soil conservation techniques to be utilized.

- **Expand accessibility and quality of education:** Communities recognize that higher education levels are strongly linked with employment and other opportunities to expand income. Access to secondary and tertiary level education in Kotido and Kaabong districts is still very low. Authorities need to consider how access can be expanded so enrolment and completion rates at least meet the Ugandan average. Investment in education is expensive but essential to the districts’ long-term resilience and development prospects.

- **Improve access to credit:** Limited access to credit has emerged as a key barrier preventing households from investing in their agricultural (and pastoral) production and other IGAs. Improving access to credit may be a relatively inexpensive intervention that can be undertaken by multiple actors. It should be coupled with business support and advice to enhance the success
rate of micro and small business ventures. Implementers must bear in mind that widespread success of such interventions in building resilience is dependent on carrying out other longer term interventions in tandem.

- **Place a strong focus on maintaining peace and security:** Insecurity and social instability have long hampered development in Karamoja, exacerbating the impacts of climatic shocks such as drought and flood. It is clear to the communities that peace and security needs to remain a high priority. The long-term success of all interventions will depend on establishing and maintaining a peaceful, stable and secure environment in which livelihoods can flourish.

  • A key criterion in prioritizing future interventions should be the extent to which they build and diversify incomes and assets either directly or indirectly. Financial security, established through having business income, large farms and/or large herds and wage employment, was uniformly described as the reason for household resilience. A resilient community will ultimately be one in which the vast majority of households have achieved financial security. Eventually, this should be the benchmark of a successful resilience strategy.

  • The community perspective must be incorporated into efforts to plan and implement resilience. The assessment findings show that communities are highly aware of the long-term and short-term factors contributing to or undermining their resilience. Too often, consultations with communities focus on interventions that are already designed by ‘technical experts’ and approved by ‘decision-makers’ in a top-down manner or for which there is budget available. The critical factors identified by communities in this study must be incorporated into future planning and decision-making on programmes and projects to ensure that these plans, programmes and projects have a real impact on DRR and other sectors. Stakeholders involved in building resilience need to be aware of the wider spectrum of factors that affect resilience among communities and households and consider how they can re-focus efforts and budgets in these areas.

  • **Ongoing monitoring and evaluation will be critical to measure changes in resilience.** The priority issues highlighted by communities in the CoBRA assessment can be used by governments and other stakeholders as part of the indicators to track trends in local resilience. Undoubtedly, some of these indicators are already being monitored as part of data collection, such as on household income and/or households with members who complete secondary school. Other important indicators may not figure in monitoring, such as the number of household income sources or the number of households accessing a savings and credit mechanism. Discussions on an appropriate set of indicators and monitoring methods will be important to reach consensus among stakeholders working to build resilience in the districts.
### Appendix 1. Participants in CoBRA Kotido/Kaabong assessment

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Organization</th>
<th>Phone number</th>
<th>Email address</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Francis Opio</td>
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<tr>
<td>15</td>
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<tr>
<td>22</td>
<td>Christine Lokiru</td>
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<tr>
<td>23</td>
<td>Lochap Paul</td>
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<tr>
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<td>25</td>
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<tr>
<td>28</td>
<td>Paskali Panvuga</td>
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<tr>
<td>29</td>
<td>Robert Kennedy Okuda</td>
<td>Kotido district local government</td>
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<tr>
<td>30</td>
<td>Lokwi Calistas Adome</td>
<td>Kotido Local Council V Chair-Person</td>
<td></td>
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### Appendix 2. Complete resilience statements and scores for CoBRA Kotido/Kaabong

<table>
<thead>
<tr>
<th>Resilience characteristic</th>
<th>Full resilience statement</th>
<th>Bean score</th>
<th>Total score</th>
</tr>
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<tbody>
<tr>
<td><strong>Financial</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Productive farms</td>
<td>Farmers would be more productive and profitable (i.e., they would have inputs like quality tools, oxen, fertilizers and improved knowledge of good farming practices).</td>
<td>762</td>
<td>1,868</td>
</tr>
<tr>
<td>Access to credit</td>
<td>People would have good access to affordable credit and would be saving money (through banks, microfinance organizations, community savings and credit).</td>
<td>341</td>
<td></td>
</tr>
<tr>
<td>Livestock herds</td>
<td>Pastoralists would have herds large enough to sustainably support their families.</td>
<td>320</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td>There would be many opportunities for jobs and other forms of paid employment through government, factories and other businesses.</td>
<td>147</td>
<td></td>
</tr>
<tr>
<td>Health care for livestock</td>
<td>The community would have access to high-quality and affordable animal health services, including veterinary services and vaccinations, whenever they need them.</td>
<td>127</td>
<td></td>
</tr>
<tr>
<td>Diversified IGAs</td>
<td>Many households would be involved in other IGAs such as small businesses and trading.</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Vehicles</td>
<td>It would be common to own a motorbike or other motor vehicle.</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>Land</td>
<td>Everyone would have secure access ownership of land/property.</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td><strong>Human</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>All children would be able to complete primary/secondary/tertiary education.</td>
<td>586</td>
<td>1,006</td>
</tr>
<tr>
<td>Health care for humans</td>
<td>The community would have access to high-quality and affordable basic health care locally.</td>
<td>315</td>
<td></td>
</tr>
<tr>
<td>Food security</td>
<td>All households would be able to feed themselves well every day.</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>Skills</td>
<td>The community would have the skills and structure to plan and implement solutions to their own problems.</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td><strong>Natural</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural resource management</td>
<td>Local rangelands and other natural resources would be well managed so that they do not become degraded over time; trees and forest cover would be well and sustainably managed to provide for future generations.</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td>Alternative fuel</td>
<td>Communities would use environmentally friendly / sustainable sources of fuel for cooking.</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

---

12 Note that several statements relating to natural resource management were merged for natural capital.
<table>
<thead>
<tr>
<th>Resilience characteristic</th>
<th>Full resilience statement</th>
<th>Bean score</th>
<th>Total score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water for humans</td>
<td>The whole community would have access to sufficient, good quality water at all times of the year.</td>
<td>284</td>
<td>891</td>
</tr>
<tr>
<td>Sanitation</td>
<td>Everyone would have good sanitation.</td>
<td>127</td>
<td></td>
</tr>
<tr>
<td>Access to markets</td>
<td>The community would have easy access to markets to buy goods and sell their produce.</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Water for livestock</td>
<td>Livestock would have access to sufficient water at all times of the year.</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Roads</td>
<td>There would be quality roads to the community.</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>Shelter</td>
<td>Everyone would live in good quality housing.</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>Telecommunications</td>
<td>There would be a reliable mobile phone network to all communities all the time.</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>Irrigation</td>
<td>Farmers would be irrigating land to improve the production of crops for consumption and sale.</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>The community would have access to affordable electricity supply.</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peace and security</td>
<td>The whole community would enjoy continual peace and security.</td>
<td>411</td>
<td>425</td>
</tr>
<tr>
<td>Good Governance</td>
<td>Communities would be served by efficient and non-corrupt community leaders and management structures.</td>
<td>14</td>
<td></td>
</tr>
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</table>
## Appendix 3. Participants in CoBRA Kotido/Kaabong technical stakeholders’ feedback session

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Organization</th>
<th>Email address</th>
</tr>
</thead>
<tbody>
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Appendix 4. Participants in the ‘National Workshop on Enhancing Community Resilience: Learning from the CoBRA’

