

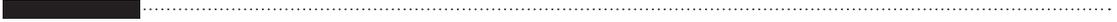
Climate change and conflict

Lessons from community conservancies in northern Kenya



**Conservation Development Centre,
International Institute for Sustainable Development
and Saferworld**

November 2009



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NOVEMBER 2009

Acknowledgements

This study was prepared by the Conservation Development Centre (CDC), the International Institute for Sustainable Development (IISD) and Saferworld. The report was written by Ivan Campbell and Sarah Dalrymple of Saferworld, Rob Craig of CDC and Alec Crawford of IISD. Field research was undertaken by Rob Craig, Lydia Mugo, Thomas Ansorg, Alec Crawford and Anne Hammill.

The project team would like to thank the following individuals and institutions for their assistance with the research: Matt Rice, Patrick Siparo and Tom Lesarge of the Northern Rangelands Trust for their support in identifying community conservancies and for facilitating the fieldwork; the members of Lekurruki and Sera Conservancies that hosted the fieldwork and enthusiastically participated in the study; Dr Rob Malpas of CDC for his advice in the design and analytical framework for the study; Dr Gilbert Ouma from the IGAD Climate Prediction and Applications Centre/University of Nairobi for analysing the climate data for the field areas. The authors would also like to thank Tom Wheeler for additional input into the report.

Saferworld is grateful for the funding of this project by the UK Government's Conflict and Humanitarian Fund.

Acronyms

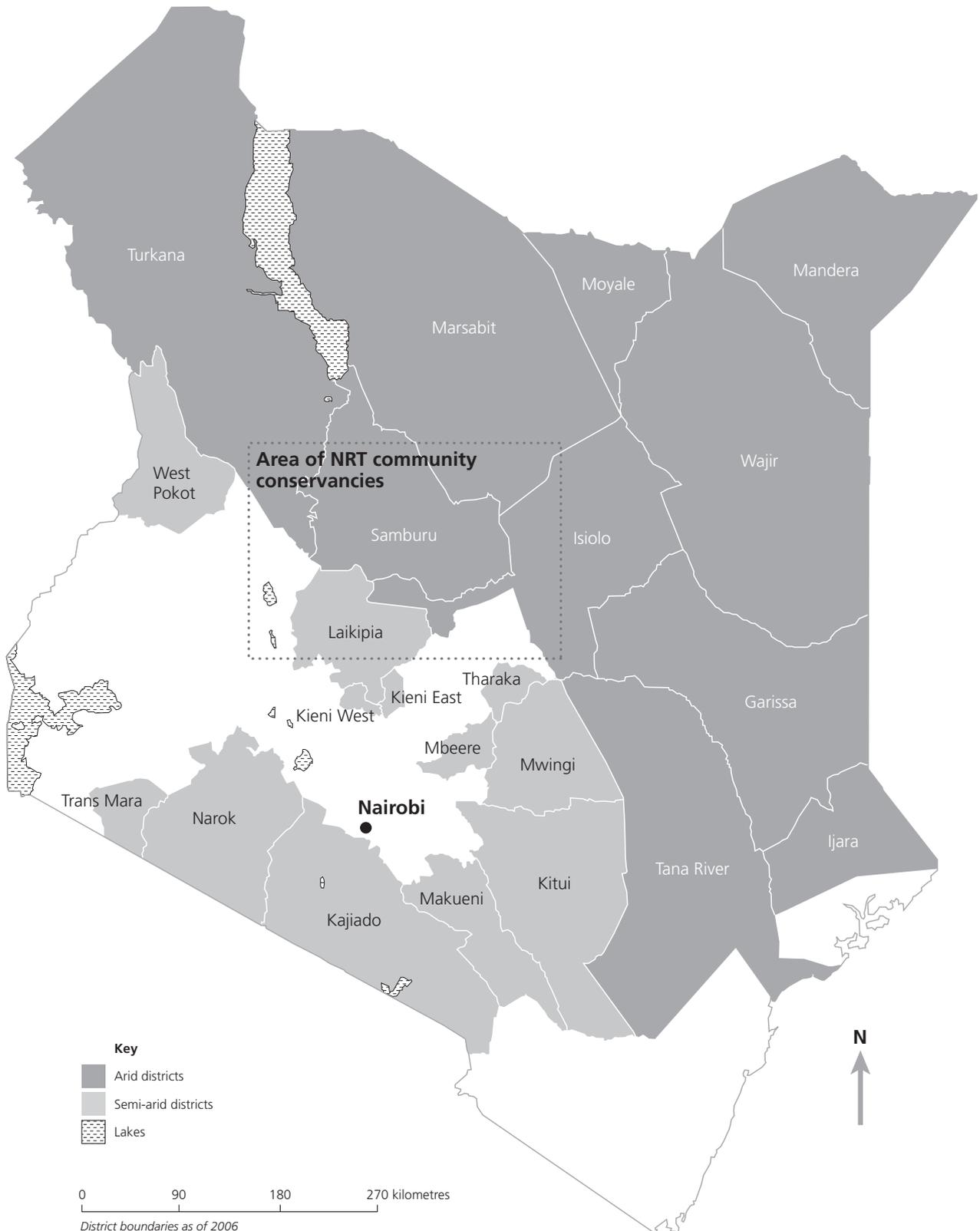
ALRMP	Arid Lands Resource Management Programme
ASAL	arid and semi-arid lands
CBO	community-based organisation
CDC	Conservation Development Centre
CETRAD	Centre for Training and Integrated Research for ASAL Development
CEWARN	Conflict Early Warning Network
IISD	International Institute for Sustainable Development
KMD	Kenya Meteorological Department
KPR/s	Kenya Police Reserve/ists
KWS	Kenya Wildlife Service
LMD	Livestock Management Division
MEMR	Ministry of Environment and Mineral Resources
NCCRS	National Climate Change Response Strategy
NGO	non-governmental organisation
NPPCM	National Policy on Peacebuilding and Conflict Management
NRM	natural resource management
NRT	Northern Rangelands Trust
PA	protected area
SALW	small arms and light weapons

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Kenya's arid and semi-arid districts



Executive summary

THE SEVERE AND PROLONGED DROUGHT that affected much of East Africa in 2009 had a devastating impact upon Kenya. Vast areas became parched and barren, wildlife numbers decreased and thousands of livestock died of thirst and starvation. This coincided with reports of rising armament among communities in the arid lands of northern Kenya and increasing outbreaks of violent inter-community conflict. There seemed a clear correlation between the scarcity of natural resources resulting from the drought, and violent conflict. In the context of growing awareness and concern about global warming, this inevitably prompts the question as to whether Kenya's prolonged drought was a consequence of climate change – and to what extent therefore climate change will lead to an increase in violent resource-based conflict.

This study focuses on the linkages between climate change and resource-based conflict in northern Kenya. The aim is to deepen understanding of the complex relationship between these factors in order to develop more informed and nuanced policy responses. At the heart of the climate change/conflict relationship is the issue of natural resource scarcity and competition. This is not a simple one-way connection: climate change is one of a range of factors causing natural resource scarcity; while natural resource scarcity is one of a range of factors causing conflict. Climate change is often referred to as a 'threat multiplier' – a factor that will compound other drivers of conflict. The question is: how significant is, or will be, the threat-multiplying effect of climate change, and what measures can be taken to pre-empt or mitigate the threat?

In order to address these questions, Saferworld in conjunction with the International Institute for Sustainable Development and the Conservation Development Centre conducted a research project in northern Kenya that analysed the apparent correlation between climate change and conflict. Kenya is a pertinent context for such a study because its conflict dynamics on the one hand, and its environmental characteristics on the other, make it especially vulnerable to the conflict threat of climate change. The post-election violence in 2008 highlighted weaknesses in Kenya's governance and security institutions and practices, and revealed the fragility of peace and stability in the country. Kenya's environment is also fragile, subject to a range of endogenous and exogenous pressures that have already led to considerable degradation and depletion of the country's natural resource base.

Saferworld commissioned field research in two community conservancies located in Laikipia and Samburu Districts, which are among the most resource-stressed and conflict-prone areas of northern Kenya. After several preliminary visits to design the research framework, the field research was carried out in January 2009. The objective was to understand better how climate change interacts with other factors that cause conflict through consultation with local communities and analysis of local climate data. It is generally accepted that increased resource competition does not inevitably

lead to violent conflict – it is how resources are managed in times of scarcity that determines to a large degree whether or not peaceful competition turns into violent contestation. Therefore the research was designed also to examine local structures and mechanisms for natural resource management, since they are central to determining whether the effects of climate change can be adapted to. By analysing the conflict sensitivity of natural resource management in the community conservancies, it was possible to draw out a number of lessons that are pertinent for climate change response strategies and natural resource management more generally. These lessons inform the development of recommendations for relevant areas of Kenyan Government policy, which are summarised below.

The study finds that the threat of increased conflict in northern Kenya as a result of climate change is real, validating broader concerns of the international community that climate change will adversely affect peace and stability. The field research indicated that climate change is already having an impact upon natural resource scarcity and competition, while demonstrating that a number of other factors affect this relationship. The research also suggested that resource scarcity is already contributing to heightened insecurity and conflict in these areas. It underlines that the threat-multiplying effect of climate change depends upon the nature and efficacy of mechanisms for natural resource management, and upon the coping capacities and strategies of local communities.

The study does not conclude that the conflict threat of climate change can be prevented or mitigated solely through natural resource management and adaptation at the local level. The unprecedented pace and scale of climate change threatens to overwhelm local coping capacities and so will require an urgent and co-ordinated response at the national level to support local capacities and adaptation strategies. The recommendations that arise from this study are therefore directed primarily towards the Kenyan Government.

The Kenyan Government has begun to develop its response to the threats of climate change. The Ministry of Environment and Mineral Resources initiated the formulation of a National Climate Change Response Strategy (NCCRS) in May 2009, and the strategy is expected to be finalised by December. The brochure for the NCCRS¹ details the devastating effects that climate change has already had upon Kenya's environment and natural resource base. The Kenyan Government also published in September a National Policy on Peacebuilding and Conflict Management (NPPCM)², which highlights the environmental context of Kenya's conflicts and the salience of natural resource competition. What is notable is the disconnect between these two policies: the NCCRS emphasises the impact of climate change upon natural resources, but makes no mention of the conflict or security implications of this; while the NPPCM emphasises the significance of natural resources in Kenya's conflict dynamics, but makes no reference to the impact of climate change on this. There are in addition a number of other policies concerned with natural resource management and with the development of Kenya's northern region that should take into account the increased threat of conflict arising from climate change.

This is not to overstate the impact of climate change upon conflict dynamics. There are a number of factors, to do with the history, politics and economics of northern Kenya, that make the region vulnerable to conflict, and these factors are described in the background section of the report. It should also be noted that this study focuses upon climate change/conflict dynamics in northern Kenya; it does not examine how these factors interact in other areas of the country. Thus the recommendations are concerned specifically with addressing the conflict threat of climate change in northern Kenya, although they may have relevance for other regions, and indeed for other countries facing similar threats.

1 Republic of Kenya, *National Climate Change Response Strategy* (brochure), (Republic of Kenya 2009)

2 Republic of Kenya, *National Policy on Peacebuilding and Conflict Management* (Republic of Kenya 2009)

Lessons are drawn from the specific experience of the two community conservancies studied. The community conservancy model may not be appropriate for widespread replication, but a number of principles that underpin governance, security and resource management in the conservancies are highly relevant for addressing the conflict threat of climate change at a national level. Therefore lessons from the community conservancy experience can be used to inform national policies related to climate change/conflict dynamics in northern Kenya. These include policies for climate change response, management of natural resources, and conflict management and security provision. Recommendations for these three key policy areas are outlined below.

Summary of recommendations

1. Climate change response

1.1 Ensure climate change strategies are conflict-sensitive

Climate change policies and programming in Kenya must be sensitive to conflict dynamics, particularly when adaptation measures are being designed and implemented. Failing this, the risk is that response strategies could aggravate tensions and increase the prospect of violent conflict. Two elements will help policymakers and implementers make their interventions more conflict-sensitive:

- **Conflict analysis** The design and implementation of climate change response strategies, such as the NCCRS, must be informed by an analysis of local and regional conflict dynamics.
- **Community-based approach** Local communities are usually best placed to identify conflict risks and potential solutions, and to provide feedback on the impact of interventions on conflict dynamics. The development of national strategies should therefore be informed by community-level consultations, and communities should be involved in the implementation of these strategies.

1.2 Support and build upon local adaptation mechanisms

The implementation of national response strategies at the local level should draw upon traditional adaptation and coping mechanisms. Strategies traditionally employed by pastoralists for instance could provide useful lessons for livelihood security in environments that become increasingly harsh as a result of climate change.

1.3 Co-ordinate climate change strategies with related areas of policy

Development policies and programming will influence the outcomes of climate change strategies – and *vice versa*. If Kenya's climate change policies, such as the NCCRS, are coherent with, and reinforce, national-level policies regarding natural resources, land, water and agriculture, they will be more effective in general, and in mitigating the conflict threat in particular. Over the longer term, climate change sensitivity should be mainstreamed into policymaking and programming in all of the identified areas. In the shorter term, the Ministry of Environment and Mineral Resources should co-ordinate and collaborate with related ministries including those for Land, Water and Irrigation, and the Development of Northern Kenya and Other Arid Lands.

1.4 Develop joint strategies to address climate change/conflict dynamics

It is particularly important that strategies for adapting to climate change are developed with reference to strategies for addressing insecurity and conflict prevention. The government should ensure that policymaking in these two areas is co-ordinated and complementary. The establishment of a climate change/conflict working group

could provide a forum where different government ministries, scientists, community members and peacebuilders could exchange knowledge and perspectives, and jointly develop integrated strategies.

1.5 Undertake more extensive and in-depth research

Further research and analysis is required to strengthen understanding of the relationship between climate change and conflict, and to inform the development of conflict-sensitive climate change response policies. Proposed areas for further research include:

- A mapping of areas most likely to experience insecurity and conflict as a result of natural resource scarcity exacerbated by climate change. This would provide policymakers with a clearer picture of the scale of the conflict threat that is posed by climate change, and enable them to begin planning and targeting measures to pre-empt and mitigate the security and conflict risks.
- A detailed analysis of existing community governance structures and mechanisms in the areas most vulnerable to climate change. This would provide a basis for enhancing existing structures and mechanisms in order to strengthen capacities to address climate change/conflict risks at the local level.
- Analysis of the extent to which the effects of climate change on natural resource scarcity and competition will influence migration patterns (within Kenya as well as cross-border). This will help policymakers to identify and prepare for the potential security and conflict consequences.

1.6 Strengthen systems for recording and monitoring climate data

The provision of detailed and disaggregated climate data will help to forecast future weather patterns, and to prepare for the consequences. There is scope to improve the quality of data regarding changing climatic conditions at a local level in Kenya, and this would enable more accurate research on the effects of climate change upon security and conflict. Local climate data should be readily accessible to policymakers to help them develop climate change sensitive strategies, and specifically to inform climate change/conflict scenarios.