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<th>No.</th>
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<th>Organization</th>
</tr>
</thead>
<tbody>
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<td>Parliament</td>
</tr>
<tr>
<td>3</td>
<td>Hon. Aleper Margaret Achilla</td>
<td>Member of Parliament</td>
<td>Parliament</td>
</tr>
<tr>
<td>4</td>
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<td>P/A Hon. Alaso Alice Asianut</td>
<td>Parliament</td>
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<tr>
<td>5</td>
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<td>OPM</td>
</tr>
<tr>
<td>6</td>
<td>Kibungo Jonas Moses</td>
<td>SAS for Under Secretary P&amp;D</td>
<td>OPM</td>
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<tr>
<td>7</td>
<td>Owaro Johnson</td>
<td>Agriculture Officer</td>
<td>OPM</td>
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<tr>
<td>8</td>
<td>Vincent Woboya</td>
<td>Principal Disaster Management Officer</td>
<td>OPM</td>
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<tr>
<td>9</td>
<td>Lugaizi Isa</td>
<td>Geologist</td>
<td>Ministry of Energy and Mineral Development</td>
</tr>
<tr>
<td>10</td>
<td>Olive Nalugo</td>
<td>Civil/ Structural Engineer</td>
<td>Ministry of Lands, Housing and Urban Development</td>
</tr>
<tr>
<td>11</td>
<td>SP Kihanda Hassan</td>
<td>Ag. Deputy Director, Fire and Rescue</td>
<td>Uganda Police</td>
</tr>
<tr>
<td>12</td>
<td>Bogdan Stefanescu</td>
<td>Head of Section, Rural Development</td>
<td>European Union Delegation to Uganda</td>
</tr>
<tr>
<td>13</td>
<td>Nathalie Ann Denjon</td>
<td>Reporting Officer</td>
<td>Acted</td>
</tr>
<tr>
<td>14</td>
<td>Thore Karlsson</td>
<td>Country Director</td>
<td>Adventist Development and Relief Agency (ADRA)</td>
</tr>
<tr>
<td>15</td>
<td>Booker Ajuoga</td>
<td>Public Relations</td>
<td>ADRA</td>
</tr>
<tr>
<td>16</td>
<td>Jasper Okello</td>
<td>Regional DRR Program Assistant</td>
<td>DanChurchAid (DCA)</td>
</tr>
<tr>
<td>17</td>
<td>John Musinguzi</td>
<td>Programme Officer</td>
<td>DCA</td>
</tr>
<tr>
<td>18</td>
<td>Isaac Bwire</td>
<td>Programme Manager</td>
<td>IIRR</td>
</tr>
<tr>
<td>19</td>
<td>Edyegu Stephen</td>
<td>WASH Project Manager</td>
<td>International Organization for Migration (IOM)</td>
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<tr>
<td>20</td>
<td>Alexander Billings</td>
<td>Project Officer</td>
<td>IOM</td>
</tr>
<tr>
<td>21</td>
<td>Christopher i Orach</td>
<td>Deputy Dean, School of Public Health</td>
<td>Makerere University</td>
</tr>
<tr>
<td>22</td>
<td>Jeff Mungu</td>
<td>Programme Officer</td>
<td>World Food Programme</td>
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<td>Gerard Omodoi</td>
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<td>ZOA</td>
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<td>24</td>
<td>Adam Vinaman Yao</td>
<td>Deputy Representative</td>
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<td>25</td>
<td>James Okoth</td>
<td>National Programme Manager</td>
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<tr>
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<tr>
<td>26</td>
<td>Geoffrey Muhindo</td>
<td>DRR CCAO</td>
<td>Oxfam</td>
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<td>27</td>
<td>David Othieno</td>
<td>DRR Coordinator</td>
<td>Plan Uganda</td>
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<td>28</td>
<td>Pascal Onegiu Okello</td>
<td>DRR Advisor</td>
<td>UN International Strategy for Disaster Reduction</td>
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<td>29</td>
<td>Mawanda Shaban</td>
<td>Senior Programme Manager, DRR</td>
<td>Uganda Red Cross Society</td>
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<td>Safiou Esso Ouro-Doni</td>
<td>Deputy Country Director</td>
<td>UNDP</td>
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<td>Jose Manzano</td>
<td>DRR Advisor</td>
<td>UNDP/OPM</td>
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<td>Gilbert Arguyo</td>
<td>DRR Analyst</td>
<td>UNDP</td>
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<tr>
<td>33</td>
<td>Yuko Kurauchi</td>
<td>Program Specialist</td>
<td>UNDP</td>
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<td>34</td>
<td>Francis Opiyo</td>
<td>Project Coordinator</td>
<td>UNDP</td>
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<tr>
<td>35</td>
<td>Catherine Fitzgibbon</td>
<td>Consultant</td>
<td>UNDP</td>
</tr>
<tr>
<td>36</td>
<td>Lazarus Ocira</td>
<td>Consultant</td>
<td>UNDP</td>
</tr>
</tbody>
</table>
Annex 4
Community-based Resilience Analysis Assessment Report
Kajiado Central, Mashuru, Loitoktok, Kajiado North and Isinya districts
Kajiado county, Kenya

Commissioned by UNDP Drylands Development Centre

Under the framework of the European Commission Directorate General for Humanitarian Aid and Civil Protection’s Drought Risk Reduction Action Plan
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1. Introduction

The comprehensive Community-Based Resilience Analysis (CoBRA) assessment was undertaken in three districts of Kajiado county, Kenya, between 19 and 30 August 2013. The exercise was carried out with financial support from the European Commission Directorate General for Humanitarian Aid and Civil Protection under the framework of its Drought Risk Reduction Action Plan (DRRAP). This assessment builds on the initial field trial of the draft CoBRA tool undertaken in late 2012.

The multi-agency assessment was jointly led by the United Nations Development Programme (UNDP) Drylands Development Centre (DDC) and the Government of Kenya’s National Drought Management Authority (NDMA). Logistical and practical support was provided by UNDP-DDC. A wide range of international and local NGOs operating in the area also participated in the assessment by providing local staff as facilitators to undertake CoBRA training and fieldwork. A list of agencies participating in the CoBRA training and field data collection can be found in Appendix 1.

- The CoBRA assessment has four broad objectives:
  - Identify the priority characteristics of resilience for a target community;
  - Assess the communities’ achievement of these characteristics at the time of the assessment and during the last crisis or disaster;
  - Identify the characteristics and strategies of resilient households; and
  - Identify the most highly rated interventions or services in building local resilience.

This report outlines findings of the Kajiado CoBRA assessment. It also incorporates feedback and inputs generated at two workshops to review and validate the draft assessment report, one held for community representatives on 6 November and the other for local government and non-governmental technical stakeholders working in the area on 7 November.

A detailed explanation of the conceptual framework that underpins the methodology is contained in the CoBRA Conceptual Framework and Methodology document.1

2. Approach

2.1 Characteristics of field site

The field assessment was conducted in five districts (Kajiado Central, Mashuru, Loitoktok, Kajiado North and Isinya) of Kajiado county, Kenya, which is in the country’s southeast, bordering United Republic of Tanzania. A total of 18 administrative locations were selected for the assessment (Figure 1), representing pastoral, agricultural, agropastoral and urban/peri-urban livelihood zones. The county covers 21,902 sq km and is part of the arid and semi-arid lands (ASALS) in Kenya. Livestock rearing is the main livelihood activity although rainfed and irrigated agriculture is practised in some parts of the county.

Kajiado was chosen because it is one of the semi-arid counties prone to drought in Kenya. In the last decade the county has experienced periods of prolonged drought that have hampered the livelihoods of both pastoralists and agropastoralists. According to the district livestock production officer, drought had severely affected pastoralists, reducing the county’s livestock population by almost three quarters, from 350,000 to 95,000 just in 2009. Around 89 percent of households engage in livestock farming, which is the main source of income. Crop farming is practised by 46.4 percent of households during the rainy season, but in the dry

Understanding Community Resilience

The increasing frequency and intensity of drought cycles has meant that communities are unable to completely recover from the previous cycle before the next one begins. In addition, the amount of land suitable for grazing is diminishing due to subdivision of communally owned land and increasing urbanization, which also impede the traditional drought coping mechanism of migration for water and pasture. As a result, growing numbers of pastoralists are falling out of pastoralism every year, becoming more dependent on emergency relief food for survival; currently, 13.2 percent of the population is receiving relief food through the Protracted Relief and Recovery Operation by the World Food Programme, being implemented by the Neighbours Initiative Alliance. To tackle these challenges, communities in the county have adopted harmful coping mechanisms, such as cutting trees for charcoal production and sand harvesting.

2.2. Data collection

Complete details of the methodology used to undertake a CoBRA assessment are

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2 Welthungerhilfe, Household Baseline Survey for Improved Drought Cycle Management in Vulnerable Poor Pastoral and Agro-Pastoral Communities in Kajiado District, 2010.
included in the main CoBRA assessment report\(^3\) and implementation guidelines. Data were collected using qualitative methods, in the form of focus group discussions (FGDs) and key informant interviews (KIIs).

Field work was undertaken by a team of 18 members. The team was divided into three groups, each with five facilitators and a team supervisor. Each group covered two districts, except that one group covered only the expansive Loitoktok district. The facilitators and supervisors, who were familiar with the local context, jointly selected the locations and compositions of focus groups, using statistical data and criteria such as livelihood zones and level of interventions. Whenever possible, separate focus groups were organized for men, women and youth (aged 15–30, both sexes) to ensure that views on resilience from different gender and age groups would be adequately captured in the discussions. FGDs were facilitated by two staff from the participating government departments and NGOs, and each group had around 15 participants.

In each focus group location, one to four KIIs were undertaken with households perceived to be resilient, as identified by focus group participants during their discussions. In some cases, the households were also identified as resilient through conversations with local chiefs or other senior residents. A total of 36 FGDs and KIIs took place, in addition to those at the 8 trial sites. A total of 36 FGDs and 36 KIIs took place throughout the county (Table 1).

2.3 Constraints and limitations of data collection process

- It proved difficult to work in the major urban areas of Kajiado because community members were busy. When they gave their time, it was for very short periods, or they asked for compensation, which was not provided, consistent with the project guidelines. In cases where it was difficult to get communities to participate in the assessment, the teams found alternative groups to participate using their local contacts.
- In areas such as Loitoktok, where the key livelihood activities are irrigated crop agriculture and livestock production, communities also had little time available to participate.
- For the team, traversing this very large county sometimes proved time consuming, leaving limited time for interviews.
- In most cases, the scoring of attainment of the identified resilience characteristics was skewed towards lower values. The facilitators had to probe to bring the values to seemingly realistic levels.

3. Findings

This section reports on the summarized findings from the CoBRA field work conducted during the month of June 2013 in Kajiado. Specifically, the findings are presented according to the following categories:

- What the main hazards or shocks facing the communities?
- What are the characteristics of a resilient community?
- To what extent has the community achieved resilience characteristics?
- What does a resilient household look like?
- What interventions contributed to household resilience?
- What additional intervention would best build resilience?
- How did key informants achieve and maintain resilience?

\(^3\) UNDP-DDC, Understanding Community Resilience: Findings from Community-Based Resilience Analysis Assessments – Marsabit, Turkana and Kajiado counties, Kenya, and Karamoja sub-region, Uganda (Nairobi, UNDP-DDC, 2014 [in press]).
Table 1. FGDs and KIIs undertaken for Kajiado CoBRA assessment

<table>
<thead>
<tr>
<th>District</th>
<th>Location</th>
<th>Population (2009)</th>
<th>FGDs</th>
<th>KIIs</th>
<th>Livelihood zone</th>
<th>FGD composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kajiado Central</td>
<td>Mailwa</td>
<td>4,364</td>
<td>2</td>
<td>2</td>
<td>Pastoral</td>
<td>Male elders; females (all ages)</td>
</tr>
<tr>
<td></td>
<td>Elangata Wuas</td>
<td>4,648</td>
<td>2</td>
<td>2</td>
<td>Pastoral</td>
<td>Male elders; female elders</td>
</tr>
<tr>
<td></td>
<td>Namanga</td>
<td>N.A.</td>
<td>2</td>
<td>2</td>
<td>Peri-urban</td>
<td>Male elders; females (all ages)</td>
</tr>
<tr>
<td>Mashuru</td>
<td>Imaroro</td>
<td>5,815</td>
<td>2</td>
<td>2</td>
<td>Agropastoral</td>
<td>Male elders; female elders</td>
</tr>
<tr>
<td></td>
<td>Merueshi</td>
<td>3,335</td>
<td>2</td>
<td>2</td>
<td>Pastoral</td>
<td>Mixed elders; Mixed youth</td>
</tr>
<tr>
<td></td>
<td>Poka</td>
<td>5,567</td>
<td>2</td>
<td>2</td>
<td>Pastoral</td>
<td>Male elders; female elders</td>
</tr>
<tr>
<td>Loitoktok</td>
<td>Kuku</td>
<td>8,144</td>
<td>2</td>
<td>2</td>
<td>Pastoral</td>
<td>Males (all ages); females (all ages)</td>
</tr>
<tr>
<td></td>
<td>Olchoro</td>
<td>7,584</td>
<td>2</td>
<td>2</td>
<td>Agricultural</td>
<td>Male elders; female elders</td>
</tr>
<tr>
<td></td>
<td>Inkariak-Ronkena</td>
<td>4,649</td>
<td>2</td>
<td>2</td>
<td>Agricultural</td>
<td>Mixed elders; Mixed youth</td>
</tr>
<tr>
<td></td>
<td>Entarara</td>
<td>17,685</td>
<td>2</td>
<td>2</td>
<td>Agricultural</td>
<td>Males (all ages); females (all ages)</td>
</tr>
<tr>
<td></td>
<td>Njukini</td>
<td>9,022</td>
<td>2</td>
<td>2</td>
<td>Pastoral</td>
<td>Males (all ages); females (all ages)</td>
</tr>
<tr>
<td></td>
<td>Rombo</td>
<td>10,897</td>
<td>2</td>
<td>2</td>
<td>Agricultural</td>
<td>Mixed elders; Mixed youth</td>
</tr>
<tr>
<td>Kajiado North</td>
<td>Magadi</td>
<td>5,525</td>
<td>2</td>
<td>2</td>
<td>Pastoral</td>
<td>Males (all ages); females (all ages)</td>
</tr>
<tr>
<td></td>
<td>Olkiramatian</td>
<td>7,947</td>
<td>2</td>
<td>2</td>
<td>Pastoral</td>
<td>Mixed elders; Mixed youth</td>
</tr>
<tr>
<td></td>
<td>Kiserian</td>
<td>26,761</td>
<td>2</td>
<td>2</td>
<td>Urban</td>
<td>Mixed elders; Mixed youth</td>
</tr>
<tr>
<td></td>
<td>Oloolua</td>
<td>33,754</td>
<td>2</td>
<td>2</td>
<td>Peri-urban</td>
<td>Males (all ages); females (all ages)</td>
</tr>
<tr>
<td>Isinya</td>
<td>Kitengela</td>
<td>58,208</td>
<td>2</td>
<td>2</td>
<td>Urban</td>
<td>Males (all ages); female elders</td>
</tr>
<tr>
<td></td>
<td>Ipolosat</td>
<td>N.A.</td>
<td>2</td>
<td>2</td>
<td>Agropastoral</td>
<td>Male elders; female elders</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>36</td>
<td>36</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N.A. means no data available.
3.1 Main hazards or shocks

The main hazard reported in all the FGDs was drought. Communities viewed it as the most significant contributor to livestock losses and the single most important factor limiting their resilience. Communities reported the most recent drought, of 2009, as the main “crisis” period. Communities further indicated that the current period when the assessment was undertaken was principally a “normal” period, though a few communities stated that it was a “good” period (Determining this involved comparing a current period, here represented by the preceding 12 months, to the long-term climatic norm for the specific location under assessment). To a limited extent, the communities also reported livestock diseases and human diseases as other hazards in Kajiado.

3.2 Characteristics of a resilient community

Focus group participants were asked to describe what they viewed as the characteristics of a resilient community. The data are first presented for all the respondents, to give an overall picture of the most highly rated statements. This is followed by an analysis of each category of respondent by gender/age, livelihood group and level of intervention in the community. This analysis is used to disaggregate findings and identify differences across groups.

Analysis – all respondents

Focus group participants were asked to identify and rank statements used to describe a resilient community. Each participant was given six beans to rank the three most significant statements in terms of priority for building resilience (three beans for the most significant statement, two for the second and one for the third). The bean scores were then totalled for each statement. For ease of comparison, the statements were grouped into the five sustainable livelihood framework (SLF) categories.4

Table 2 lists the 12 highest ranked characteristics/statements used to describe a resilient community, within the five SLF categories. (Note that many more statements/characteristics were included in the ranking, but because they received low scores they are not reported here. The full list of statements and scores is provided in Appendix 2).

Table 2. Community ranking of resilience characteristics by SLF category

<table>
<thead>
<tr>
<th>SLF category</th>
<th>Top 3 resilience characteristics ('bean scores')</th>
<th>Total bean score*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td>Access to credit (139) Productive farms (126)</td>
<td>649</td>
</tr>
<tr>
<td></td>
<td>Employment (106)</td>
<td></td>
</tr>
<tr>
<td>Human</td>
<td>Education (608)</td>
<td>1,013</td>
</tr>
<tr>
<td></td>
<td>Health care for humans (329)</td>
<td></td>
</tr>
<tr>
<td>Natural</td>
<td>N.A.</td>
<td>94</td>
</tr>
<tr>
<td>Physical</td>
<td>Roads (434)</td>
<td>1,812</td>
</tr>
<tr>
<td></td>
<td>Water for humans (403)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water for livestock (208)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Access to markets (185)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sanitation (139)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Irrigation (139)</td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td>Peace and security (119)</td>
<td>139</td>
</tr>
</tbody>
</table>

*Total bean score does not match the sum of the bean scores in the middle column because the middle column reflects only the top-ranking characteristics while the right column reflects all the characteristics discussed in each category.