2. Natural resource management

2.1 Enact the draft National Land Policy

In order to lay the foundations for improved natural resource management, it is recommended that the Kenyan Parliament approves the National Land Policy as soon as possible. A number of the provisions in the draft policy, if implemented, should help to manage conflicts arising from natural resource scarcity by changing, among other things, tenure laws and benefit-sharing schemes to the benefit of local communities in northern Kenya. At the same time, it will be important that measures are taken to safeguard the legal status of conservancies. Amendments should also be made to existing land legislation in order to make the policy provisions legally binding.

2.2 Conflict-sensitive implementation of National Land Policy

The implementation of the National Land Policy, and especially the demarcation of Community Land, is likely to be a contested and highly politicised process and possibly in itself a trigger for violent conflict. Therefore it is recommended that the implementation of the Land Policy is done in a conflict-sensitive way. This includes the need for consultation at the community level, as a prerequisite for stable and sustainable implementation.

2.3 Increase support for the Ministry of Development of Northern Kenya and Arid Lands

Other policy instruments will also have a major bearing on natural resource management, including the Arid Lands Resource Management Project II (ALRMP), which seeks to strengthen institutional capacities for natural resource management at the local level. If adequately resourced, the strategy should have a positive impact in terms of strengthening the capacity of communities to manage their natural resources, which will in turn mitigate the conflict risks of climate change. It is therefore recommended that the government increases levels of support to the Ministry of Development of Northern Kenya and Arid Lands.

3. Conflict prevention and security

3.1 Include climate change in National Policy on Peacebuilding and Conflict Management

Kenya's National Policy on Peacebuilding and Conflict Management seeks to provide a comprehensive picture of conflict in Kenya, as well as of responses to conflict. The significance of natural resources to conflict in Kenya is fully acknowledged, but the missing link is connecting this important driver of conflict to climate change. There is no reference to climate change in the policy, and specifically to the impact that climate change will have upon Kenya's environment and natural resource base. The policy should be revisited to include the links between climate change and natural resource conflicts. It should deepen analysis of the relationship between these factors, and develop strategies to address the conflict risks arising from the impact of climate change upon natural resource availability.

3.2 Include conflict prevention and security in the National Climate Change Response Strategy

Kenya's NCCRS makes no reference to the conflict or security implications of climate change, despite recognising the severe and detrimental impact of climate change upon Kenya's natural resource base. The climate change response must take into account the impact of climate change upon conflict and security dynamics and incorporate this into its intervention strategy. Since the policy on peacebuilding and conflict management already prioritises "mainstreaming conflict sensitivity in... development programming amongst government agencies", it is a matter of expanding the focus explicitly to include the climate change response strategy, rather than formulating a new policy objective.

3.3 Learn from and build upon traditional conflict management mechanisms

Strengthening customary governance institutions that are demonstrably effective at managing conflicts would enhance capacities to prevent violence at the community level. One of the pillars of the policy on peacebuilding and conflict management is 'Traditional Conflict Prevention and Mitigation', and the policy recognises that interventions should "build on existing traditional conflict handling methods". This is an important provision that should be supported so that it can be translated from rhetoric to reality.

3.4 Community-based governance structures should co-ordinate with District Peace Committees

Support for traditional community-level mechanisms should complement and be co-ordinated with state-supported peace structures, such as District Peace Committees. Otherwise, community-based mechanisms risk duplicating or undermining state-supported peace structures. District Peace Committees have proven more sustained

and effective in northern Kenya than in other parts of the country, so community-level conflict resolution mechanisms should be linked to these.

3.5 Strengthen small arms control by implementing the National Action Plan

The proliferation of small arms and light weapons (SALW), especially among pastoralist communities, is a major factor fuelling conflict in northern Kenya. There is an urgent need for the government and concerned stakeholders to review and implement Kenya's National Action Plan for Arms Control and Management³ at the district level in the most affected areas. The government should also speed up the adoption of the SALW Policy and strengthen the institutions charged with co-ordinating and implementing the action plan at various levels to ensure sustained action on SALW. At the same time, policies and action on SALW should be coherent with government policies in related areas of regional development and conflict prevention.

3.6 Make state security provision more responsive, community-centred and accountable

The ineffective provision of state security is a fundamental factor contributing to conflict in northern Kenya, and climate change is likely to lead to increased insecurity. The Kenyan Government should therefore take wide-ranging measures to strengthen state security provision in northern Kenya – ensuring that it is responsive, accountable and based upon strong community/police partnerships – so that there is less reliance upon auxiliary and privatised security agents.

3.7 Ensure regulation of auxiliary and privatised security agents

A variety of auxiliary and privatised security mechanisms have arisen to fill the vacuum caused by inadequate state security provision. These may be effective at a local level, but they are not part of a comprehensive framework for delivering security across the region. Furthermore, they are often perceived – and sometimes act – not as neutral security providers but as agents acting on behalf of a particular community. Until substantive reforms have been implemented, security in northern Kenya will remain dependent to some degree upon auxiliary or privatised security agents. In this case, there should be clear and transparent criteria for recruiting them, accompanied by thorough vetting. This should be followed by professional training and regular monitoring. Parameters should also be clearly established for what these security agents can and cannot do, and for how they engage with the public. Private security mechanisms should also be regulated to ensure that they are accountable within broader state security frameworks.

3.8 International aid policy and programming in Kenya should be sensitive to conflict and climate change

Overall, international support for northern Kenya – both humanitarian and development – should take into account the risks outlined in this report regarding the links between climate change, conflict and natural resource management. International aid policies and programming, by bilateral and multilateral donors as well as by international agencies, should seek to address these risks wherever possible. Ill-conceived international assistance could aggravate the factors identified as fuelling conflict and insecurity, while conflict-sensitive assistance will help to mitigate these risks.

³ Republic of Kenya, *National Action Plan for Arms Control and Management*, (Republic of Kenya 2006)

1

Introduction

IN RECENT YEARS increasing attention has been paid to the linkages between climate change and conflict or insecurity, prompted by concern that the environmental effects of climate change, especially the depletion of natural resources, will create conditions that increase the risk of violent conflict.⁴ The risk is most acute in those countries or regions which combine environmental fragility – be it low-lying land vulnerable to flooding or arid land vulnerable to drought – with fragile governance and security. Kenya is one such high-risk country, especially in light of the post-election violence which exposed the weaknesses of its governance and security systems. Northern Kenya, which is a largely arid area, is particularly at risk. The recent severe and prolonged drought has had a devastating impact upon natural resources, especially pasture and water, in northern Kenya. Outbreaks of violence in this area have long been associated with natural resource scarcity, prompting growing concern about an increased threat of violent conflict as a result of the impacts of climate change.

This study explores the relationship between climate change and conflict in northern Kenya. At the heart of the conflict/climate change relationship is the issue of natural resource scarcity and competition. The study considers both how climate change affects natural resource availability, and how natural resource availability affects conflict dynamics. Reduced availability of natural resources does not inevitably lead to conflict: a key determinant is the nature and efficacy of mechanisms for managing natural resources. This study examines the case of community conservancies, which are rapidly increasing in number in Kenya, and which represent one model of natural resource management. Field research was undertaken in two community conservancies that form part of the Northern Rangelands Trust (NRT) in northern Kenya. The purpose was to examine the particular strategies and experience of these community conservancies in order to understand better how climate change, natural resource management and conflict interact in practice.

The focus of this study is upon northern Kenya, a region that is characterised by arid and semi-arid lands, which are commonly referred to as ASALs (see map opposite Executive summary). Northern Kenya's vulnerability to climate change-related conflict is a function both of its environmental characteristics and its socio-economic circumstances. High temperatures have traditionally made the region of northern Kenya a dry place, prone to drought. Pastoralism and agro-pastoralism have emerged as the principal livelihood strategies for those living in this region since they have proved to be the most adaptable and viable strategies for the environment. However, in recent years increasing settlement – particularly around fixed water points – and a lack of effective natural resource management institutions to manage livestock and pastures in a sustainable way has led to a number of environmental problems,

⁴ Brown and Crawford, *Climate change and security in Africa* (International Institute for Sustainable Development, 2009)

including overgrazing, soil degradation and erosion. These environmental challenges, when combined with severe droughts and a history of antagonism between different ethnic groups in the region, have contributed to widespread violent conflict in northern Kenya. The concern is that climate change will exacerbate conflict tensions, as its impacts reduce the availability of natural resources and put increasing strain on existing mechanisms for natural resource management.

Saferworld has been working to prevent violent conflict in Kenya since 1997. A key aspect of our work has been to promote conflict-sensitive approaches to development, based on analysis of the causes and dynamics of the particular conflict context. The current study follows on from a conflict analysis of Samburu and East Baringo districts in northern Kenya that was carried out by Saferworld in late 2006. The analysis showed that conflicts in the ASALs of northern Kenya are historically rooted in competition over diminishing natural resources, and that these conflicts have intensified with the privatisation of land, the political and economic marginalisation of the region, and the apparent increases in the frequency, length and unpredictability of droughts and floods. Saferworld and the Conservation Development Centre (CDC) undertook a scoping visit to the North Rift region of Kenya in 2007 to begin to explore climate change and conflict dynamics, and to develop the framework for more detailed research. The scoping suggested that changes in climate will not directly lead to conflict, but rather that by altering the distribution, quantity and quality of natural resources such as land and water, climate change is likely to intensify competition for natural resources between groups, and thus to exacerbate conflict tensions. This was the basis for the current study, and in particular for locating the issue of natural resource availability – and its management – at the centre of the relationship between climate change and conflict. After several preliminary visits which informed the design of the research framework, field research in the two community conservancies was carried out in January 2009.

The report is organised in four main sections. Following this introduction is a 'Background' section, which assesses the conflict context in northern Kenya, describes the current and projected climate patterns, and considers the links between these two factors. The next section is the case study on community conservancy practice in northern Kenya, which details the findings of the field research conducted in the two community conservancies of Lekurruki and Sera in the NRT. Based upon the background assessment and findings of the field research, a number of conclusions are drawn about the relationship between climate change and conflict, and how this is affected by natural resource management. These conclusions inform the policy recommendations which are made in the final section of the report, grouped into three policy areas of: climate change response, natural resource management and conflict and security policy.

The purpose of this study is primarily to inform and influence Kenyan Government policies and priorities, but it is hoped that the recommendations will also be relevant and useful for other contexts, as well as contributing to broader international debates on the implications of climate change for peace, stability and security.

2

Background

Conflict in northern Kenya

National-level conflict

THE VIOLENCE IN KENYA following the December 2007 elections exposed the fragile foundations beneath what appeared, to many observers, to be a relatively stable country. It revealed the extent to which ethnic divisions remain entrenched, the limitations of Kenya's security forces and the role of organised militias in politics. Furthermore, it suggested that beneath the institutions of democracy, politics in Kenya is characterised by an ethnicised struggle for control of the state and the resources that come with it. These problems have not been banished or resolved by the National Accord, which brought an end to the post-election violence, nor by the limited reforms that have taken place subsequently. Peace and stability in Kenya remain fragile.

Based upon ten years' experience of working to prevent violent conflict in Kenya, and drawing from a number of specific conflict analyses, Saferworld identifies two primary structural causes of conflict in Kenya. First are the national structures and policies which govern the way that state and natural resources are allocated between different regions and ethnic groups. Secondly, a feature of the competition for access to resources has been mobilisation around ethnic identity, resulting in deeply embedded mistrust and intolerance between some communities. In the context of these two structural causes a range of factors interact and fuel conflict at a local level across Kenya. Key factors include: poor leadership and governance, which prevents state institutions and policies from responding effectively to the needs of local people; the politicisation of ethnicity, whereby ethnic identities are manipulated and inflamed to serve political agendas; ineffective and unaccountable security provision, and indeed in some places a complete absence of state security; the role of non-state armed groups, ranging from criminal gangs to rebel movements; high levels of youth unemployment; and the easy availability of small arms and light weapons.

It is clear from this summary of conflict causes in Kenya, that clashes during election periods, such as the outbreaks of violence in 2007–8, are linked to deeper structural issues, and especially to the issue of access to natural resources. Land is particularly significant since this resource underpins the economy and livelihoods of much of Kenya's population. Historical grievances about the distribution of land between different ethnic groups have become highly politicised. Insecurity of access and tenure, poor land administration and weak land policy and legal frameworks are also important conflict factors, while forced evictions and resettlement processes are potential triggers of violence. These conflicts are exacerbated by socio-economic marginalisation, especially among unemployed youth. High levels of youth unemployment give rise to a cheap, disaffected and accessible pool of recruits for temporary political mobilisation or longer-term induction into armed groups.

Conflict is the result of two or more parties (individuals or groups) having, or perceiving to have, incompatible goals and interests and acting upon these differences. Conflicts arise from imbalances in human relations, whether in social status, access to resources, or power, which can lead to discrimination, poverty and oppression and environmental degradation. Conflict is a natural phenomenon that is an expression of a changing society. It does not necessarily lead to negative outcomes, but may be a constructive process of change. **Violent conflict**, on the other hand, always has negative repercussions. It refers to the actions, attitudes or systems that cause physical, psychological, social or environmental damage. Killing and intimidation are the most visible forms of violent conflict.⁵

Conflicts in northern Kenya

Northern Kenya is the most marginalised and under-developed region of Kenya, lacking in basic service provision and receiving a smaller proportion of national resources than other regions of the country. The vast majority of the area is comprised of arid lands, where rainfall is low, temperatures are high throughout the year, and where people's access to and control over critical livelihood resources such as land is insecure. The dominant livelihood in arid districts is pastoralism, a system of production that is characterised by livestock mobility and the communal management of natural resources. Pastoralist communities have been largely marginalised from economic and political resources in recent decades. This marginalisation is due in part to limited capacity or ineffective state institutions in remote areas, but it also reflects the fact that pastoralist communities are largely under-represented in government and the wider political process.

Pastoralist communities are largely nomadic and live primarily in arid or semi-arid areas and depend on livestock (cattle, sheep, goats and camels) for their livelihoods. Migration is a coping mechanism to climatic changes as herds are moved to find water and pasture. Over time pastoralists have developed highly efficient methods to adapt to their environment and in Kenya pastoralist production is one of the most efficient per capita, forming 50 percent of agricultural GDP.⁶

Northern Kenya in general and the pastoralist lifestyle in particular is often associated with violent conflict. Disputes over pasture and water access between pastoralists and farmers have led to increasingly violent clashes, while cattle-raiding between pastoralist groups has devastated communities which have become trapped in cycles of violence and counter-violence. While some pastoralist groups bordering the Rift Valley were drawn into the post-election violence of 2008, much of northern Kenya was not directly affected. However, chronic insecurity and endemic violence in pastoralist areas have been more destructive and claimed more lives over the long term than episodic outbursts of election-related violence elsewhere in the country. Thus far, pastoralist grievances have not become enmeshed into national ethno-political rivalries to the extent that they have elsewhere in the country. But this does not mean that conflicts in northern Kenya are not politicised: antagonistic pastoralist groups are often drawn into local political rivalries by politicians seeking to gain votes, and this can exacerbate the violence.⁷

A number of characteristics specific to pastoralist and agro-pastoralist conflicts can be identified. Many of these are concerned with access to natural resources, notably pasture and water, since these underpin both pastoralist and agricultural economies and livelihoods. Access to pasture often leads to clashes between pastoralist groups and with settled farmers. When pastoralists move cattle into areas considered private property, such as wildlife reserves or cattle ranches, tensions are heightened. Similarly tensions rise when different pastoralist groups converge on a single area seeking to

⁵ International Institute for Sustainable Development (IISD), *Conflict-Sensitive Conservation: Practitioner's Manual* (IISD, 2009)

⁶ World Institute for Sustainable Pastoralism, *Global Review of the Economics of Pastoralism* (IUCN, 2006)

⁷ Meier P, Bond D & Bond J, 'Environmental influences on pastoral conflict in the Horn of Africa' in *Political Geography* Vol. 26, 2007

graze their cattle on the same pasture. This is made more complex by different perceptions of property rights, which pastoralists regard as shifting and negotiable rather than fixed and exclusive.⁸ Access to water can also lead to tensions between pastoralists and settled farmers when access is blocked by fences, crops are damaged by cattle, or when water resources become depleted as a consequence of over-use. Clashes over water access or over control of water points also occur between pastoralist groups.