Note: N.A. means this category ranked too low for inclusion in the table.

Figure 2 shows the ranking of characteristics of a resilient community among all focus group participants in the three districts. Figure 3 presents the total score under each of the five SLF categories.

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4 The sustainable livelihood framework presents the main factors that affect people’s livelihoods and typical relationships between them. It identifies five core asset categories or types of capital upon which livelihoods are built: financial, human, natural, physical and social. For further details, please refer to: UK Department for International Development (DFID), Sustainable Livelihoods Guidance Sheets (London, DFID, 1999).
In terms of characteristics supporting resilience, education, roads, water and health ranked most highly. In terms of the SLF categories, characteristics concerning physical capital ranked most highly, followed by human and financial scores. Natural and social capacity received the lowest overall scores.

Analysis by gender and age
The priority resilience characteristics were also analysed by gender and age group, through groups comprised of women, men and youth (aged 15–30, both sexes together) (Figure 4). The bean score allocated to each of the five SLF categories was taken as a percentage of the total bean
score, and the results demonstrate the differing priorities that men, women and youth place on resilience characteristics.

Further to this, the most highly ranked resilience characteristics by gender/age group are presented in Table 3.

The data suggest the following points:

- Women and men similarly placed high value on education, water and health.
- Youth, by contrast, ranked roads most highly, well above any other characteristic. Education, water and employment all came in second place, yet employment was not ranked in the top three by men or women.

Table 3. Top-ranking resilience characteristics by gender/age group

<table>
<thead>
<tr>
<th>Gender/age group</th>
<th>Top 3 resilience characteristics</th>
<th>Total score*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>Education (270) Water for humans(137) Health care for humans (128)</td>
<td>1,305</td>
</tr>
<tr>
<td>Men</td>
<td>Education (225) Water for humans (180) Health care for humans (158)</td>
<td>1,380</td>
</tr>
<tr>
<td>Youth</td>
<td>Roads (149) Education (47) Water for humans (47) Employment (47)</td>
<td>507</td>
</tr>
</tbody>
</table>

*Total score does not match the sum of the scores in the middle column because the middle column reflects only the top-ranking characteristics while the right column reflects all the characteristics discussed in each category.

Participants in the review and validation meeting deliberated on these findings and shared the insight that the youth likely ranked roads highly given their aspiration for the ‘modern lifestyle’, with access to alternative modes of transport such as motorcycles and better access to education, information and off-farm employment/business opportunities in central locations.

Analysis by livelihood group

Top-ranking resilience categories were also analysed for a range of livelihood groups – agropastoral, pastoral, agricultural, urban and peri-urban. Figure 5 illustrates the differences in bean score allocation according to the five SLF categories among the five livelihood groups.

Further to this, the most highly ranked resilience characteristics by livelihood group are presented in Table 4.

The data suggest the following points:

- Education is prioritized by all five groups, though there are distinct differences between them in terms of the level of priority.
- Agropastoral and pastoral groups are similarly focused on education, water and health.
- Agricultural groups include education in their top three statements, but irrigation and access to markets also feature.
• Peri-urban and urban communities place a greater emphasis on roads.

The joint review and validation workshop in November 2013 provided the insight that the higher priority given to roads by urban and peri-urban populations reflects their desire for roads related to market needs (for use by motorcycle taxies that deliver products to market or trading of farm products, for example) and their need for better access to goods and services, government offices, etc.

Analysis by intervention level
The three districts assessed comprise 6 to 11 administrative locations. Consultation with field teams, NDMA and other government line departments was used to map accessibility to/presence of the following basic services and interventions:

- Number and level of health facilities;
- Tarmac road;
- Other main road;
- Mobile phone coverage;
- Well-functioning livestock market;
- Savings and credit programmes;
- Number and level of education facilities;
- Banks; and
- Bank agents/Mpesa.5

Interventions that are universally provided in all locations (such as food aid and water interventions) or provided only at very low scale (to fewer than 500 beneficiaries) were excluded from this mapping exercise. The locations were then divided into three groups:

- The bottom third represented low intervention areas, which have up

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5 M-Pesa is a mobile phone-based money transfer and microfinancing service offered by Safaricom and Vodacom in Kenya and Tanzania. (M stands for mobile and pesa means money in Kiswahili.)
to 8 categories of interventions implemented. 

- The middle third represented medium intervention areas, which have 9 to 12 categories of interventions implemented.
- The top third represented high intervention areas, which have 13 to 85 categories of interventions implemented.

Figure 6 shows the difference in scores for the five SLF categories among the three intervention groups.

Further to this, the most highly ranked resilience characteristics by intervention level are presented in Table 5.

Table 5. Top-ranking resilience characteristics by intervention level

<table>
<thead>
<tr>
<th>Intervention level</th>
<th>Top 3 resilience characteristics</th>
<th>Total score*</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Roads (244) Education (234) Water for humans (177)</td>
<td>1,405</td>
</tr>
<tr>
<td>Medium</td>
<td>Water for humans (129) Education (127) Roads (122)</td>
<td>1,019</td>
</tr>
<tr>
<td>Low</td>
<td>Education (248) Health care for humans (142) Water for livestock (107)</td>
<td>1,283</td>
</tr>
</tbody>
</table>

*Total score does not match the sum of the scores in the middle column because the middle column reflects only the top-ranking characteristics while the total in the right column reflects all the characteristics discussed in each category.

The data suggest the following points:

- High intervention groups placed the greatest emphasis on physical characteristics of resilience, notably roads and water. Education was also listed as one of the top three characteristics. Medium intervention groups followed a similar profile. The high ranking of roads reflects the generally poor quality of roads in the area compared with other infrastructure and services, such as mobile phone coverage, schools and health facilities.
- Low intervention groups gave more emphasis to human characteristics of resilience, notably health interventions for humans.

### 3.3 Extent to which the community has achieved resilience

Focus group participants were asked to score the extent to which they had achieved their priority characteristics of resilience. They were asked to score each statement twice, first for the current period (agreed to be a normal period) and second for the last significant crisis period (almost universally identified as the drought period of 2009).

Figure 7 shows a spider diagram with several rings. The outer ring represents a perfect or ideal score for all statements in that SLF category. The blue band
shows the average attainment of those characteristics by communities in the current period, and the red line represents the last crisis period. The scores are ranked on a scale from 0 to 10, with 10 being perfect attainment of that characteristic (that is, the entire community has access to sufficient, good quality water at all times in the current/crisis period), and 0 being no attainment (no one in the community has access to sufficient, good quality water at all times in the current/crisis period). Table 6 presents the scores by SLF category for the top-ranked characteristics of resilience.

As with the previous section, the findings are presented first for all respondents and are then disaggregated by livelihood groups. This section does not include the analysis by gender. This is because focus groups were asked to rank the attainment of the resilience characteristic statements for the entire community, and therefore any differences between men and women in the same community would be based on perceptions.

Social characteristics of resilience have the highest score (4.1), meaning that communities ranked social characteristics as the area in which they have the greatest degree of attainment of resilience. This category was dominated by responses related to peace and security, not surprising given that this part of Kenya remains relatively stable. The remainder of the categories were ranked similarly in current and crisis years, suggesting that in a normal year community members rank their attainment of characteristics of resilience at 3.5 out of 10.

Other characteristics highly ranked for attainment in normal times (relatively speaking) include access to credit (4.4), water for livestock (4.4), education (4.3) and access to markets (4.3). Characteristics that were deemed to be poorly attained include employment (2.1), roads (2.1) and irrigation (2.5).

The joint review and validation meeting in November 2013 reviewed the scores closely and made the following observations:

- Peace and security: High attainment for peace and security was attributed to the strength of traditional cultural institutions in combination with
traditional leadership such as chiefs and elders. Strong formal governance structures (such as police posts) and informal structures (such as community policing) collaborate and complement each other within the county. The favourable climate conditions in recent years also increased on-farm employment opportunities and reduced the number of idle youth, which also accounts for improved security and stability.

- Access to credit: The high score on access to credit was attributed to the increased number of financial institutions such as microcredit schemes and credit facilities, especially within Kajiado Central district.
- Water for livestock: Concerted efforts by the Government, NGOs and the private sector over the past few years have made water more accessible to most community members.
- Roads: Roads are poorly maintained and construction of new roads is undertaken very slowly and in limited parts of the county.