These sorts of natural resource disputes are linked to scarcity. Scarcity arises when the supply of a resource cannot keep up with demand, which may result from increased demand – e.g. growing numbers of cattle – or from decreased supply. Decreased supply may be the result of an expansion of privately-owned land, environmental degradation or, as we focus upon in this case, climate change. Nevertheless, as this study goes on to explore, the link between natural resource scarcity and conflict is not a direct one. How natural resources, and disputes over their scarcity, are managed is a key determining factor. Access to both pasture and water can often be peacefully mediated between communities, through the agency of traditional institutions and mechanisms that have historically served this purpose, such as reciprocal grazing rights.⁹

But natural resource competition and scarcity, while highly significant, are not the only factors that drive conflict in northern Kenya. As noted above, the region is marginalised in a number of inter-related ways. It is isolated by its topography and poor infrastructure, especially roads that serve it. This is compounded by ineffective security provision, which means for instance that many roads are considered unsafe to travel due to the threat of bandit attacks. The region is not well integrated into the national economy, and it has very limited political leverage. In addition, as elsewhere in the country, ethnic identities and divisions inform and often intensify conflict. Among pastoralist groups in particular there is a significant interplay between group identities and historical feuds. This generates cycles of attacks and revenge attacks that can lead to embedded ethnic hatreds between groups.

The prevalent form of violent conflict among pastoralist groups is cattle-raiding. Cattle-raiding is linked to resources (since it is generally a means of restocking herds after periods of drought), but it is also closely tied to pastoralist identity and cultural practices. These relate to the traditional role of the moran or young warrior, whose participation in cattle-raiding represents his transition from youth to manhood. Dowry payments required for marriage often take the form of cattle, which becomes another reason for cattle-raiding. Other cultural factors are also significant, such as the social status attached to the ownership of cattle which characterises all pastoralist societies. However, economic drivers of cattle-raiding are increasingly significant. In recent years it has become a more commercialised phenomenon – sometimes described as ‘cattle-rustling’ to distinguish it from the traditional practice of cattle-raiding. Increasingly, raids are carried out by young men who are funded and directed by outside actors, and often without the sanction of community elders. This form of cattle-raiding is commercially driven, in some cases by local political actors seeking to raise revenue for elections¹⁰ or by criminal networks.

Cattle-raiding in northern Kenya has been made more violent by the proliferation of small arms and light weapons (SALW). SALW are often given as payment for stolen cattle, and are regarded as valuable assets and sources of prestige by young men. Porous borders with countries that have experienced prolonged conflict mean that weapons cross easily into northern Kenya – although there is no shortage of domestic sources of arms and ammunition. The easy availability of SALW, especially amongst pastoralist communities, has led to the intensification of violent conflict. As one group acquires more arms, other groups scale up their own armaments to match them and

⁸ Hagmann T & Ludi E, ‘Pastoralist Conflict Resolution in the Horn of Africa’ in *Understanding Environment, Conflict and Co-operation*, (United Nations Environmental Program, 2004)

⁹ Ibid

¹⁰ Op Cit Meier, Bond & Bond (2007)

so that they can protect their communities and livestock. What was once limited to low-intensity cattle-raiding incidents has transformed into large-scale violent clashes, killing from dozens to hundreds at a time.¹¹ While these pastoralist 'wars' go largely unreported, the Conflict Early Warning Network (CEWARN) estimates that from 1996 to 2002 about 300,000 cattle were rustled on the Kenyan side of the Sudan-Kenya-Somalia triangle, killing 1,200 people.¹²

The government's standard response to the problem of SALW proliferation in northern Kenya has been to launch coercive disarmament operations. These operations have been relatively ineffective however, and have served to highlight another characteristic of the region, namely weak or absent security provision by state authorities – which contributes to the need for arms in the first place. Without adequate security provision there is little deterrence to prevent attacks, and little likelihood of a rapid response when they do occur. In general, enforcement of the rule of law in these areas is weak and access to justice is limited. In this context, conflict actors are able to operate relatively freely and with a high degree of impunity. Communities often defend themselves by mobilising and arming their youth, increasing the number of conflict actors and making the use of violence to resolve disputes far more likely.

An incident in Isiolo district in July 2009 clearly illustrates these dynamics: when competition over access to pasture and water between Samburu, Turkana, Borana and Somali groups was not resolved peacefully, the resulting violent conflict led to the deaths of 32 people, the displacement of thousands and extensive livestock theft. The decision by the government to supply 300 guns to Isiolo residents in the name of bolstering security through the Kenya Police Reserve (KPR) compounded the problem by introducing more weapons to the area, and antagonising other groups who felt they were now at greater risk. The conflict manifested the deep-rooted divisions between communities, but was also politicised by local leaders already manoeuvring in advance of the 2012 national elections. The original problem of natural resource scarcity and competition between different groups which sparked the conflict was subsequently exacerbated as the displaced populations put increased pressure on limited resources, resulting in a major humanitarian crisis.

The above case highlights the centrality of natural resource scarcity and competition, as well as demonstrating the complexity of conflict causes and dynamics in northern Kenya. It also underlines the self-perpetuating nature of these dynamics: scarce resources contribute to violent conflict which makes an area insecure, causing displacement into more secure areas where limited resources come under additional stress, potentially leading to further outbreaks of resource-based violence.

Climate change in Kenya

The current climate

Temperatures in Kenya have risen by 1°C over the past 50 years, and warming is expected to accelerate, with temperatures rising nearly 3°C by 2050. The recent prolonged and severe drought in Kenya is widely perceived to be symptomatic of the changing climate. Drought in itself is nothing new in East Africa. This is a normal and recurring but temporary characteristic of arid areas, rather than an aberration brought about by climate change. However, the drought cycle in East Africa does appear to be contracting sharply. Rains used to fail every nine or ten years. Then the cycle seemed to go down to five years. Now, it seems, the region is experiencing drought every two or three years.¹³

¹¹ Ibid

¹² ICGLR *Regional Program of Action for Peace and Security: Project no. 1.1.2 Disarmament of Armed Nomadic Pastoralists and the Promotion of Sustainable Development in Zone 3* (ICGLR, 2006)

¹³ The Economist 'East Africa's Drought: A Catastrophe is Brewing' (*The Economist*, 2009) http://www.economist.com/world/middleeast-africa/displaystory.cfm?story_id=14506436, 26 November 2009

Kenya is characterised by a tropical climate, which is moderated by a diverse topography as one moves from the coast to the cooler highlands in the west of the country. Temperatures do not vary greatly throughout the year, given the country's position on the equator, but do drop approximately 2°C during the cooler period of June through September.¹⁴ Nationally, there are two rainy seasons: the short rains of October to December and the longer rains of March to May. The onset, duration and intensity of these rains vary from year to year.¹⁵ UNDP's climate change country profile shows that Kenya's mean annual temperatures have increased by 1.0°C since 1960. This increase has been higher from March to May, and has meant an increase in the number of hot days and hot nights.¹⁶ No statistically significant trend can be identified for annual precipitation within the country; however, there has been an increase in the proportion of rain falling in heavy events.¹⁷

There is a growing perception that climate change is already having a significant impact upon Kenya and the severe and prolonged drought that affected much of the country in 2009 is seen as evidence of this. The Kenyan Ministry of Environment and Mineral Resources (MEMR) in the brochure for its National Climate Change Response Strategy (NCCRS) unequivocally describes the effects of climate change as follows:

“Kenya has witnessed an alarming upsurge in the incidence and severity of extreme climatic events caused by climate change. Floods, droughts, flash floods and landslides have ravaged virtually all parts of Kenya... Deforestation, soil erosion and land degradation have wiped out thousands of acres of fertile land... In Northern Kenya, longer and more frequent droughts continue to ravage pastoralist populations... It is now no longer in doubt that these multiple impacts are all directly attributable to the warming of the Earth's atmosphere. With over 70 percent of Kenyans dependent for their livelihoods on agriculture, the long-term health of the country's environment and natural resources are critical to its very survival.”¹⁸

The sense of urgency conveyed by this assessment is welcome. However, it is important to consider that other factors have also contributed to environmental degradation and the depletion of natural resources in Kenya, such as the destruction of water catchments and deforestation. In the Narok area of Western Kenya the increasing frequency of droughts is also related to the growth of settlements and illegal logging upstream in the southern Mau forest, which is Kenya's largest water catchment area.¹⁹ In this case, the drying up of rivers and the scorched land appear to result from a combination of climate change – which has reduced rainfall generally – and the localised destruction of the water catchment area.

High temperatures have traditionally made northern Kenya an extremely dry place. The region is characterised by low overall rainfall and consistently high temperatures. Rates of evapo-transpiration often twice exceed the annual rainfall, and in certain areas can reach as high as ten times the rate of rainfall.²⁰ These high rates of evapo-transpiration result in ASAL areas having low agricultural potential, which accounts for the reliance on pastoralism in the region. In this harsh environment and climate, pastoralism and agro-pastoralism have emerged as the most adaptable and viable livelihoods in the region.

The frequency and intensity of drought periods in northern Kenya does appear to have been increasing: the region recorded 28 major droughts in the last century, four

¹⁴ McSweeney C, New M & Lizcano G, *UNDP Climate Change Country Profiles*. Kenya (United Nations Development Programme, 2008), <http://country-profiles.geog.ox.ac.uk>, 15 October 2009

¹⁵ Ibid

¹⁶ Ibid

¹⁷ Ibid

¹⁸ Ministry of Environment and Mineral Resources, *National Climate Change Response Strategy* (Republic of Kenya 2009)

¹⁹ Morgan J, 'Kenya's Heart Stops Pumping' BBC News 29 September 2009 (BBC, 2009) <http://news.bbc.co.uk/1/hi/world/africa/8023875.stm>, 1 November 2009

²⁰ Omiti J & Irungu P, *Institutional and Policy Issues relevant to pastoral development in Kenya. Discussion Paper No. 031/2002* (Institute of Policy Analysis and Research, 2009)

of which have occurred in the last decade.²¹ Meanwhile, there appears to have been an increase in food insecurity in pastoral areas of East Africa during the same period,²² due to a combination of climate change, population growth, and the continued underinvestment in and marginalisation of pastoral areas. Recent years have also seen increasing settlement in pastoral areas – particularly around fixed water points – and this, combined with a lack of effective natural resource management institutions to manage livestock and pastures in a sustainable way, has led to a number of environmental problems, including overgrazing, soil degradation and erosion.

Climate change projections

The East African climate is expected to warm across all seasons during the course of this century.²³ Under a medium emissions scenario,²⁴ annual mean surface air temperatures are expected to increase between 3°C and 4°C by 2099, rising at a rate roughly 1.5 times the global average.²⁵ This is expected to lead to an overall increase in annual rainfall of around 7 percent over the same period, though changes will not be uniform across the region or throughout the year.²⁶ An increase in the total quantity of rainfall does not always capture the impact of rainfall variability – including when the rain falls, where it falls and how much of it falls each time – which has serious implications on the capacity of populations to adapt. Variability of rainfall is expected to increase, and warmer temperatures are likely to increase the intensity and frequency of extreme weather events in the region, meaning that many areas in East Africa will be faced with an increased risk of longer dry spells and heavy storms.²⁷

These regional trends are largely reflected in climate projections for Kenya. Mean annual temperatures in the country are expected to increase by 1.0 to 2.8°C by the 2060s, and 1.3 to 4.5°C by the 2090s.²⁸ This will be accompanied by an increase in mean annual rainfall by up to 48 percent; increases in total rainfall will be greatest from October to December, while proportional changes will be largest in January and February.²⁹ However, regional variations within Kenya mean that rainfall increases are expected to be concentrated in the region from Lake Victoria to the central highlands east of the Rift Valley. For the purposes of this study, it is notable that the east and north ASAL regions of Kenya are expected to see an overall *decrease* in precipitation due to climate change.³⁰ In addition, rising temperature levels will potentially lead to higher rates of evapo-transpiration, further minimising the impact of rainfall.

As for East Africa as a whole, climate projections for Kenya indicate that more rain will fall in heavy storms which are harder to predict and exhibit a high degree of variation, disrupting the livelihoods of those in the ASAL areas who are reliant on – and plan around – rainfall patterns. These storms will be interspersed by longer dry spells, and could increase run-off and erosion, disrupting vegetation growth. Longer and more

21 International Livestock Research Institute (ILRI), *Project Summary: Index Based Livestock Insurance for Northern Kenya's Arid and Semi-Arid Lands: The Marsabit Pilot* (ILRI, 2009)

22 Nori M & Davies J, *Change of Wind or Wind of Change? Report on the e-conference on Climate Change, Adaptation and Pastoralism*, organised by the World Initiative for Sustainable Pastoralism (2007), <http://www.iucn.org/wispr/resources/?2339> 3 November

23 Boko M et al, *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (IPCC, 2007). Surface air temperatures over land are broadly expected to rise at a faster rate than those over bodies of water.

24 The UN Intergovernmental Panel on Climate Change (IPCC), in its *Special Report on Emission Scenarios* (2000), devised a series of six future emissions scenarios looking at possible future climate change, which varied according to demographic, technological and economic developments. The six basic 'storylines' of the SRES are each based on different rates of population and economic growth, as well as the future 'energy mix'. They range from the most greenhouse gas intensive A1F1 (where energy predominantly from burning fossil fuels and economic growth is rapid) to the least intensive B1 storyline (where the world economy moves towards less resource intensity and cleaner technologies). All the scenarios assume no additional climate change initiatives such as the implementation of the UNFCCC. Scenarios also do not include the occurrence of non-linear climate events; if or when temperatures exceed the critical thresholds of 2–3°C, dramatic changes may start to happen.

25 Op Cit Boko et al, 2007

26 Ibid

27 German Advisory Council on Global Change (WBGU), *Climate change as a security risk* (WBGU, 2007)

28 Op Cit McSweeney, New & Lizcano (2009)

29 Op Cit McSweeney, New & Lizcano (2009)

30 UNDP, *Project: Coping with Drought and Climate Change*, (United Nations Development Program, 2009) <http://sdnhq.undp.org/gef-adaptation/projects/project.php?id=5>, 4 October 2009

frequent dry spells mean that the time for recovery – rebuilding stocks of food, and for pastoralists, re-stocking cattle – will become shorter.