Table 7 aggregates the scores given to each of the five SLF categories to give an overall ‘resilience score’. While this clearly masks differences between SLF categories, it is useful in providing an overall indicator of where communities see themselves, for comparison across groups. The figures should be viewed with some caution, as these scores represent community perceptions around attainment, and may overstate or understate reality.

In the three districts, the average level of attainment of resilience characteristics was 3.5 out of 10 in the current ‘normal’ period, dropping to 2.3 out of 10 during the crisis period.

Results by livelihood group show that urban groups viewed themselves as the most resilient while peri-urban groups perceived themselves as the least.

Table 6. Community attainment of resilience by SLF category – top-ranked characteristics

<table>
<thead>
<tr>
<th>SLF category</th>
<th>Top-ranked characteristics</th>
<th>Current period score</th>
<th>Crisis period score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall average</td>
<td></td>
<td>3.5</td>
<td>2.3</td>
</tr>
<tr>
<td>Financial</td>
<td>Access to credit</td>
<td>4.4</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>Productive farms</td>
<td>3.1</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>2.1</td>
<td>1.3</td>
</tr>
<tr>
<td>Human</td>
<td>Education</td>
<td>4.3</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>Health care for humans</td>
<td>3.2</td>
<td>1.7</td>
</tr>
<tr>
<td>Natural</td>
<td>N.A.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Physical</td>
<td>Roads</td>
<td>2.1</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>Water for humans</td>
<td>3.2</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>Water for livestock</td>
<td>4.4</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>Access to markets</td>
<td>4.3</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>Sanitation</td>
<td>3.5</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>Irrigation</td>
<td>2.5</td>
<td>1.6</td>
</tr>
<tr>
<td>Social</td>
<td>Peace and security</td>
<td>4.5</td>
<td>4.2</td>
</tr>
</tbody>
</table>

N.A.: This category ranked too low for inclusion in the table.
When the scores are disaggregated by the level of services and interventions, high-intervention areas ranked their level of attainment of resilience characteristics more highly than medium- and low-intervention areas. This could suggest that interventions are contributing to resilience. Equally, it could suggest that interventions are targeted to high-resilience areas. Longitudinal data would have to be studied to draw inferences on the causality of high interventions on resilience. Proximity to Nairobi could also be an important factor – areas that are closest to Nairobi are more likely to have access to markets, business and job opportunities, and this access might be a more important element of resilience scores.

The joint review and validation meeting attributed the lower resilience scores by the peri-urban group to the fact that this group is in a livelihood transition, moving from pastoral/agropastoral activities to other income-generating activities. Some of them are so-called ‘pastoral dropouts’. Newly settled in the vicinity, which is neither urban nor rural, they are largely wage earners with limited assets and low purchasing power. They often sell their rural lands to private owners and thus have less access to resources, while tending to be overlooked or neglected by external development/humanitarian interventions, which are typically concentrated in either very rural areas or urban centres.

On the other hand, agricultural groups are increasingly optimistic, as they have been experiencing improving access to permanent irrigation structures, such as in Loitoktok, which directly leads to higher farm production. They also see more agricultural business opportunities (production of tomatoes, onions, horticultural products, etc.) and better links to markets due to the construction of a major road.

3.4 What a resilient household looks like

Focus group participants were asked to describe the characteristics of households that are more resilient compared to others – that is, the households that have already attained many (or all) of the resilience characteristics prioritized. The top three characteristics of a resilient household, cited consistently by focus groups, were:

- Having a business or income-generating activity (32 of the 36 focus groups);
- Having a member with employment or wage labour (27); and
- Having a large herd (19).

A few other household characteristics were mentioned, but significantly less often:

- Having educated members (and where this was mentioned it was often in relation to the ability of the educated person to get employment).
- Having land ownership or access rights.

Focus groups were asked whether the number of resilient households is increasing, decreasing or staying the same. As Table 8 shows, 63 percent of 36 focus

<table>
<thead>
<tr>
<th>Table 7. Aggregate resilience scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>All groups</td>
</tr>
<tr>
<td>Current year rank</td>
</tr>
<tr>
<td>Crisis year rank</td>
</tr>
<tr>
<td>Rank</td>
</tr>
<tr>
<td>3.5</td>
</tr>
<tr>
<td>2.3</td>
</tr>
<tr>
<td>Livelihood group</td>
</tr>
<tr>
<td>Agropastoral</td>
</tr>
<tr>
<td>2.7</td>
</tr>
<tr>
<td>2.0</td>
</tr>
<tr>
<td>Pastoral</td>
</tr>
<tr>
<td>3.3</td>
</tr>
<tr>
<td>2.4</td>
</tr>
<tr>
<td>Agricultural</td>
</tr>
<tr>
<td>4.0</td>
</tr>
<tr>
<td>2.8</td>
</tr>
<tr>
<td>Urban</td>
</tr>
<tr>
<td>4.5</td>
</tr>
<tr>
<td>2.3</td>
</tr>
<tr>
<td>Peri-urban</td>
</tr>
<tr>
<td>2.5</td>
</tr>
<tr>
<td>0.5</td>
</tr>
<tr>
<td>Intervention level</td>
</tr>
<tr>
<td>High</td>
</tr>
<tr>
<td>3.9</td>
</tr>
<tr>
<td>2.4</td>
</tr>
<tr>
<td>Medium</td>
</tr>
<tr>
<td>2.0</td>
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<tr>
<td>2.3</td>
</tr>
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<td>Low</td>
</tr>
<tr>
<td>3.2</td>
</tr>
<tr>
<td>2.2</td>
</tr>
</tbody>
</table>

Note: Maximum possible score of 10
groups said that resilience is increasing. These findings were similar across gender and age.

When disaggregated, women and youth tended to be more optimistic than men, and agricultural and pastoral households were more optimistic than peri-urban and urban groups. Areas with low levels of intervention were more likely to state that resilience was increasing (75 percent) than high intervention areas (50 percent). All of these figures are based on a relatively small sample size and therefore should be interpreted with some caution.

The joint review and validation meeting attributed the optimistic views of women to the fact that they have recently had more access to credit facilities and increasingly engaged in business activities to diversify income options. In the past, women rarely owned assets, but the situation has been changing and they now have more opportunities to own assets.

### 3.5 Interventions that contributed to household resilience

Communities were asked to list all the services and interventions they had benefited from in the last two to five years. A reasonably wide range of interventions was mentioned, including water, education, health, credit, diversified income-generating opportunities, mobile phone coverage, productive farms, roads, women’s empowerment and livestock support. From this long list, each community (through FGDs) was asked to identify jointly the three current or previous interventions that had been most beneficial in building their resilience and why. Groups were also asked to list the three further or additional interventions they felt would best build their resilience. Many communities restated interventions similar to those mentioned in the first list, with the justification that the current provision or scale of intervention was too limited and should be expanded. The results are summarized in Table 9.

<table>
<thead>
<tr>
<th></th>
<th>Increasing</th>
<th>Decreasing</th>
<th>Staying the same</th>
</tr>
</thead>
<tbody>
<tr>
<td>All respondents</td>
<td>63%</td>
<td>34%</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Gender/age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>73%</td>
<td>27%</td>
<td>0%</td>
</tr>
<tr>
<td>Men</td>
<td>46%</td>
<td>46%</td>
<td>8%</td>
</tr>
<tr>
<td>Youth</td>
<td>67%</td>
<td>33%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Livelihood groups</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agropastoral</td>
<td>60%</td>
<td>40%</td>
<td>0%</td>
</tr>
<tr>
<td>Pastoral</td>
<td>73%</td>
<td>20%</td>
<td>7%</td>
</tr>
<tr>
<td>Agricultural</td>
<td>86%</td>
<td>14%</td>
<td>0%</td>
</tr>
<tr>
<td>Peri-urban</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Urban</td>
<td>33%</td>
<td>67%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Intervention level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>50%</td>
<td>50%</td>
<td>0%</td>
</tr>
<tr>
<td>Medium</td>
<td>67%</td>
<td>33%</td>
<td>0%</td>
</tr>
<tr>
<td>Low</td>
<td>75%</td>
<td>17%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Table 8. Is resilience increasing, decreasing or staying the same?
The table shows the repeated and clear priority given to education, water and health interventions, reflecting the high ranking given to these factors as characteristics of resilience by all focus groups. Education was seen as a benefit in itself and one that would lead to improved life chances, such as employment for children. Water interventions were prioritized by all livelihood groups, particularly for improving food security and livelihoods.

Productive farms, roads and markets were all justified on the basis that they would contribute to household income by improving yields and facilitating sale at market.

3.6 How key informants achieved resilience

A total of 36 KIIs were undertaken (two in each location) with members of households identified as resilient. KIls examined the following areas:

- Composition and characteristics of the household;
- Pathways to resilience;
- Ability to cope with recent shocks and hazards; and
- Priority interventions recommended by resilient households.

Composition and characteristics of resilient households

The KII record sheet records the age, gender, education level and economic activity of all members of the resilient household interviewed. The resilient households varied in size from 3 to 14 members, with an average of 6.4 members, which is relatively high. The vast majority of households interviewed (88.8 percent) had members who had completed at least primary education and nearly half of the households (44.4 percent) had members who had completed tertiary education. Government statistics indicate that about 31 percent of the population in Kajiado county has no education, 42 percent has a primary education and 28 percent has a secondary or higher education.6 From these figures, it would seem that ‘resilient households’ are significantly better educated than the average.

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Table 9. Ranking of resilience-building interventions

<table>
<thead>
<tr>
<th>Type of intervention</th>
<th>Currently/recently provided</th>
<th>Further or future provision</th>
<th>Total score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong> Bursaries, scholarships or construction/refurbishment of school facilities including boarding facilities</td>
<td>35</td>
<td>11</td>
<td>46</td>
</tr>
<tr>
<td><strong>Water</strong> Water source improvement or improved storage capacity</td>
<td>17</td>
<td>16</td>
<td>33</td>
</tr>
<tr>
<td><strong>Health</strong> Improvements to health services, staffing or facilities</td>
<td>12</td>
<td>20</td>
<td>32</td>
</tr>
<tr>
<td><strong>Productive farms</strong> Irrigation, greenhouses, oxen, agricultural extension services etc.</td>
<td>3</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td><strong>Roads</strong> Access to quality, tarmac roads</td>
<td>5</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td><strong>Markets</strong> Access to markets for buying and selling goods and livestock</td>
<td>2</td>
<td>7</td>
<td>9</td>
</tr>
</tbody>
</table>
All 36 KII respondents had household members engaged in two or more of the following:

- Livestock raising (33 respondents);
- Business (31);
- Waged employment or casual labour (21); and/or
- Agricultural production (18).

According to the findings, no household stated that it relied on one of these income sources exclusively. Three households said they were livestock farmers but also cited the same as a business activity (for example milk trading or steer fattening). This reflects the commercial orientation of the livestock farming households interviewed. Even if these three households are excluded, nearly 92 percent of resilient households interviewed had multiple income sources. Consequently the diversification of income sources is clearly a key strategy and criterion of resilience.

After livestock rearing, business activities were most frequently cited as a source of income. Varied businesses were mentioned, with at least 17 households reporting involvement in several business activities. According to government statistics, 33 percent of the county’s population is working for pay.7 The most commonly cited business activities are listed below with the number of citations in brackets:

- Livestock trading or fattening, etc. (12 households);
- Milk trading (9);
- Rental of land or property (9);
- Shop or kiosk (6);
- Bead work (5);
- Running hotel or guest house (5);
- Taxi or transport business (5);
- Grain and vegetable trading (5); and
- Other (7).

Of the 21 households reporting wage income, half had more than one wage earner. Employment (where stated) was a mix of jobs in the public sector (such as nurses and teachers) and the private sector. Many of the private sector jobs were professional or managerial; accountant, laboratory technician, IT specialist, journalist and sales and marketing were all mentioned. Other jobs cited included game rangers, NGO staff, drivers and casual labour (not specified).

**Pathways to resilience**

All respondents cited one or more of their multiple sources of income (specified above) as the reason for their resilience. Apart from income sources the most frequently mentioned factors were access to credit and loans (16 households), education (12) and other training received from various sources such as NGOs or previous employment.

Good livestock management, including timely sale and restocking, was mentioned by at least 13 households as a factor. Many noted that livestock had been sold to invest in other business ventures or pay school fees. Six households mentioned having their own water supply as a factor leading to resilience, and four of these had used the water to expand into irrigated crop production, mostly fruits and vegetables.

**Ability to cope with recent shocks and hazards**

Almost all key informants referred to drought as their primary hazard. Interviewees mentioned different droughts depending on which had personally affected them most, from periods as long ago as 2003, although the 2009 drought was most frequently mentioned. Virtually all households noted two coping strategies: having sources of income not affected by drought and good livestock management, including timely destocking. Wage earners and most businesses did not seem affected by droughts.

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7 Ibid.
Almost all livestock owners (33 of 36 households) described selling animals early on in drought periods and using the income to buy fodder or move remaining animals elsewhere. This was described more as a standard good practice than an emergency ‘coping’ strategy. Three households reported losing significant numbers of animals during droughts, but noted they had restocked after the drought using income from other sources or savings.

Four households cited their own water source or use of irrigated production as factors in coping with drought. Only three respondents mentioned external support, in the form of government food distribution.

**Priority interventions**

Key informants were asked for the three most important interventions to improve their communities’ resilience. Interestingly, many respondents referred to actions that should be taken by households themselves rather than externally delivered interventions. This reflects a much greater level of self-reliance in this area, which has not had the same history of humanitarian and development programmes by NGOs and the Government. Consequently many idiosyncratic actions or interventions were mentioned.

The expansion of savings and credit opportunities and business training were cited most widely (22 times). The importance of accessing affordable credit was seen as very important, and a few key informants also mentioned business training and promotion of diverse income-generating activities.

A wide range of livestock practices and interventions were mentioned (18 times), including expanded fodder production through paddocking or storing acacia seeds. Raising awareness on timely sale and trading of livestock was also regularly mentioned.

Education interventions (12 respondents) were also highly ranked. Most respondents referred to the importance of constructing tertiary facilities or bursaries for secondary or tertiary education.

Support to expand agricultural production (9 respondents) and irrigation (5 respondents) were highly rated, particularly agricultural extension services and provision of quality seeds and fertilizers.

Other interventions mentioned by more than five respondents included employment creation (8), roads (6) and water (6).

With the exception of education and agricultural inputs, the interventions prioritized by key informants were quite different from those mentioned by focus group participants. Key informants ranked credit and business skills as a priority, reflecting their engagement in business activities. The inclusion of good livestock and agricultural practices in the list of critical interventions highlights how these households take a more commercial and self-reliant approach than others.

4. Summary of feedback from local consultations

The findings discussed above were presented as part of a review and feedback session with local stakeholders in Kajiado. Separate sessions were held with community representatives (on 6 November 2013) and with technical stakeholders (on 7 November) to accommodate their differing requirements due to varying levels of literacy, language skills and technical sophistication (see Appendix 3 for the list of the technical stakeholders participants). Participants in the meeting with technical stakeholders were briefed on the discussions with community representatives. No major gaps or disparities were found between the views of the two groups. The main
feedback is included here to add understanding and context to the findings.

- Participants felt that the ranked resilience characteristics resonated with the reality in these communities. They said the statements prioritized by the communities were what they expected, although they felt that a few characteristics were over- or under-prioritized:
  - Road networks: The community felt that roads (ranked second by the focus groups) should not have received such a high ranking in comparison to other statements. They felt the value was probably skewed by the strong influence of the youth, and that this score did not necessarily represent broad community views. They said that youth generally aspire to be more mobile, especially with alternative transport methods such as motorbikes, which can also provide employment opportunities.
  - Employment: The feedback workshop felt that employment should have ranked higher, given the many unemployed youth in the county.
  - Natural resource management: Natural resource management is critical to Kajiado county as it supports many livelihoods and the county’s economy, through both wildlife tourism and pastoralism in national parks (e.g., Amboseli) and community conservancies. Yet the assessment failed to prioritize this characteristic. Feedback workshop participants felt that it should have been among the top five resilience characteristics. Some of the reasons suggested for the low priority of natural resource management were (1) lack of recognition of natural resources, which are taken for granted based on the assumption that they have always been there and will always be; (2) limited community ownership of local natural resources, leading communities to feel they accrue limited profit out of them; and (3) negative feelings with regard to wildlife conservation, as people tend to associate wild animals with killing of people and destruction of crops, with limited compensation coming from the Kenya Wildlife Service.
  - Extension services: Though communities did not rank extension services highly, particularly in the livestock sector, the participants in the feedback session felt that extension services are critical and need to be emphasized in this county, with its dependence on livestock rearing. Participants felt that the main reason for the low priority was community knowledge about animal health and the accessibility of private/NGO services and facilities. As a result, there is limited use of formal government extension services, which are largely restricted to vaccination.
- Participants agreed with the resilience-building measures cited. They acknowledged communities’ reduced focus on livestock interventions due to the shift in livelihoods from purely pastoral to a mix of income-generating activities. Nevertheless, livestock support services were highlighted as the critical measure. They also recognized that the ultimate outcome of resilience building will result from a combination of linked drivers rather than independent processes or interventions.
- Participants felt that the characteristics of a resilient household – employment, diversified income generating activities and large herd size – were accurate. They had no additions.
- Participants highlighted the following specific recommendations related to the CoBRA methodology:
  - It is important to recognize that the findings are informed by seasons
and could vary if the focus groups were held in a different season.
- The composition of the focus groups should be as balanced as possible in terms of specific age, gender and livelihood groups, in order to avoid any bias that could result from an imbalance in group representation.