It is generally accepted that there will be greater climatic variability and unpredictability. Furthermore, most scientific projections indicate that the rate and scale of climate change will be unprecedented, and pre-empting and mitigating the impacts of this will require urgent and targeted responses across the policy spectrum. The development of a national climate change strategy, the NCCRS³¹, is evidence that the Kenyan Government has begun to take steps to address the challenges posed by climate change. The MEMR initiated this process in May 2009 and plans to finalise the strategy in time for the global climate change conference that will be held in Copenhagen in December 2009. The background paper for this process details the devastating effects that climate change has already had upon Kenya's natural resource base. The Kenyan Government has also identified the ASALs as requiring special attention in this regard, and through the Arid Lands Resource Management Programme (ALRMP) has developed a Kenya Adaptation to Climate Change in Arid and Semi Arid Lands (KACCAL) Project, which is currently being piloted in selected districts.

Climate change and conflict in northern Kenya

It is sometimes assumed that climate change will lead to the depletion of natural resources, which will lead to increased demand for reduced supply, which will in turn generate socio-economic tensions leading to violent conflict. However, none of the links in this chain of causality is as straightforward as that suggests. Firstly, as noted above, the impacts of climate change will vary from region to region: in some cases there may actually be an increase in rainfall. Secondly, climate change is only one of a number of factors causing the depletion of natural resources, so it would be blinkered – albeit perhaps politically convenient – to ascribe all blame to this factor. Thirdly, it is not just a simple equation of supply and demand; crucially it is how people manage the reduced supply which will determine if natural resource scarcity generates increased conflict. Lastly, despite the centrality of natural resources to many conflicts in Kenya, this is only one aspect in a complex web of conflict-generating factors. This section explores these links in order to gain a better understanding of the conflict threat posed by climate change in northern Kenya.

Vulnerability to climate change impacts in Kenya is likely to vary across and within villages and households. The poorest may also not be the most vulnerable: their climate adaptation and coping strategies may be more developed than those of others. Many rural communities have already developed methods of adapting to climate variation, albeit on a less dramatic scale. Indeed some suggest that pastoralists are inherently well placed to cope with climate change since their whole livelihood and lifestyle is based upon adaptation to extreme climatic conditions and scarce resources.³²

Vulnerability to climate change: The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity.³³

Adaptation: The actions that people take in response to, or in anticipation of projected or actual changes in climate, to reduce adverse impacts or take advantage of the opportunities posed by climate change.³⁴

³¹ Ministry of Environment and Mineral Resources, *National Climate Change Response Strategy* (Republic of Kenya 2009)

³² Op Cit Davies & Nori (2007)

³³ Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2001: Impacts, Adaptation Vulnerability. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change* (IPCC, 2001)

³⁴ Tompkins E L & Adger W N, 'Defining a response capacity for climate change', *Environmental Science and Policy* 8(6), 562–571 (2005)

Bearing in mind these qualifications, there are a number of ways in which climate change is likely to affect the availability of natural resources, which may in turn contribute to violent conflict. Rainfall feeds vitally important water sources such as rivers and lakes. Depletion or disruption of established water supply will affect livelihoods, while lack of access to clean drinking water may have negative implications for people's health and well-being. Attempts to secure control of water sources are likely to be divisive and may become politicised along ethnic lines, or even lead to inter-state tensions with neighbouring countries. Moreover, many people in Kenya rely on rain-fed agriculture for their livelihoods as small farmers or as employees in the commercial agricultural sector. Changes in the distribution and amount of rainfall (potentially longer dry spells interspersed with damaging floods) will impact on food security, which is already under pressure from the country's rapidly-growing population (projected to increase from 35.6 million in 2005 to 46.2 million by 2015). Not only will this growing population stress food supply, but access to land will come under pressure from increased demand, exacerbating what is already a highly politicised issue. If rural people's livelihoods and a vital economic sector are undermined by climate change, this is likely to lead to displacement and urban migration. This will put additional stress on Nairobi and other urban areas – that are already manifestly ill-equipped to provide services for their current population – which could generate social unrest. In the longer term, any changes to the distribution of economic wealth, assets and resources caused by changing climatic conditions will potentially be disruptive in a country where access to these assets is already politicised along ethnic lines.

While recognising the potential impact of climate change upon the availability of natural resources, other factors, such as deforestation, also impact negatively upon the environment and in turn upon conflict dynamics. In the case of the above-mentioned drought in the Narok area of Western Kenya, deforestation of the Mau forest is primarily blamed for altering the micro-climate leading to environmental degradation. Maasai groups are angry with the predominantly ethnic Kalenjin settlers upstream, accusing them of 'stealing' their forest and water.³⁵ This has prompted fear that the resulting human suffering could precipitate inter-ethnic conflict in an area where the wounds of Kenya's post-election violence are still raw.

As noted above, vulnerability to the effects of climate change depends to a considerable degree upon adaptive capacities, both at national and community levels. It has long been recognised that poorer countries bear the biggest burden since climatic variability increases with the degree of aridity³⁶ and many of the world's dryland areas are located in developing countries. In these countries livelihoods are more reliant on the natural resource base and on environmental goods and services, but their capacity to invest in adaptive technologies, such as improved varieties or water systems, is lower. The ASALs of Kenya share many of these socio-economic challenges, such as endemic poverty and restricted access to capital, making adaptation more difficult. Governance structures concerned with the distribution and management of natural resources will be critical in determining whether resource scarcity arising from climate change leads to violent conflict. It also requires the political will and capacity to utilise these structures, which has often been lacking in the past, for instance in the case of land administration.

Nevertheless, the impacts of climate change in northern Kenya are potentially highly destructive, given that people rely heavily on natural resources and food security is already fragile. Pre-existing developmental challenges and weak governance in the area make the climatic stresses more threatening. Indeed pastoralist groups have been referred to as the 'climate change canaries'³⁷ since their livelihoods are so vulnerable

³⁵ Op Cit Morgan (2009)

³⁶ Niamir-Fuller M, *Managing Mobility in African Rangelands: The Legitimization of Transhumance* (Intermediate Technology Publications, 1999)

³⁷ Christian Aid, *Life on the Edge of Climate Change: The plight of pastoralists in Northern Kenya* (Christian Aid, 2006) <http://www.reliefweb.int/rwarchive/rwb.nsf/db900sid/LTIO-6VHRL6?OpenDocument>, 24 October 2006

to environmental changes. Research in pastoralist areas in Kenya indicates that an increasingly adverse climate has already contributed to lowering income levels, the expansion of settlements lacking basic services, migration, deforestation and growing aid dependency.³⁸ However, others challenge this view of pastoralists as helpless victims, arguing that “the livelihood patterns of pastoral communities hinge upon strategies that continuously adapt to a limited, highly variable and often unpredictable resource endowment”. There may therefore be opportunities to learn from the flexibility and mobility that characterise pastoralist adaptive capacities.³⁹ This more hopeful analysis is, however tempered by recognition that the traditional coping strategies of pastoralists, especially widespread mobility, are increasingly constrained given the socio-economic realities of modern Kenya.

A number of potential connections between climate change and conflicts in the ASALs can be identified. Pasture and water availability is largely determined by the distribution and incidences of rainfall. Less predictable and decreasing rainfall due to climatic change (combined with rising evapo-transpiration rates) mean that supply of these resources may decrease. Other climatic extremes, such as extremely high rainfall and flash floods, may also stress resources by damaging top soil and the vegetation that grows on it. Rising scarcity is likely to lead to increased conflict among pastoralist groups and between pastoralist groups and sedentary farmers. Long periods of drought in the past seem to confirm this pattern. These conflicts may manifest themselves in short-term clashes over specific pastures and water points or in longer-term struggles as groups attempt to control and secure their own access to resources. Indeed more structural disputes over exclusive land use (on which resources are found) and land boundaries are likely to increase.

Coupled with this, pastoralist coping strategies like migration can also contribute to conflict dynamics. In periods of low climatic stress, migration is limited to a relatively small area; in periods of high stress pastoralists will take their herds as far as necessary to find water and pasture supplies. Wider migration leads to increased contact with other migrating pastoralists, with whom historical conflicts may already exist, which can lead to inter-community violence. It also pushes pastoralists into areas that are increasingly claimed for farming, ranching, conservation or other forms of exclusive use and private property. In the short term, these tensions usually arise on a seasonal basis in the dry seasons. However, the potential for such conflicts is likely to increase if climate change forces greater migration of pastoralist groups. Since climate change is predicted to cause increased variability, these adaptive strategies are likely to be more *ad hoc* and unpredictable, making the conflicts that arise from them more difficult to manage.

The interaction between climate change and migration affects more than just pastoralist communities. The effects of climate change on natural resource scarcity and competition is likely to influence broader migration patterns, both temporary and permanent migration, and migration within Kenya as well as cross-border. Migration adds extra pressure on resources in destination areas – urban as well as rural – and increases the number of conflict actors, potentially complicating conflict and stressing otherwise effective micro-level natural resource management mechanisms. When migration leads to crossing state borders, state security forces may be drawn into conflicts.

As explained above, cattle-raiding is integral to conflict dynamics in northern Kenya, and the practice is likely to be affected by the impact of climate change. Cattle-raiding was traditionally used as a means for restocking herds after a particularly harsh drought for example, and so a rising incidence of cattle loss due to adverse weather might lead to a growing number of raids and counter-raids. On the other hand, raiding is traditionally more prevalent in the rainy season when there is more pasture for cattle and so newly-acquired cattle are not an extra burden. Following this logic, one might

³⁸ Ibid

³⁹ Op Cit Davies & Nori (2008)

expect raiding to decrease as pastoralists focus more on nurturing their existing livestock in the face of diminishing resources.

In general, increasing insecurity will undermine the adaptive strategies that sustain livelihoods in northern Kenya and thus make communities more vulnerable to climate change.⁴⁰ For example, conflict and general insecurity may constrain pastoralist mobility and migration, restricting communities to smaller and resource-exhausted safer areas. This may lead to a negative cycle whereby conflict over diminishing resources increases insecurity which undermines adaptive strategies, itself feeding further insecurity. In a more extreme scenario, shrinking and degraded pastures and water arising from climate change, may seriously threaten the foundations of pastoralist livelihoods. Without alternative economic opportunities to rearing livestock, young men may be drawn into cattle-rustling gangs and other forms of armed violence. Furthermore, without adequate state security provision, communities may arm themselves due to perceived threats from such groups, leading to a self-perpetuating escalation of armed violence.

This exploration of the connections between climate change and conflict in northern Kenya highlights that natural resource scarcity and competition are central to their interaction. It also makes clear that this is not a simple connection, rather there is a complex interaction in both directions: on the one hand, climate change is one of a range of factors causing natural resource scarcity and competition; on the other, natural resource scarcity and competition is one of a range of factors causing conflict. Thus climate change is regarded as a conflict ‘threat multiplier’ – a factor that will compound and fuel other drivers of conflict. The question then is how potent will the threat-multiplying effect of climate change be in the context of northern Kenya, and what can be done to pre-empt or mitigate the threat?

In order to answer this question, Saferworld commissioned field research into two areas of northern Kenya with a view to analysing how climate change interacts with other factors that cause conflicts ‘on the ground’. The aim of the field research was to drill down beneath the assumptions and apparent connections, and to understand better the significance of the various factors influencing natural resource scarcity and competition, and how this in turn contributes to conflict. The research was also designed to examine natural resource management (NRM) strategies since these are key to determining whether or not climate change will lead to violent conflict. Two community conservancies in northern Kenya were selected for the field research, identified on the basis of both their vulnerability to climate change and conflict, and for the existence of well-developed structures and mechanisms for NRM.

⁴⁰ See for example: Eriksen S & Lind J, ‘The Impacts of Conflict on Household Vulnerability to Climate Stress: Evidence from Turkana and Kitui Districts in Kenya’ Submitted to *Human Security and Climate Change International Workshop – Oslo 21–23 June 2005*

3

Community conservancy practice in northern Kenya

Community conservancies

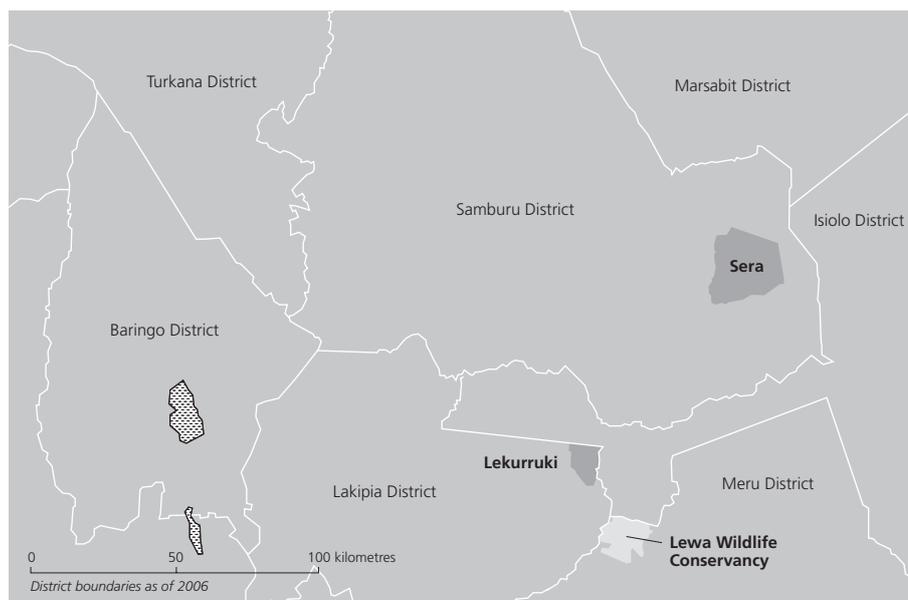
OVER THE PAST 20 YEARS, a number of community conservancies have been established in Kenya to offer alternate livelihood strategies to community members as well as habitats and migratory corridors for wildlife. These community conservancies are important mechanisms for managing natural resources, and lessons drawn from their strategies and experience can provide useful lessons for managing conflict and climate risks in northern Kenya. This study selected two community conservancies managed under the NRT in order to examine the effectiveness of this model of NRM in coping with local conflicts and the impacts of climate change. The research explores the factors that generate resource-related conflicts in the case study areas, examines whether and how the conservancies mitigate these factors, and identifies strengths and weaknesses of this approach in respect of the wider conflict threat posed by climate change.

In this report, **conservation** is defined as the protection, management and sustainable use of plants, animals and ecosystems.⁴¹

The Northern Rangelands Trust

Community conservancies in the region were born out of the Lewa Wildlife Conservancy, which lies to the north of Mt Kenya, in Meru District. It was established in the 1980s, when the owners of a local cattle ranch converted their land into a rhino sanctuary, which was then expanded into a full wildlife conservancy in the mid-1990s. Lewa management soon realised that for the conservancy to be sustainable it would need the support of the neighbouring communities to avoid tensions over access to land and water, especially considering the local history of land grievances between pastoralists and large-scale landowners. This led to the development of new conservancies managed by the neighbouring communities. This model proved popular, and the number of community conservancies established in the area grew to 15. Since it did not have the capacity or mandate to manage such a large group, Lewa worked with the government, private sector and communities to establish the Northern Rangelands Trust (NRT) in 2004.

Lekurruki and Sera community conservancies



The stated goal of the NRT is the development of strong community-led institutions as a foundation for investment in community development and wildlife conservation. It manages the overall structure of the conservancy network, disburses donor funding, provides technical support to the community conservancies and also provides an institutional platform for dialogue across communities. Most conservancies start as community-based organisations, but are encouraged to register as Trusts to give them a more solid legal foundation as well as a governance structure. Land registration is akin to that of private property, although it is recognised as being group-owned and managed through the Land (Group Representatives) Act that was established in the 1960s to provide a group form of private tenure more suited to pastoralist livelihoods. Each conservancy is managed by the community's traditional leadership and an elected community conservancy board, which forms the key decision-making body. A conservancy manager and a small team of staff (including security personnel) run the day-to-day operations of each conservancy.

In all, the NRT works with community conservancies spread across Laikipia, Samburu, Isiolo, Marsabit, Baringo/East Pokot and Ijara districts. The field research for this study focused on two of these conservancies: Lekurruki Group Ranch in Laikipia District and Sera Community Conservancy, northeast of Lekurruki in Samburu District (see map above).⁴²

Lekurruki Group Ranch Conservancy

Lekurruki Group Ranch is a community conservancy to the north of Lewa. It was established when community members saw the benefits gained by the Il Ngwesi community conservancy to the south, which led to the creation of the Lekurruki Group Ranch in 1999. The community consists of agro-pastoralists from the Yaaku (hunter gathers) group, who took on Maasai identity and language in the 1920s. The group ranch covers about 7,000 hectares of Laikipia North District, with 800 hectares exclusively set aside for wildlife conservation. It lies on what is a relatively secure area for the region, although conflicts do arise from cattle thefts and encroachment onto their land by other groups seeking pasture for their cattle. Governance structures have been strengthened through the registration of the Lekurruki Conservation Trust, while the formation of a grazing committee and new approaches to improve pasture management have enhanced capacities for land-use management. With the help of

⁴² Population of Samburu projected 2009: 175,922, population of Laikipia, projected 2009: 440,781; Kenya National Bureau of Statistics (2008), *Population Projections by Province* (KNBS, 2009)

donors the conservancy also established an eco-lodge, which is now a successful tourism facility contributing to a substantial increase in revenues.

Sera community conservancy

Sera community conservancy was registered as the Sera Conservancy Trust in 2002. The conservancy covers 300,000 hectares, of which 32,500 hectares is the core conservation area. Unlike Lekurruki, the conservancy does not have a title deed to the land, which is currently classified as Trust Land. The region has traditionally been used as a dry season grazing area and communities from the neighbouring regions converge here during the dry season, especially around the natural springs at Kisima Hamsini. Initial work at the Sera conservancy has concentrated on developing governance and security infrastructure and mechanisms. Sera is located in an insecure area; it was established in an attempt by the local community to reclaim land made inaccessible by conflict. The high risk of cattle raids and banditry in the area – often leading to loss of life – meant that before it was established, much of the Sera region was considered a no-go area. The Samburu groups involved formed the conservancy in part to build more peaceful relations with neighbouring Borana and Rendille groups. Having seen the benefits, these groups are now working to establish their own neighbouring conservancies. With an improved security situation, Sera is now negotiating with tour operators for investment for developing tourism in the conservancy

Climate characteristics of Lekurruki and Sera conservancies

Neither conservancy has its own weather station. As such, for Lekurruki, climate data is taken from Lewa conservancy to the south, as well as from three other weather stations across Laikipia. For Sera, the climate is approximated using data collected at the Maralal District Office, which is in the central part of Samburu district to the west of Sera.

Taken broadly from four weather stations, Lekurruki Group Ranch has two main rainfall seasons: March to May, and September to October. Laikipia is particularly dry during the summer months, and annual rainfall remains low, averaging about 500 and 600 mm per year across the weather stations. Trends across the weather stations show differing results: data from Lewa conservancy shows small increases in rainfall in the winter, summer and autumn seasons, and decreasing rainfall in the important spring season, while the other three stations all report increasing rainfall in the spring and differing results over the other three seasons.

Sera Conservancy experiences three rainfall seasons in a year: March to May, June to August and October to December. The June to August season is most prominent, however total seasonal amounts of rain remain low, which explains the region's designation as an arid region (Maralal's annual average rainfall is just 570 mm). Between 1961 and 2004, there was a significant decrease in winter rainfall; the same happened in the autumn, while no statistically significant trend was evident for the spring or summer.

Based on the evidence of climate change in Kenya over recent decades and projections for continued change in the future (as outlined above), this research is based on the understanding that climate change at the national level will (and may already) influence climatic conditions at the local level in northern Kenya. Consultations with communities in both of the conservancies confirm that these larger trends are reflected at the local level: residents note an increase in droughts and dry spells, flooding and extreme heat.

Conflict analysis

Analysis methodology

This study involved a mix of field and desk-based research. Conflict and climate analysis workshops were conducted with conservationists and community members in and around Lekurruki and Sera conservancies, and consultations and personal interviews held with relevant stakeholders in Laikipia, Samburu and Isiolo districts in January 2009. All workshops and interviews were supported by the NRT. The field-work was augmented by desk-based research that focused on the links between natural resources and conflict, as well as the collection and analysis of local climate data to understand the region's past, current and future climate.

Participatory assessment tools were used at the two community workshops held during the field research in order to test and elaborate the analytical framework. The participatory tools are adapted from guidelines produced by development and humanitarian organisations for integrating conflict-sensitive approaches⁴³ and climate risk and adaptive capacity analysis⁴⁴ into their programming and activities.

To establish the conflict and climate contexts in which the conservancies find themselves, the research team used three main tools: hazard mapping, historical conflict and climate timelines, and seasonal calendars. To analyse the conflict in more detail, a conflict tree was used, and its findings subsequently screened for conservation impacts and entry points. A conflict tree illustrates the causes and effects of conflict dynamics. Finally, a climate risk assessment tool was used to establish the climate risks and impacts faced by each community, and the coping strategies they adopted to deal with them (for a more detailed summary of the tools, please see the Annex).

The root causes of conflict

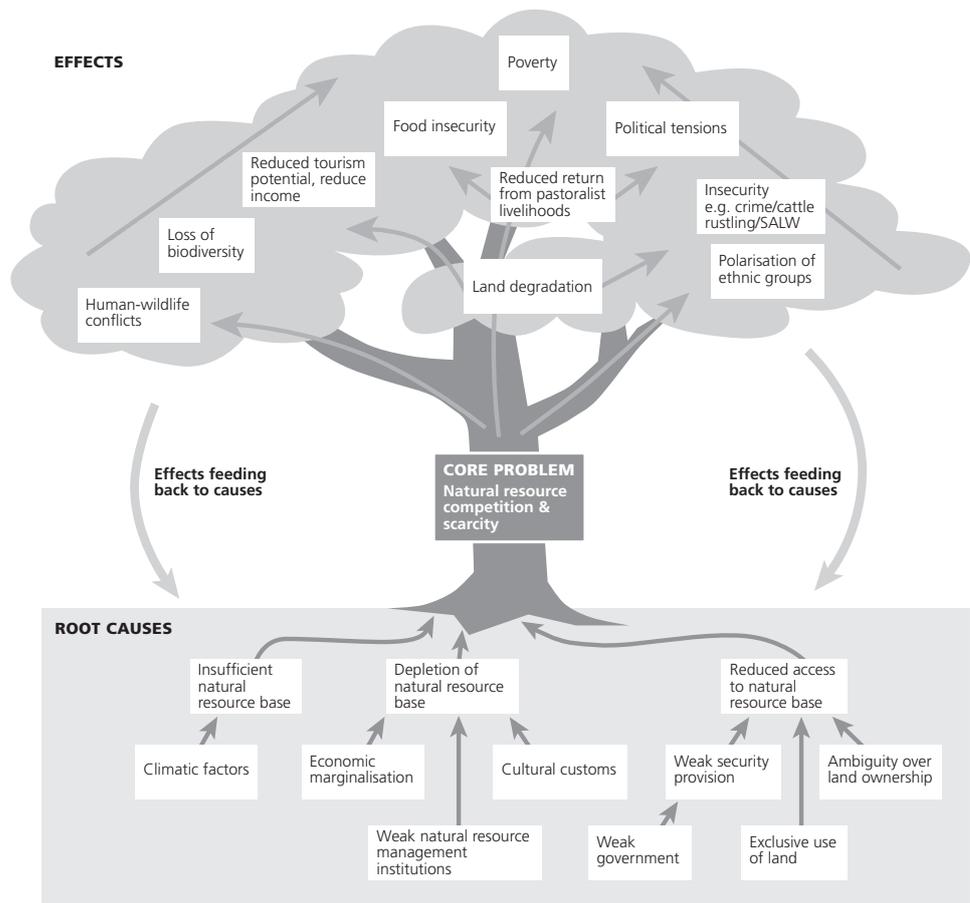
The conflict tree below (Figure 1) represents a synthesis of the various conflict trees developed with the selected community conservancies during the study. Based on discussions about the NRT community conservancies in general, this conflict tree is considered broadly to hold true for most NRT community conservancies in the region. The arrows within the tree and roots show the basic direction of the cause-effect pathways. The factors identified in the white boxes can serve as both causes and effects. For example, *depletion of the natural resource base* is a direct cause of the core problem of *natural resource scarcity and competition* at the same time as being an effect of *economic marginalisation, weak NRM institutions* and *cultural customs*. Another aspect that became apparent is the cyclical nature of the natural resource conflicts, with the effects and consequences of the core problem of *natural resource scarcity and competition* in turn fuelling and becoming causes of the core problem (as illustrated by the two curved arrows to the sides of the diagram). This feedback loop is particularly important with regards to climate change impacts; many of the effects resulting from natural resource conflict (food insecurity, poverty, land degradation, loss of biodiversity) can be further affected by changes in the climate, usually in a negative way.

The results of the conflict tree exercise validate the assumption underpinning the analytical framework that the core factor linking climate change and conflict is natural resource scarcity and competition. It highlights the factors, including but not limited to climate change, which lead to natural resource scarcity and competition. It also shows the multiple negative consequences of natural resource scarcity and competition, including a number of factors that are likely to fuel conflict, such as

⁴³ Warner M, *Complex Problems, Negotiated Solutions: Tools to Reduce Conflict in Community Development* (ITDG Publishing, 2009); Africa Peace Forum, Centre for Conflict Resolution, Consortium of Humanitarian Agencies, Forum on Early Warning and Early Response, International Alert and Saferworld, *Conflict-sensitive approaches to development, humanitarian assistance and peacebuilding: Tools for peace and conflict impact assessment* (Saferworld et al, 2004); Fisher S, Ludin J, Williams S, Ibrahim Abdi D, Smith R, Williams S, *Working with Conflict: Skills and Strategies for Action*, 3rd Impression (Zed Books, 2005); IISD, *Conflict-Sensitive Conservation: Practitioner's Manual* (IISD, 2009)

⁴⁴ IUCN, IISD, SEI, Inter Co-operation, CRISTAL (*Community-based Risk Screening – Adaptation and Livelihoods*) *User's Manual: A decision support tool for assessing and enhancing project impacts on local adaptive capacity to climate variability and climate change, Version 3, November 2007* (IUCN, IISD, SEI, Inter Co-operation, 2007); CARE (2008, draft), *Climate Vulnerability and Capacity Analysis (CVCA) Handbook*, (CARE, 2008)

Figure 1 Conflict tree for natural resource conflict dynamics in the study area



ethnic polarisation and increased poverty. The next step was to unpack the factors that contribute to natural resource scarcity and competition, so as to get a clearer understanding of the role and significance of climate change in this.

Causes of natural resource scarcity

The underlying factors leading to natural resource scarcity and competition can be divided into three main categories: natural limitations to resource availability; depletion of the natural resource base; and reduced access to the natural resource base. Climate change is likely to impact all three, to varying degrees. Based on the perspectives of community members in the two conservancies, a summary assessment of the significance of the main contributing factors in creating natural resource scarcity and competition is shown below.

Table 1. The significance of identified causes of natural resource scarcity and competition

Root causes	Significance
Limitations to resource availability	
■ Climatic factors	High
■ Wildlife populations and distribution	Moderate
Depletion of natural resource base	
■ Economic marginalisation and reliance on pastoralist livelihood	High
■ Weak NRM institutions and sub-optimal NRM practices	High
■ Cultural customs (e.g. preference for large herds, cattle-raiding, ethnic rivalries)	Moderate
Reduced access to natural resource base	
■ Weak government and general insecurity	High
■ Ambiguity over ownership and user rights	Moderate
■ Exclusive use of land (government protected areas, private ranches)	Low

Limitations to resource availability

Climatic factors form the basis for categorising land as arid or semi-arid, whereby the limited, unequal and unpredictable distribution of rainfall and the extended periods of drought determine the availability and distribution of pasture and water resources.

In Lekurruki community conservancy, community members identified a number of climate hazards with which they must contend during the year. First and foremost is the perceived decline in rainfall for the area; this leaves the community with less water, less pasture, crop failure, hunger and an increase in pests. To cope, they must sell cattle, migrate out of the area for alternative livelihoods, steal cattle from neighbouring pastoralists, cut down trees for fodder and resort to gathering wild fruits for food. As well as declining rainfall, community members identified an increase in extreme heat events, high winds, El Niño weather disturbances, drought and floods as major climate-related hazards affecting them. This supports the perception that the climate is changing in northern Kenya. To cope, they have recourse to a number of different strategies, including migration within and outside of the group ranch boundaries, the sale of livestock, and reliance on government relief.

The high significance of climatic factors (particularly drought) as a cause of conflict is unlikely to diminish given the climate model predictions for the region outlined above. However, it should not be assumed that drought will be the sole climatic driver of conflict – during consultations in Lekurruki it was noted by community members that in periods of high rainfall, when pasture is abundant, the local *morans* (warriors) often turn to cattle-raiding and conflict, as they are not preoccupied with the health of their herds.

In Sera, drought, floods associated with El Niño events, and extreme heat were identified by community members as the principal climate hazards they have to deal with. These hazards bring with them a number of impacts, including the death of community members and livestock, famine and food insecurity, conflicts over pasture and water, community fragmentation, increases in cattle-raiding, disease and decreases in market access and prices. The Sera community has developed a number of coping strategies to deal with these climate risks, including migration, subsistence poaching and livestock sales despite low prices. As a result communities consulted in Sera considered climatic factors to be of *high significance* in leading to natural resource scarcity.

The other major factor leading to limitations to the natural resource base is **wildlife populations and distribution**. As a significant proportion of Kenya's wildlife reside outside of officially protected areas, they often come into direct competition with livestock for pasture and water resources.

A significant proportion of Kenya's wildlife resides outside of officially protected areas. A study in the 1990s estimated that national parks and reserves account for 35 percent of Kenya's wildlife, while private protected areas (including private ranches and communally owned group ranches) account for 40 percent, with the remaining 25 percent of wildlife living on unprotected land.⁴⁵ Wildlife can be considered a natural resource that can generate revenue through tourism and other activities.