- Participants highlighted the following specific recommendations related to the CoBRA findings:
  - Conduct a follow-up study to better understand resilience within peri-urban areas in Kajiado county.
  - Incorporate the findings of the CoBRA analysis into the county drought contingency plan revision process in preparation for operationalizing the national drought contingency fund.
  - Use the CoBRA report to inform integrated development planning processes in the county.
  - Tailor upcoming project concepts and interventions to address the priority interventions identified by the communities, some of which require long-term commitments such as education.
  - As an analysis and planning tool, repackage the CoBRA analysis report in a tailored form (short briefs based on the needs and interests of the audience), share them with NDMA for review, disseminate them to the County Development Office and other stakeholders, and use them in training county government officials to better understand community perspectives and needs. The report should also serve as a blueprint for county strategic planning processes. This should be done in collaboration with NGOs and other partners to support a partnership approach to implementation.
  - Develop a tailored project that targets some of the most optimistic groups, including women and agriculture livelihood groups, to push for rapid impacts.

5. Conclusions and recommendations

5.1 Conclusions

Some of the key findings from the FGDs:

- The top five statements used to describe a resilient community by focus group participants in Kajiado were education (score 608), roads (434), water for humans (403), health care (329) and water for livestock (208). The extremely high ranking of education reflects participants' linkage of educational attainment and income levels and diversity. Roads are also highly rated given that they provide access to Nairobi – the largest market in the country.

- Roads are particularly highly ranked by youth, who also rated employment equally with education and water. This reflects their focus on markets and jobs, which are highly dependent on good access to urban areas. Reducing journey times to Nairobi is likely to improve economic development in Kajiado.

- When asked to describe the specific characteristics of resilient households in their community, participants consistently focused on income and financial assets. Resilient households were described as having higher incomes because they benefited from a combination of income-generating/business activities, access to employment and/or a large herd and/or farm. The diversity of these income and asset sources is the critical factor, as it enables households to spread their risk, protecting against shocks. Drought was seen as a manageable shock when livestock is managed well and agricultural production is irrigated. This finding was consistent with the comments of key informants from resilient households, whose access to multiple incomes and a solid asset base (in terms of livestock herds or farm size) was cited as the primary
reason for their resilience. Access to education and credit was consistently described as the direct means to acquire more income and larger assets and hence was the key driving factor to achieve resilience.

- Overall, focus groups scored their attainment of the highly rated resilience characteristics as low, with an overall resilience score of 3.5 out of 10. However, the drop in scores during crisis periods, to an average of 2.3 out of 10, was not seen as terribly significant.

- Urban and agricultural groups scored themselves as the most resilient relative to other groups (4.5 and 4.0 respectively in the current period). Overall, groups were optimistic, with 63 percent agreeing that the number of resilient households was growing. Pastoral and agricultural groups were the most likely to state that resilience was increasing (73 percent and 86 percent respectively).

- There is significant overlap between the interventions that are most highly rated in helping to build resilience and the most highly rated characteristics of resilience. Education, water, health and roads were four of the top five highly rated interventions. Resilient households also cited educational interventions as important but generally focused on a different set of priority interventions. Resilient households give much higher priority to savings and credit, business skills and agricultural and livestock inputs. This reflects a more commercial focus on livelihoods by these households.

The county’s relative proximity to Nairobi is a distinct advantage that has supported the commercialization of both pastoral and agricultural production, often through small-scale irrigation. Access to Nairobi provides a wide range of other employment and market opportunities. It is clear that communities recognize the importance of livelihood diversification, although pastoral production systems remain a critical component of the Kajiado economy. Lack of higher level education and poor transport links have been identified as critical barriers to realizing this potential, hence the high priority given to both as characteristics of resilience.

5.2. Recommendations

- The high priority given to a relatively small set of issues as key characteristics of resilience should be used to inform strategic planning in this area. In planning and prioritizing investment in Kajiado, priority attention should be given to the following:
  - **Expand access to quality education:** Communities recognize the strong link between education levels and employment and business opportunities. Authorities should examine the quantity and quality of secondary and tertiary education facilities available in the county. Secondary education is not free in Kenya; consideration should be given to efforts that support the poorest and least educated groups to successfully complete higher level education.

  - **Improve the road network:** Access to markets and employment, particularly in and around Nairobi, is highly constrained by the poor quality of roads. Recent construction of new roads, such as the Nairobi-Namanga road, benefits parts of the county but also serves to highlight the state of most other roads. Roads are not cheap to construct, but their economic and social benefits are well documented.

  - **Improve consistent access to water:** Households in urban areas spoke frequently about improved access to piped water, while those in rural pastoral areas stressed the importance of boreholes, and those in agricultural regions noted that installation of irrigation water is key. At present, 66 percent of the
county’s population has access to improved water sources.9

- **Increase agricultural productivity**: As agriculture expands in the district, there are large tracts of horticultural and flower farms, individual farm greenhouses and irrigated farms, which dominate in the Loitoktok area. It has grown tremendously due to construction of an access road that created opportunities to market and trade produce with other parts of Kajiado and Nairobi. It also supports a good number of smallholder farmers. This area offers tremendous opportunity to build resilience among a large population. The community should be supported in terms of receiving help to improved irrigation and water management practices; agricultural inputs such as certified seeds, fertilizers and pest control measures; and packaging and marketing.

- **Enhance access to credit**: Lack of credit has emerged as a key barrier that prevents households from investing in their agricultural (and pastoral) production and other income-generating activities. Providing credit is a relatively cheap intervention that can be undertaken by multiple actors. It should be coupled with business support and advice to enhance the success rate of micro and small business ventures. Implementers must bear in mind that widespread success of such interventions in building resilience depends on parallel provision of other, longer term interventions.

- **A key criterion in identifying and prioritizing future interventions should be the extent to which they build and diversify incomes and assets either directly or indirectly.** Financial security through one or more business incomes, wage employment and large farms and/or herds was consistently and uniformly used to describe resilient households. In a resilient community, the vast majority of households will have achieved this level of financial security. Ultimately this should be the impact indicator of a successful resilience strategy.

- **The community perspective must be incorporated into efforts to plan, implement and monitor resilience and development in Kajiado.** The assessment findings show that Kajiado communities are increasingly changing their lifestyles and livelihoods to improve their long-term and short-term resilience. The area does not benefit from large-scale humanitarian or development programmes, so most resilient households have achieved this status by their own efforts. Their strategies should be more closely monitored and copied to expand opportunities to more marginal households. Stakeholders involved in building resilience need to be aware of the wider spectrum of factors that affect resilience and consider how they can re-focus efforts and budgets in these areas.

- **Ongoing monitoring and evaluation will be critical to measuring changes in resilience.** The priority issues highlighted by communities in the CoBRA assessment can be used by the Government and other stakeholders to identify key indicators that can be used to track trends in resilience. Undoubtedly some of these indicators are already being measured as part of ongoing data collection, such as household income levels, households with members who have completed secondary education and kilometres of tarmac road. Others may need to be incorporated into data collection, such as number of household income sources or number of households accessing a savings and credit mechanism. Other issues would involve some level of consensus to agree to an appropriate indicator and method of collection, such as consistent access to quality water supply.