In the case of community conservancies, wildlife is actively encouraged into the area for tourism purposes, which increases the competition with livestock for pasture and water. However, this factor was considered to be only of *moderate significance* in limiting natural resource availability because wildlife populations tend to avoid livestock populations and members of the community conservancies wherever possible locate core conservation areas on land unsuitable for livestock. This was shown to be the case at Lekurruki, where the core conservation area is located on land where very few group

⁴⁵ Western D, Russell S & Mktutu K, 'The Status Of Wildlife In Kenya's Protected And Non-Protected Areas'. A paper commissioned by Kenya's Wildlife Policy Review Team and presented at the First Stakeholders Symposium of the Wildlife Policy and Legislation Review, 27–28 September 2006 (African Conservation Centre, 2006).

ranch members had settled, while in Sera, the core conservation area covers a dense scrubland area, which is generally only used for dry season grazing. However, wildlife distributions could alter as a result of changes in the timing and distribution of rainfall that are projected, and this could increase the significance of this cause.

Depletion of natural resource base

The depletion of the natural resource base was considered a major aspect leading to natural resource scarcity and competition and was divided into three main underlying factors.

First, **economic marginalisation** and the associated lack of infrastructure, social services and investment has meant that most members of the community conservancies and their neighbours lack access to basic levels of education and resources that would enable them to diversify their livelihoods. This leads to a dependence on livestock and the natural resource base. The lack of markets for livestock encourages large herds of low quality, which creates a reinforcing cycle whereby there are no incentives for improving livestock breeding, reducing herd size or developing markets. As a result, this factor is considered of high significance in contributing to natural resource scarcity.

Weak natural resource management (NRM) institutions are closely linked to economic marginalisation as resources are not optimally used to generate alternative sources of income and livelihood. It also leads to land degradation as resources are over-used and depleted. Lastly, and most saliently for this report, weak management leads to rising tensions between groups: access is not regulated by any institution (be it formal or traditional) which would otherwise establish rules and serve to peacefully negotiate disputes between separate groups seeking to utilise the same set of resources.

Strong NRM institutions are needed in planning and co-ordinating the use of pastures and water resources. However, neither the traditional pastoralist NRM institutions, nor the community institutions such as Group Ranches, nor local government have the resources or power to undertake this function. As a result this factor is considered of *high significance* in contributing to natural resource scarcity.

The final challenge relates to **cultural customs**. Wealth and prestige in pastoralist communities remain closely linked to the number of cattle a household owns, encouraging large herds and prioritising herding over investments in child education, for example. This tends to perpetuate the dependence on livestock. Additionally, the rights of passage to manhood often focus on cattle-raiding, which promotes large herds (as insurance against raid losses) and makes effectively planning and managing a systematic approach to grazing difficult. These cultural customs have contributed to perpetuating ethnic rivalries and the propensity to violent conflict among these communities.

For Lekurruki and Sera communities, cattle-raiding remains an ongoing threat. At Sera there was a Borana cattle raid in late 2008, which resulted in 14 Borana and four Samburu deaths. In the Kipsing region to the north of Lekurruki, a cattle raid in January 2009 led to the theft of 80 cattle and left two Somali raiders dead. The raid was in retaliation for a Samburu raid earlier in the month. Although cultural customs are changing as education levels rise in these communities, this factor was still considered to be of *moderate significance* in contributing to natural resource scarcity.

Reduced access to natural resource base

The final driver of natural resource scarcity and competition relates to issues of access and control. The first factor relating to natural resource access is **weak government and insecurity**. In northern Kenya the presence and capacity of the government on the ground is limited. At the district level, government authorities lack the resources to carry out their mandate; the sub-division of districts in 2007 spread the limited

government resources still further.⁴⁶ High staff turnover also restricts the degree to which government officials can engage with pastoralist communities in a sustained and meaningful way in order to address their concerns. All government officials interviewed (outside of ALRMP) had been in their position for less than six months and were not originally from the district concerned. As a consequence, some of the district level initiatives to address natural resource-based conflicts, such as Peace Committees, have yet to realise their potential and are not functioning at the lower administrative levels of division, location and sub-location.

Weak local government has led to political incitement along ethnic lines, corruption, ineffective security provision and poor law enforcement. This in turn has led to high levels of insecurity characterised by banditry, poaching, and the abundance of SALW. The wider availability of SALW also increases the fatalities arising from pastoralist clashes associated with cattle-raiding and grazing conflicts. Insecurity has reduced available pastures; herders cannot access good land in Samburu Central District due to the risks of violence.⁴⁷ Overall, this factor was considered to be of *high significance* in contributing to conflict over scarce natural resources.

Ambiguity over land ownership has increased the difficulty and cost involved in obtaining land. This means that many pastoralist groups do not have secure tenure. For example, Mpus Kutuk Conservancy at Kipsing was established in 2008 on the northern boundary of Lekurruki Group Ranch. Although the Samburu and a minority Turkana population have resided on the land for many years, the land is government owned, and the inhabitants have few incentives to invest and properly manage it. Even for conservancies such as Lekurruki, which has secure title deeds to their land, the surrounding communities do not necessarily respect or understand the boundaries and land ownership rights. At Lekurruki, in addition to encroachment onto their land by other pastoralists, there is an ongoing boundary dispute with the neighbouring Il Ngwesi Group Ranch.

If land is not being used for grazing, there is a perception among pastoralist groups that it is idle and free to be used. At a broader level, land ownership is a very contentious issue throughout Kenya, and the implications of the current draft land policy could have an impact on land tenure, both for private conservancies and community conservancies. Overall, the confusion over land ownership and rights is considered to be of *moderate significance* as a contributor to natural resource scarcity and competition in the area.

The **exclusive use of land** relates to land in northern Kenya that is inaccessible to the public. This includes government protected areas – which for the study area include Samburu and Laikipia National Reserves and Maralal National Sanctuary; government land used for other activities (such as military training); and privately owned land. The latter category relates to Laikipia, where there are a number of large privately owned ranches which do not permit access for livestock, and in the wetter parts of the district private land is sub-divided and used for commercial and subsistence agriculture. Despite this, it was only considered to be of *low significance* for the NRT community conservancies, which tend to be further north of the areas in the Rift Valley that are privately owned, suitable for arable farming and historically at the centre of land dispute issues in Kenya. However, given increased pressure on resource access in the future, issues of land ownership and exclusion may become more contentious in the NRT area, especially as outside groups migrate into the area as a means of adaptation.

⁴⁶ Laikipia and Samburu districts have been sub-divided into six new districts, and the new district headquarters are not fully operational

⁴⁷ Personal interview, Samburu Drought Management Officer

Effects of natural resource scarcity on conflict dynamics

Having examined the role and significance of climate change and other factors on natural resource scarcity, the study next considers the effects of natural resource scarcity on the community conservancies, especially in respect of conflict dynamics. The field research identified a number of effects of competition over natural resources (see Table 2 below) that have negative impacts on community livelihoods and can, in turn, become causes of further conflict. Many of these negative impacts would be exacerbated by a changing climate, increasing the likelihood that they contribute to further conflict.

Table 2. Assessment of the effects of natural resource scarcity and competition

Effects of natural resource competition	Significance
■ Land degradation	High
■ Ethnic clashes and political tensions	Moderate
■ Human-wildlife conflict	Low

Land degradation

Land degradation is considered the most significant impact of natural resource scarcity and competition and either directly or indirectly feeds all the other manifestations of the core problem. Overgrazing in the non-protected areas in northern Laikipia and Samburu districts has led to substantial gully erosion and loss of soil. This is particularly evident on Livestock Management Division land, which lacks any system for its management or use. The land degradation reduces the viability of pastoralism and directly contributes to increased food insecurity and vulnerability during drought periods.

Land degradation has the indirect effect of fuelling ethnic and political tensions – when pasture is not available within a community, members are forced to look beyond their boundaries, which can be contentious in the absence of an arrangement with neighbouring groups. For example in 1999/2000, drought led to a severe shortage of pasture and water in the region. This drove herders and livestock from Lekurruki to Mt Kenya, while the Samburu and Borana moved to Meru District.

Climate change will only make this picture more complicated. An increase in the intensity and frequency of extreme rainfall events, as projected, will combine with land degradation to increase the risk of floods and drought in the region. Increases in the variability of rainfall and changes in its distribution will alter pastoral migrations and could increasingly bring groups into competition over watering holes. Higher evaporation rates due to increases in temperatures will increase this competition further. If land degradation leads to worsening poverty in northern Kenya, vulnerability to climate change is likely to increase and coping strategies will be reduced.

Overall, land degradation was considered to be of *high significance* in negatively impacting human livelihoods. Climate change could amplify these impacts and increase the chances of them becoming the causes of further tensions.

Ethnic clashes and political tensions

Community members affirmed that natural resource scarcity and competition can directly lead to ethnic tension in the community conservancies, as different groups compete for access to pasture and water. Disputes over access to land and resources often take on a political dimension as local political leaders side with one or other group involved in a land dispute as a means of obtaining voter support to help secure their election or re-election. These ethnic tensions and inter-community clashes cause instability and insecurity and thus lead to a lack of investment and social services in the area, which feeds back into the problems of economic underdevelopment. Overall ethnic and political tensions were considered to be of *moderate significance* in

negatively impacting people's livelihoods. However, climate change, by increasing the incidence of drought in the region, is likely to compound resource scarcity and thus heighten ethnic tensions and inter-community clashes.

Human-wildlife conflict

Human-wildlife conflicts include animals attacking and killing livestock, disease transmission between wildlife and cattle, and damage to property or loss of life caused by wildlife. As natural resource scarcity and competition increase, incidences of human-wildlife conflicts rise with increased contact between people and wildlife. This can lead to revenge attacks by community members against animals, a drop in support for conservation, reduced wildlife numbers as the remaining wildlife populations seek safer areas, and decreases in tourism. This factor was only considered of *low significance* in negatively impacting on people's livelihoods in the areas around Lekurruki and Sera.

Conflict sensitivity of community conservancies

This section examines if and how the strategies adopted by the two community conservancies affect conflict dynamics. This is determined by the impact of these strategies upon the causes and effects of conflict that were identified by community members in the conflict tree exercise.

The community conservancies under the NRT umbrella adopt the following four strategies for natural resource management:

1. Establishing good governance structures
2. Building security mechanisms and networks
3. Promoting improved natural resource planning and management
4. Developing and diversifying income generation mechanisms

The research assessed the conflict sensitivity of each of these strategies in turn and makes recommendations for how the community conservancies could be more conflict-sensitive.

Conflict sensitivity is about thinking through the impact of a particular intervention on a conflict context, and then trying to plan and implement programmes in a way that at a minimum does not aggravate the conflict dynamics in that context, and at a maximum contributes to peace or to addressing the causes of the conflict.

Strategy 1: Establishing good governance structures

The NRT community conservancy model seeks to establish a strong and empowered community institution that will provide the basis for natural resource management and development within the conservancy. The strategy involves establishing the community conservancy as a legal entity and putting in place appropriate and transparent decision-making, finance and administrative systems. The outcomes expected from this strategy, the aspects of the conflict tree that they affect, and the overall impact upon natural resource-conflict dynamics are given below.

Strategy 1 outcomes and impact on natural resource-conflict dynamics

Outcomes	Aspects of the conflict tree affected	Impact
1. Conservancy is established as a legal entity with secure tenure and clear laws governing natural resource use	<ul style="list-style-type: none"> ■ Ambiguity over land ownership (cause) ■ Weak NRM institutions, e.g. user rights (cause) ■ Ethnic and political tensions (cause and effect) ■ Exclusive use of land (cause) 	+ ⁴⁸
2. Equitable and transparent communication and decision-making mechanisms established	<ul style="list-style-type: none"> ■ Weak NRM institutions (cause) ■ Weak government (cause) ■ Ethnic and political tensions (cause and effect) 	+
3. Effective financial and administrative capacity established	<ul style="list-style-type: none"> ■ Weak NRM institutions (cause) 	++

Outcome 1: Establishing the conservancy as a legal entity

Establishing a community conservancy as a legal entity is an important step in the development of a conservancy. This is considered to have a beneficial impact on natural resource-conflict dynamics since it directly addresses one of the root causes of natural resource scarcity and competition, namely the *ambiguity over land ownership*; and indirectly addresses the issue of *weak NRM institutions*. Clarity of land status and ownership that results from the creation of a community conservancy strengthens the basis and remit for local institutions to enforce community rights over natural resource use and access. By formalising ownership and responsibility for the management of the natural resource base, it also provides incentives for investment in, and better stewardship of, the land.

However, this also presents a risk of exacerbating natural resource-conflict dynamics. In arid areas where pasture and water resources are unevenly distributed and accessed by multiple groups from disparate areas, the formal establishment of a conservancy can be seen as a land grab which prevents access for non-conservancy members. Furthermore, each conservancy tends to be formed by members of one ethnic group, building on the existing group ranch structure, so this risks entrenching ethnic divisions. In short, the creation of a conservancy can exacerbate one of the root causes of conflict by increasing *exclusive use of land* and escalating conflict through the *polarisation of ethnic groups*. Below are some examples of how the establishment of conservancies in the Northern Rangelands Trust has had the unintended consequence of exacerbating conflict.

Formation of Sera conservancy. Traditionally the Rendile, Borana and other Samburu converge on Sera for dry-season grazing. Through the creation of the conservancy, the Samburu at Sera have consolidated their territory and can enforce it through the community scout unit and the back-up support provided through the NRT. This has led to disputes with neighbouring Samburu and Rendile who had previously accessed these resources and are traditionally allies of the Samburu at Sera.

Formation of Lekurruki conservancy. The formation of the core conservation and buffer areas of the conservancy has exacerbated conflicts with Samburu pastoralists from the Kipsing area in Isiolo District and with Somalis from LMD land who wish to continue grazing their livestock on this previously 'vacant land'. In addition, the registration of the title deed for the Lekurruki group ranch in 1999 led to an ongoing boundary dispute with the neighbouring Il Ngwesi Group Ranch.

Formation of Ltungai Conservancy in Samburu District. The Pokot had many years of continuous access to the area in South-Western Samburu, but the formation of Ltungai Conservancy was seen by some as enabling the Samburu to stake exclusive claim to the land. The formation of the conservancy coincided with a disarmament programme of the Samburu in 2004/5, which did not target the Pokot in the neighbouring district.

⁴⁸ In these tables, + means 'Positive impact on natural resource (NR)/conflict dynamics'; ++ means 'Overall positive impact on NR/conflict dynamics but with provisos'; and - means 'Negative impact on NR/conflict dynamics'

These factors were the final straw in igniting violent inter-ethnic conflict between the Pokot and the Samburu, which is still ongoing.

In all these cases, the formation of the conservancies sought to legally define and clarify land ownership, which previously had been shared and arguably ambiguous. In the short term, the process of legal definition proved conflictual; however, if done transparently and fairly it should lead to more harmonious and constructive relationships with neighbours in the longer term.

The approaches adopted by the NRT conservancies to deal with the conflicts emerging from the establishment of conservancies have included:

- Establishing transparent decision-making mechanisms and community education activities in the surrounding areas regarding conservancy objectives
- For Ltungai, encouraging the Samburu to include the Pokot in the decision-making processes and management of the conservancy, for example, through representation on the conservancy board and employment as scouts
- Improved law enforcement
- Establishing joint grazing committees between communities and conservancies

Overall, the establishment of community conservancies was considered to have a positive impact on natural resource-conflict dynamics, but there are a number of aspects that need to be carefully considered and addressed in order to minimise the risk of unintended negative impacts.

Outcome 2: Establishing effective and transparent mechanisms for communication and decision-making

Conflicts can easily arise in the absence of fair benefit-sharing. The creation of effective and transparent decision-making processes which build upon traditional mechanisms for resolving disputes between communities over resources form a key element of the community conservancy model. Traditional mechanisms have historically been part of the way that natural resources are managed between communities in northern Kenya and it is positive that they have been recognised and built upon by some community conservancies.

The organisational structure for each community conservancy includes a democratically-elected conservancy board with rotation of tenure every three years and clear separation from traditional community structures. The conservancy board aims to be representative, including at least one woman, and receives training in governance and leadership skills from the NRT. The income generated by the community conservancies should be accounted for in a transparent way, and is split, with 40 percent going to the conservancy operating budget and 60 percent for community development. Community development investments are agreed upon by the entire membership at their annual general meeting.

The other key decision-making structure developed under the NRT is the grazing committee. These serve to manage natural resource use within the community, as well as to set and enforce natural resource bylaws for the community. They are also an important mechanism for resolving resource conflicts at the community level. At Lekurruki and Sera, joint grazing committee meetings have been held with neighbouring communities, which serve as a vehicle for dispute resolution and trust-building. The joint grazing committee at Sera is made up of fifteen elders, five from each of the three communities in the greater Sera region (the Samburu from Sera, the Boran from Isiolo and the Rendile from Marsabit) and it has resolved disputes over access to grazing and water, as well as the theft of livestock. In some cases stolen livestock have been returned, and in general the three communities are beginning to share common resources with less hostility.

When the conflicts cannot be resolved by the conservancy mechanisms, the NRT Conflict Resolution Team (CRT) is brought in to mediate a resolution. The CRT is composed of respected elders from each of the main ethnic groups working with NRT, and is sanctioned by the Council of Elders. It focuses on restoring peace in the community conservancies through mediation, dialogue and advice. For instance, the CRT resolved a long-standing conflict over grazing between the members of Lekurruki conservancy and the neighbouring Samburu from Kipsing area in Isiolo District. The team met separately with each group and then facilitated the election of a cross-border grazing committee made up of the two opposing parties. This resulted in the development of a grazing Memorandum of Understanding, and ultimately led to the peaceful departure of the Samburu from Lekurruki grazing lands.

While these decision-making structures have been effective in building management capacity and resolving disputes, they are not without problems. Management capacity remains weak and vested interests in decision-making processes can create tensions between and within communities. The main weakness of these structures is the lack of involvement of the *morans* (the young warriors). As explained above, youth play a key role in conflict dynamics in northern Kenya, especially the *morans*, who have to live up to cultural expectations of their warrior role. Since *morans* are the principal actors in conflict between communities and the main perpetrators of violence, their exclusion from these structures is a weakness.

At a higher level, the community conservancy decision-making structures are effectively operating a system of governance that is parallel to, and largely independent of, local government structures. For example, the Peace Committees that have been established at district level, and to a lesser extent at lower levels of administration (e.g. division, location and sub-location), have few links with the conflict resolution mechanisms of community conservancies. Without the support of the government, and without being connected to state governance structures, community conservancy conflict resolution mechanisms are less effective and less sustainable.

Outcome 3: Building financial and administrative capacity

The final outcome of Strategy 1 is to put in place capacity and systems for the administration of the conservancies. This is critical for ensuring accountability to the members of the community conservancy as well as to potential investors, who are principally donors and tour operators. Building financial and administrative systems and capacity in the conservancies has a positive impact since it increases the professionalism of each conservancy, promotes democratic and accountable processes of revenue distribution and increases opportunities for further education available to conservancy staff. However, as with all benefit streams, the process of who is selected for administrative positions and training, and of who gets hired for conservancy posts needs to be transparent and fair to all members of the community.

Overall, institutional decision-making processes were considered to have positive impacts on natural resource-based conflicts by effectively addressing *weak NRM institutions* and *ethnic tensions*, especially by strengthening NRM institutions and inter-community decision-making forums (e.g. joint grazing committee meetings) that have been effective in resolving conflicts and building trust between communities. In essence, this second result is a mechanism for identifying and resolving conflicts. The main concern is that these community conservancy structures operate in parallel to government structures and processes, rather than being part of them.

Lessons for strengthening conflict sensitivity of governance structures

- **Undertake an analysis of local and regional conflict dynamics** Analysis of local conflict dynamics should be undertaken during the initial stages of designing a community conservancy, and this should inform the development of the conservancy strategy.

This will enable the management to understand the likely impacts of conservation activities on conflict dynamics, and to take steps to ensure that conservation activities do not exacerbate conflict, but rather contribute to peacebuilding. In particular, the analysis should identify which stakeholders stand to gain and which will lose as a result of the formation of the conservancy; and therefore what mechanisms should be put in place to address potential imbalances and disagreements, especially over land ownership and access. A conflict analysis also gives a better idea of how staff should be hired in a way that is sensitive to conflict dynamics (e.g. what groups must be represented in recruitment panels).

By undertaking a conflict analysis, conservancy management will also obtain a better idea of how the surrounding conflict context could influence their activities. This knowledge can be used to redesign conservation strategies to ensure the safety of staff and community members, sustainability of funding (which could dry up in situations of conflict), protect conservancy boundaries, etc.⁴⁹ Stakeholders should periodically review the conflict analysis throughout the conservancy's lifecycle to ensure that conservation activities are not unintentionally contributing to conflict but are rather contributing to peacebuilding. Furthermore, the local and regional conflict context can change, at times rapidly. Stakeholders should recognise and be prepared to react according to changes in the conflict context.⁵⁰

There are a number of tools that can be used to undertake a conflict analysis depending on the geographical scope, focus and timeframe. Some useful tools for conducting a conflict analysis at the community level include a conflict tree, a stakeholder map, stakeholder profiles and a conflict timeline (as used in this research, see Annex).⁵¹

- **Develop transparent criteria for identifying new conservancy sites** A clear rationale and criteria for identifying lands that will be considered for conservancies should be developed and systematised so that the process of establishing conservation areas is not seen as a land grab by any particular ethnic group. Demarcation of conservancy boundaries is likely to be contentious, especially in areas with resources that are accessed by multiple groups. All of these groups need to be fully consulted and involved in the process, even if they only use the area on a temporary and seasonal basis.
- **Strengthen the engagement of *morans* (young warriors) and *wazees* (elders) in decision-making** Decision-making mechanisms must include youth, particularly the *morans*, who are the principal actors in conflicts between communities. Similarly, community elders, with their experience of traditional means of conflict mediation and resolution, should be included in decision-making structures. These forums can also serve to improve relations between elders and youth and strengthen traditional authority roles.

More generally, conservancies should consider the role of different actors in broader conflict dynamics when developing strategies and identifying the key actors to involve in decision-making mechanisms. Recognition must be made of the fact that some groups may feel relatively excluded from governance systems even though they believe themselves to have a stake in the conservancy areas and the resources they hold. This is especially the case with groups who seasonally migrate to the areas.

- **Link community conservancy governance mechanisms with local and national government and peacebuilding structures** The community conservancy governance and conflict resolution mechanisms need to be better linked to local government structures, particularly the District Peace Committees. The two structures are

⁴⁹ For more information on the impacts of conflict on conservation, please see Shambaugh J, Oglethorpe J & Ham R, with contributions from Tognetti S, *Trampled Grass: Mitigating the impacts of armed conflict on the environment* (The WWF Biodiversity Support Program 2001)

⁵⁰ Op Cit IISD (2009)

⁵¹ For a full guide to conflict sensitivity and the tools required to analyse the conflict context, see Op Cit Saferworld et al 2004 and Op Cit IISD 2009

currently detached. Creating closer relationships with government structures at the district level will strengthen and legitimise conservancy efforts, ensure that political support is maintained and prevent wasteful duplication or contradictory approaches.

Community conservancy conflict management mechanisms should complement and link to the National Policy on Peacebuilding and Conflict Management (NPPCM), which is soon to be adopted and rolled out. The policy should reinforce efforts made by conservancies to manage conflict and provide security in parts of northern Kenya. It is important therefore that community conservancies are consulted regarding the implementation of this policy, but equally that community conservancy conflict resolution mechanisms and structures are aligned with broader peacebuilding and conflict management structures.

Strategy 2: Building security mechanisms and networks

The establishment of security in an area is a precondition for a successful community conservancy. The implementation of Strategy 2 directly addresses the root cause of *weak security provision* and the effect of *insecurity (crime/SALW/cattle-rustling)*. It involves training and equipping members of the community to serve as community scouts as well as linking the community scouts to a regional security network involving government and private operators. The expected outcomes of this strategy, the aspects of the conflict tree that are affected and the overall impact on the natural resource-conflict dynamics are outlined below.

Strategy 2 outcomes and impact on natural resource-conflict dynamics

Outcomes	Aspects of the conflict tree being addressed	Impact
1. Trained and equipped community security personnel	<ul style="list-style-type: none"> ■ Weak government and general insecurity (cause) ■ Ethnic tensions (cause and effect) 	+
2. Integrated government and private sector security network		++

Outcome 1: Training and equipping community security personnel

The establishment of units of community scouts at each conservancy is perceived to have improved the security situation for the communities and the resident wildlife, and it directly addresses the root cause of *weak security provision*. For example, much of the Sera conservancy area was considered inaccessible due to extreme insecurity, but since the establishment of conservancy security operations, people have started accessing the area again and tourism operators are considering investing. The professionalism of the security training, through Lewa Wildlife Conservancy and the Kenya Police Reservists, has reportedly created responsible units of community scouts, with no reported abuses of power.

Through daily patrols of the conservancy and the establishment of radio networks, the community scouts provide an important communication system for the conservancy: monitoring wildlife and livestock movements and providing an early warning system for potential cattle raids or encroachment. This early warning system enables preventive action to be taken through the grazing committees and CRT, and links the conservancy patrols to government authorities and Lewa in case of situations which exceed their response capacity.

Nevertheless, creating what are arguably paramilitary bodies in community conservancies carries its own risks in conflict-prone areas. It is possible that community scouts will contribute to the *polarisation of ethnic groups* at times of resource stress, and actually become actors in the conflict, rather than a force for its resolution. However, the fact that the community scouts at Lekurruki and Sera are salaried, authorised, licensed and monitored by government, appears to have ensured the maintenance of discipline to date.

Overall, the training and equipping of community scouts was considered to have a positive impact on the natural resource-conflict dynamics, due to the professional nature of the training and the accountability required from the scouts.

Outcome 2: Integrating with government and private security network

Community conservancy security operations represent the most visible sign of co-operation with government, reflecting the fact that the local authorities benefit from the conservancy's security resources (vehicles, radios, etc), while community conservancies benefit from the legitimacy of government involvement, and as a back-up in case situations get out of control. The security operations of the conservancies are co-ordinated with local government through the community scouts training as Kenyan Police Reservists (KPRs), and by joint patrols and operations with the Kenya Police and Kenya Wildlife Service. For example, Lekurruki security personnel undertook a joint security operation with the Kenyan Police in 2008 to arrest cattle-raiders and confiscate guns and ammunition. It also helps ensure that potential conflict flashpoints do not flare up; community scout units at Lekurruki and Sera often call in government and Lewa personnel to assist in such situations, which usually defuses the situation. A local administrator in Samburu cited the security function as an area of effective collaboration with the government and the aspect of community conservancies that is most beneficial to the wider community.

In addition, NRT have provided district security officials with two-way radios to link the government and community security operations. There are also procedures that the community scouts must follow, e.g. registering as KPRs and accounting for all their ammunitions. Co-ordinating the security activities conducted by community scouts with local government security structures, including the KPRs, has strengthened and legitimised security efforts connected to the conservancies, and helped to incorporate them into the broader district and regional security networks.

Lessons for strengthening the conflict sensitivity of security provision

Despite the evidence that conservancy security mechanisms have had a positive impact in addressing conflict at the local level in NRT areas, it is important to recognise the risks of arming groups in conflict-prone areas. The actions of the community scouts may, inadvertently or otherwise, contribute to conflict and could deepen divisions between ethnic groups. Furthermore, because security is being provided on a micro level for the communities directly involved in the conservancies, armed groups may become drawn into conflicts with communities outside the conservancies as conflict actors rather than as impartial security providers. What may look like legitimate security provision for conservancy communities may be perceived as a threat by communities on the outside. Furthermore, the creation of safe and secure areas in the context of the region's wider insecurity will inevitably draw migrating groups to these areas, putting pressure on resources and stretching the capacity of security providers. Therefore efforts should be made to ensure that conservancy security strategies are sensitive to both local (internal) conflict dynamics and the wider dynamics outside of the conservancy.

■ Security responses are based on an understanding of broader conflict context

Regardless of a conservancy's security structures, tensions and violent conflicts may still emerge in the conservation area which may be related to the activities of the conservancy, or may be linked to broader conflict dynamics that do not involve the conservancy directly. In order to minimise the impacts of violent conflict on conservation activities, and ensure that security operations do not exacerbate conflict, but rather contribute to peacebuilding, security responses should be based on a sound understanding of broader conflict dynamics. Conservancy security personnel should analyse, monitor and evaluate the conflict context and its relationship to their activities on an ongoing basis, which may lead to modification of security strategies so that they

are more sensitive to conflict dynamics. A greater emphasis should also be placed on information sharing and collaborating with neighbouring communities.

- **Adopt community approaches to security provision** The provision of security should be based upon an understanding of the security needs not just of the conservancy area but also of neighbouring communities. Community scouts should consult with these communities regarding their security needs and agree upon joint responses. The objectives and activities of all security actors must be clearly explained to prevent misinterpretation by outside groups.
- **Consider conflict dynamics when hiring scouts** Community scout units should be comprised of scouts from all the different ethnic groups residing in beneficiary and neighbouring communities. Hiring scouts from one predominant ethnic group – particularly the group that is benefiting from the conservancy – could spark retaliation from neighbouring communities and create the impression that the establishment of the conservancy is a way of enabling one group to grab land from another, with the security provision being seen as a means to enforce this grab and to prevent access by other groups.
- **Link to state security structures at the regional and national level** While forms of co-operation have been established between NRT community conservancy scouts and local government authorities, there is a question about the appropriate division of labour between private conservancy security mechanisms and state security providers. Community scouts only provide security to communities in close proximity to the conservancy and are not part of a comprehensive framework for delivering security across the region. Yet northern Kenya is a marginalised region that suffers from weak security provision. Furthermore, while KPRs may have helped to create a secure environment for these two community conservancies, they are often not regarded as impartial security agents. Indeed a senior government minister recently said that KPRs should be disarmed because guns given to them by the government were being hired out to carry out cattle-rustling.⁵² Whatever the substance of this claim, there is a risk that in a multi-ethnic context the actions of the KPRs – particularly if they are comprised of one ethnic group – may be inflammatory and spark violence.