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### Appendix 1. Participants in CoBRA Kajiado assessment

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Organization</th>
<th>Phone number</th>
<th>Email address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Laban MacOpiyo</td>
<td>UNDP DDC</td>
<td>0728 466 622</td>
<td><a href="mailto:labanmacopiyo@gmail.com">labanmacopiyo@gmail.com</a></td>
</tr>
<tr>
<td>2</td>
<td>Francis Opiyo</td>
<td>UNDP DDC</td>
<td>0727 35 3670</td>
<td><a href="mailto:Francis.opiyo@undp.org">Francis.opiyo@undp.org</a></td>
</tr>
<tr>
<td>3</td>
<td>Francis Koma</td>
<td>NDMA</td>
<td>0721 279 580</td>
<td><a href="mailto:f.koma@yahoo.co.uk">f.koma@yahoo.co.uk</a></td>
</tr>
<tr>
<td>4</td>
<td>Marion Mutio Joseph</td>
<td>NDMA</td>
<td>0720 794 042</td>
<td><a href="mailto:marionjoseph15@yahoo.com">marionjoseph15@yahoo.com</a></td>
</tr>
<tr>
<td>5</td>
<td>Alfred Mwangi Kathare</td>
<td>NDMA</td>
<td>0727 258 464</td>
<td><a href="mailto:Kathare2005@yahoo.co.uk">Kathare2005@yahoo.co.uk</a></td>
</tr>
<tr>
<td>6</td>
<td>Agnes Oningo</td>
<td>Ministry of Agriculture (Crops)</td>
<td>0725 313 980</td>
<td><a href="mailto:gnsoningo@yahoo.com">gnsoningo@yahoo.com</a></td>
</tr>
<tr>
<td>7</td>
<td>Florence Kasimu</td>
<td>Ministry of Agriculture (Livestock and Fisheries)</td>
<td>0724 982 653</td>
<td><a href="mailto:dlpokajiado@yahoo.com">dlpokajiado@yahoo.com</a> or <a href="mailto:floramwende30@yahoo.com">floramwende30@yahoo.com</a></td>
</tr>
<tr>
<td>8</td>
<td>James Peli</td>
<td>Ministry of Health</td>
<td>0713 292 670</td>
<td><a href="mailto:nkoninapeli@gmail.com">nkoninapeli@gmail.com</a></td>
</tr>
<tr>
<td>9</td>
<td>Gedion Mbinda</td>
<td>Ministry of Education</td>
<td>0714 970 609</td>
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<tr>
<td>10</td>
<td>Shadrack Mutiso</td>
<td>Welthungerhilfe (GAA)</td>
<td>0722 669 673</td>
<td><a href="mailto:shadrack.mutiso@welthungerhilfe.de">shadrack.mutiso@welthungerhilfe.de</a> or <a href="mailto:mutiso3@gmail.com">mutiso3@gmail.com</a></td>
</tr>
<tr>
<td>11</td>
<td>George Meibuko</td>
<td>Welthungerhilfe (GAA)</td>
<td>0716 754 207</td>
<td><a href="mailto:meibukog@yahoo.com">meibukog@yahoo.com</a></td>
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<tr>
<td>12</td>
<td>Kitipa Naikuni</td>
<td>World Vision</td>
<td>0721 727 526</td>
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<tr>
<td>13</td>
<td>Alais Kisota</td>
<td>Kenya Red Cross</td>
<td>0722 118 183</td>
<td><a href="mailto:kisota.alais@kenyaredcross.org">kisota.alais@kenyaredcross.org</a></td>
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<tr>
<td>14</td>
<td>Susan Siammy</td>
<td>Kenya Red Cross</td>
<td>0726 594 760</td>
<td><a href="mailto:siammysue@gmail.com">siammysue@gmail.com</a></td>
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<td>15</td>
<td>Joyce Saiko</td>
<td>Neighbours Initiative Alliance</td>
<td>0721 324 194</td>
<td><a href="mailto:j.saiko@yahoo.com">j.saiko@yahoo.com</a></td>
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<tr>
<td>16</td>
<td>Charles Masingira</td>
<td>Diocese of Kajiado</td>
<td>0722 594 434</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Patrick Mainka</td>
<td>African Medical and Research Foundation (AMREF)</td>
<td>0723 994 395</td>
<td><a href="mailto:patrick.mainka@amref.org">patrick.mainka@amref.org</a> or <a href="mailto:pat.mainka@gmail.com">pat.mainka@gmail.com</a></td>
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</tr>
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</table>
Appendix 2. Resilience statements – full list of scores

<table>
<thead>
<tr>
<th>Resilience characteristic</th>
<th>Full resilience statement[^1]</th>
<th>Bean score</th>
<th>Total bean score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to credit</td>
<td>People would have good access to affordable credit and would be saving money (through banks, microfinance organizations, community savings and credit).</td>
<td>139</td>
<td>649</td>
</tr>
<tr>
<td>Productive farms</td>
<td>Farmers would be more productive and profitable (i.e., they would have inputs like quality tools, oxen, fertilizers and improved knowledge of good farming practices).</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td>There would be many opportunities for jobs and other forms of paid employment through government, factories and other businesses.</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Diversified income- generating activities</td>
<td>Many households would be involved in other IGAs such as small businesses and trading.</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>Health care for livestock</td>
<td>The community would have access to high-quality and affordable animal health services, including veterinary services and vaccinations, whenever they need them.</td>
<td>81</td>
<td></td>
</tr>
<tr>
<td>Livestock herds</td>
<td>Pastoralists would have herds large enough to sustainably support their families.</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Assets</td>
<td></td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Land</td>
<td>Everyone would have secure access to/ownership of land/property.</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Pasture and fodder</td>
<td>There would be sufficient pasture (or fodder) for livestock at all times of the year.</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Human</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>All children would be able to complete primary/secondary/tertiary education.</td>
<td>608</td>
<td>1,013</td>
</tr>
<tr>
<td>Health care for humans</td>
<td>The community would have access to quality and affordable basic health care locally.</td>
<td>329</td>
<td></td>
</tr>
<tr>
<td>Food security</td>
<td>All households would be able to feed themselves well every day.</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>Disaster risk management</td>
<td></td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Special needs</td>
<td></td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Natural</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wildlife conservation</td>
<td>The natural environment and wildlife would be conserved for tourism and other purposes.</td>
<td>53</td>
<td>94</td>
</tr>
<tr>
<td>Forests</td>
<td>Trees and forest cover would be well and sustainably managed to provide various services for future generations.</td>
<td>41</td>
<td></td>
</tr>
</tbody>
</table>

[^1]: The full resilience statement text is truncated for brevity.
<table>
<thead>
<tr>
<th>Resilience characteristic</th>
<th>Full resilience statement&lt;sup&gt;10&lt;/sup&gt;</th>
<th>Bean score</th>
<th>Total bean score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roads</td>
<td>There would be good-quality roads to the community.</td>
<td>434</td>
<td>1,812</td>
</tr>
<tr>
<td>Water for humans</td>
<td>The whole community would have access to sufficient, good-quality water at all times of the year.</td>
<td>403</td>
<td></td>
</tr>
<tr>
<td>Water for livestock</td>
<td>Livestock would have access to sufficient water at all times of the year.</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td>Access to markets</td>
<td>The community would have easy access to markets to buy goods and sell their produce.</td>
<td>185</td>
<td></td>
</tr>
<tr>
<td>Irrigation</td>
<td>Farmers would be irrigating land to improve the production of crops for consumption and sale.</td>
<td>139</td>
<td></td>
</tr>
<tr>
<td>Sanitation</td>
<td>Everyone would have good sanitation.</td>
<td>139</td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>The community would have access to affordable electricity supply.</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>Shelter</td>
<td>Everyone would live in good-quality housing.</td>
<td>89</td>
<td></td>
</tr>
<tr>
<td>Telecommunications</td>
<td>There would be a reliable mobile phone network to all communities all the time.</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peace and security</td>
<td>The whole community would enjoy continual peace and security.</td>
<td>119</td>
<td>139</td>
</tr>
<tr>
<td>Good governance</td>
<td>The community would be served by efficient and non-corrupt community leaders and management structures.</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Charity</td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>Women would be fully involved in local development and leadership.</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

<sup>10</sup> Note that blank statements indicate statements that were added by communities during FGD discussions, and as such did not have a generic full statement associated with them.
Appendix 3. Participants in CoBRA Kajiado technical stakeholders’ feedback session

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Organization</th>
<th>Email address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>Lawrence Mgambo</td>
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Understanding Community Resilience: Findings from Community-Based Resilience Analysis (CoBRA) Assessments

Marsabit, Turkana and Kajiado counties, Kenya and Karamoja sub-region, Uganda

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