In an ideal world *all* security provision would be provided by state agents, rather than relying on private conservancy security forces. In reality, efforts should be made to ensure that private conservancy security providers are well-regulated and accountable. In addition, community conservancy security mechanisms should complement and fit within broader state security frameworks. This will ensure that relevant policies, such as those on community-based policing, guide security provision in areas where conservancy security structures operate. In addition, co-ordination with state security structures will legitimise community conservancy security mechanisms and ensure their greater sustainability and effectiveness.

Community conservancies are in a position to monitor conflict and security dynamics in local communities, and thus represent a resource that could be of value to various regional networks. Conservancies should be aware of, potentially link up with, and if appropriate share information with regional security networks, such as CEWARN and the Protocol on the Prevention, Combating and Eradication of Cattle Rustling in Eastern Africa established by the East African Police Chiefs Co-operation Organisation.

Strategy 3: Promoting improved natural resource planning and management

The strategy of improved natural resource management is at the heart of the community conservancy, addresses the root cause of *depletion of the natural resource base* and provides mechanisms for providing coping strategies for *insufficient natural resource base*. It is made possible by the institutional mechanisms and security provided by

⁵² Mukinda F, 'Arms Mop Up in Top Gear' in *Daily Nation* 1 October 2009
<http://www.nation.co.ke/News/-/1056/666676/-/ungjstl/-/index.html>, 2 October 2009

Strategies 1 and 2 and forms the basis for the income-generating activities of Strategy 4. The key outcomes of this strategy, the aspects of the conflict tree that are affected and the overall impact on the natural resource-conflict dynamics are shown below.

Strategy 3 outcomes and impact on natural resource-conflict dynamics

Outcomes	Aspects of the conflict tree being addressed	Impact
1. Land-use planning and management strengthened	<ul style="list-style-type: none"> ■ Natural limitations to resource availability (cause) ■ Weak NRM institutions/sub-optimal practices (cause) ■ Cultural customs (cause) ■ Human-wildlife conflicts (effect) ■ Land degradation (effect) 	++

Outcome 1. Strengthening land-use planning and management

Improved natural resource planning and management is a very broad strategy, but for the purposes of this study, it is considered under the single result of strengthened land-use planning and management. In essence, the other conservancy strategies all seek to provide a conducive and enabling environment to support sustainable natural resource management, which directly addresses the core problem of natural resource scarcity and competition.

Lekurruki has made some good progress towards sustainable management of the conservancy land. The conservancy has been zoned into a core conservation area, buffer zones and grazing blocks and – with the help of lodge management – more appropriate grazing strategies are being introduced for managing the livestock of the conservancy members. As it is in an earlier stage of development, less progress has been made at Sera towards achieving this result, although its current strategic plan has identified the need to undertake proper land-use planning and zoning as well as planning for wildlife and livestock management.

Although this strategy will in theory have a positive impact on the natural resource-conflict dynamics, it has often been delayed as conservancy efforts concentrate on implementing the other three more tangible strategies. While this sequencing of strategy implementation may be necessary, the risk is that the conservancies will forever focus on addressing the manifestations of the core problem, such as ethnic conflicts over resources, rather than tackling the core problem directly.

Lessons for strengthening the conflict sensitivity of land-use planning and management

- **Further develop the management capacity of grazing committees** Continual investments should be made into building the NRM capacity of each conservancy's grazing committees. This should include an increased level of knowledge about climate change and community vulnerabilities to climate change, so that a degree of climate-sensitivity can be integrated into grazing committee decision-making. Grazing committees should continue to act as key mechanisms to resolve disputes between communities who are currently using the conservancy area resources.
- **Prioritise efforts to develop long-term land-use planning and management strategies** It is important that conservancies prioritise efforts to develop long-term land-use planning and management strategies. However, if natural resources are better managed in the conservancy areas while at the same time resource availability and security deteriorates outside of the conservancy areas, pastoralist groups will inevitably migrate to the conservancies and make claims on the more abundant and accessible resources held within them. This will be especially contentious with groups who have traditionally made seasonal migrations to the area. Alongside the impact of climate change, this presents a serious threat for the conservancies and will stress current capacities.

Grazing committees should be made fully aware of their key role in conflict prevention, resolution and peacebuilding, and should be further trained, with neighbouring grazing committees, to deal effectively with conflict situations. Furthermore actors should begin to establish effective mechanisms for allowing outside groups to access conservancy resources. Consulting and negotiating secondary-user rights (encumbrances) with outside groups who traditionally migrate to the area should be a priority to avoid conflicts. A traditional precedent for sharing resources between different pastoralist groups already exists, and these mechanisms should be the basis that new initiatives build upon.

In addition, in order to minimise the risk of conflict arising between beneficiary and non-beneficiary communities, community conservancies should work together with the Ministry of Arid Lands and the Ministry of North-Eastern Province to provide non-beneficiary communities with services including water (e.g. through boreholes) and extension services (e.g. animal health services).

Strategy 4: Developing and diversifying income-generation mechanisms

The final strategy seeks to address *economic marginalisation*, which is considered a root cause of conflicts over scarce natural resources. By helping to increase income, this strategy generates revenues to support the other strategies, with indirect impacts on improving security and reducing conflict. The key outcomes of this strategy, the aspects of the conflict tree that are affected and the overall impact on the natural resource-conflict dynamics are outlined below.

Strategy 4 outcomes and impact on natural resource-conflict dynamics

Outcomes	Aspects of the conflict tree being addressed	Impact
1. Fundraising	<ul style="list-style-type: none"> ■ Economic marginalisation ■ Human-wildlife conflicts ■ General insecurity 	+
2. Natural resource based enterprises		

Outcome 1: Fundraising

In order to establish a community conservancy, funding is required for start-up costs such as undertaking training and surveys, building conservancy infrastructure and purchasing security equipment. A majority of the NRT conservancies have established links with donors, who have provided the initial seed money to build the basic conservancy infrastructure and tourism development sites, which temporarily addresses the root cause of *economic marginalisation* that compounds natural resource scarcity and competition. While this approach helps resolve natural resource conflicts within the communities receiving funding streams, it does create a divide between the well-resourced NRT community conservancies and the cash-strapped local government and neighbouring communities that are either unable or unwilling to adopt the conservancy model.

Outcome 2: Establishing natural resource-based enterprises

The establishment of natural resource-based enterprises has consolidated peace and stability in the two community conservancies studied. Creating incentives and benefit streams that are dependent on the sustainable use of natural resources (addressing the core problem of the natural resource scarcity and competition) and on peace and security being maintained (e.g. tourists will not visit a lodge where open conflicts are occurring). As a result, natural resource-based enterprises address the root cause of *economic marginalisation*, and provide a disincentive for *insecurity* (*crime/SALW/cattle-rustling*) to occur.

The most successful natural resource-based enterprise in the conservancies has been tourism, which has provided significant revenue to the community. This has been most effective where communities partner with professional tourism operators. For example, when Lekurruki handed over the management of Tassia Lodge to a tourism company, the annual revenues received by the community increased tenfold and the number of conservancy members employed almost doubled. When managed well, the tourism ventures provide the incentives and the financing to maintain and secure the core conservation areas for wildlife conservation, as well as to undertake more sustainable NRM in the broader conservancy. The tourism enterprises have also reinforced the zoning of the conservancies, which in turn helps to mitigate the effects of *human-wildlife conflicts*. For the newer conservancies, such as Sera, tourism enterprises are yet to become established (although investors are currently exploring options). Without a substantial money earner these new conservancies will be reliant on donor funding to maintain conservation activities.

Although tourism is often seen as the key enterprise for a successful conservancy, increasing attention is being given to the development of other enterprises that contribute to the conservation goals of the conservancies, such as livestock marketing (supported in community conservancies by the NRT livestock programme) and women's micro-enterprises (which are starting to bring initial benefit streams).

Overall, if the financial management of the natural resource-based enterprises is open and transparent, they help to mitigate natural resource competition and associated conflicts within the concerned community. However, financial success stories can create resentment in neighbouring communities who are not benefiting. This was highlighted in the Sera conservancy, where the neighbouring Isiolo District Government is currently not supporting the development of community conservancies. Consequently, communities in Isiolo can see the benefits achieved by their neighbours at Sera, but are not in a position easily to establish their own conservancies.⁵³ This has reportedly led to 'maliciousness' by the communities neighbouring Sera conservancy and a disregard for the conservancy rules. By creating benefit streams for certain communities only, the disparities between communities can easily spark conflicts. Conservancies need to address this through sensitisation activities and by initiating mutually beneficial collaboration with non-conservancy groups.

Lessons for strengthening the conflict sensitivity of income generation

- **Collaborate with other stakeholders outside of the conservancy to gain political and grassroots support** There is a risk that receiving initial seed funding from donors for the establishment of community conservancies could deepen divides between well-resourced NRT community conservancies and the cash-strapped local government and neighbouring communities that are unable or unwilling to adopt the conservancy model. This could deepen tensions in the region and increase the risk of violent conflict. To mitigate this risk, NRT and conservancy management should maximise opportunities to collaborate with other stakeholders in order to win broader political and grassroots support. Opportunities for collaboration could include initiating and supporting neighbouring conservancies, supporting alternative NRM models for neighbouring areas or expanding joint government/conservancy security provision across the region. This would in turn contribute to the sustainability of the conservancy.
- **Do not encourage only tourism-focused natural resource enterprises** Support for neighbouring communities to set up their own conservancies and natural resource enterprises should be done with care. Although the establishment of community conservancies for tourism and alternative livelihoods for local communities has mitigated the causes of natural resource-based conflicts in some cases (particularly by tackling economic marginalisation and human-wildlife conflict), there is a limit to the number

⁵³ Note: the first conservancy in Isiolo, Biliqo-Bulesa, is in the early stages of formation with support provided by NRT and USAID

of natural resource enterprises that can be established for tourism without saturating the market. Developing alternative enterprises that contribute to conservation should therefore also be promoted and supported, such as livestock marketing, honey production and women's micro-enterprises. However, for all of these, the risk of market saturation should be kept in mind, as tensions between communities could be heightened if the market is unable to sustain all these activities.

The broader message here is that creating alternative economic opportunities for communities is fundamental to addressing root causes of conflict. The main issue is the need to diversify economic opportunities so that more communities can benefit, and not relying on a few approaches that only a select number of communities can benefit from (which may include all types of natural resource enterprises). The development of community conservancies should therefore be informed by and complementary to broader strategies for economic development at the national and regional level, e.g. the ALRMP.

■ **Establish transparent and fair mechanisms for managing and allocating money**

The open and fair distribution of conservancy funding and revenues is crucial. If this is perceived as unfair or benefiting one group over another, support for the conservancy will decrease and disputes may arise. The democratic election of each conservancy's board and committees, as well as the fixed term limits which frequently accompany posts, mean that fund administrators are in theory accountable to their communities. Full transparency and equity in the administration and distribution of donor funding and conservancy revenues is necessary to ensure that it is conflict-sensitive.

- **Awareness raising for non-beneficiaries** There is a risk that the establishment of natural resource enterprises (whether focused on tourism or not) will benefit particular communities and not others, leading to jealousy and rising tensions between communities which may transform into violence and the deliberate sabotage of community conservancies. To minimise this risk, efforts should be made to raise awareness among communities outside conservancies of the opportunities available for establishing community conservancies and lessons learnt from the existing conservancies. Bringing conservancy community members to share experiences with non-beneficiaries and to discuss ideas for collaboration will help establish dialogue and build trust between these groups. It is important however, not to raise the expectations of non-beneficiary communities. As outlined above, caution should be taken when encouraging neighbouring communities to establish their own natural resource enterprises as there is a limit to how many can realistically be established.

4

Conclusions

THIS SECTION DRAWS ON THE BROADER CONTEXT ANALYSIS as well as the case study research in order to draw some conclusions about the relationship between conflict and climate change in Kenya. Firstly, there are plenty of indications that climate change is already affecting Kenya, not least the prolonged and severe drought in 2009. The brochure for the Kenyan Government's NCCRS unequivocally ascribes a host of adverse environmental impacts to climate change. However, the evidence base connecting climate change to these environmental changes remains limited. Certainly there has been an increase in droughts and other extreme weather events in Kenya in recent years, and this has contributed to environmental degradation and the reduced availability of natural resources. However other factors, such as deforestation and the destruction of water catchment areas, also need to be taken into account when considering the degradation of Kenya's environment, and its impact upon the natural resource base.

Nevertheless, there is general scientific consensus that climate change will lead to increased climatic uncertainty, with increasing variation in weather between seasons and between years. Increased uncertainty means that, in general, the food production base will become less predictable, and this will have an adverse effect upon food security. For the arid and semi-arid areas of northern Kenya, climate change projections include longer and more frequent dry periods interspersed with intense but shorter and unpredictable periods of rainfall. Such weather patterns are likely to deplete water and pasture resources, leading to natural resource scarcity. Communities consulted during the research stated that there has been an increase in extreme weather events, such as droughts and floods, in recent years, as well as an overall decline in rainfall. They attributed the degradation of their environment in part to climate change, so they perceive it already to be affecting their lives and livelihoods. This is backed up to some degree by the available meteorological data, although the availability of climate data at the local level is limited and it is therefore not conclusive.

The conflict analysis undertaken in the two community conservancies clearly identified natural resource scarcity and competition between groups over access to resources as being central to conflict dynamics. This competition manifests itself in disputes between different pastoralist groups and between pastoralist groups and settled farmers. The case studies show that resource conflict also arises from pastoralist migration, a key traditional coping mechanism in periods of adverse climate, since this brings different groups into greater contact and competition over the same set of resources. However, the communities consulted identified other types of resource conflict, such as cattle-raiding which occurs more frequently in the rainy seasons. This dynamic of resource-based conflict will therefore be affected differently by climate change, and this underlines the complexity of the interaction between climate change and conflict.

The relationship between different types of conflict and climate change merits further investigation.

Caution is advisable in making connections between natural resource-based conflicts and the impact of climate change, even though consulted communities certainly perceive that the knock-on effects of climate change are already taking effect, and have contributed to increased resource-based conflict in the region. Yet as the research shows, diminishing natural resource supply does not automatically lead to violent conflict. If there are functioning institutions and clear guidelines for determining who has access to which resources, and mechanisms for negotiating access in periods of scarcity, then conflicts can be prevented or resolved peacefully.

For a number of reasons, natural resources have often been mismanaged in the ASALs, resulting in violent conflict about access to these resources. Recognising that NRM is a key determinant in the relationship between resource scarcity and conflict, the research focused on assessing community conservancies as a model for managing natural resources in the face of the conflict threat of climate change. The case studies demonstrate that the community-based governance structures and mechanisms of the conservancies have been quite successful at the local level. On Lekurruki Group Ranch, where the model has been in place for longer, the research indicates that security has increased, pasture management has improved, jobs have been created and community incomes have diversified and increased. At the same time, unmanaged and potentially violent competition over scarce natural resources has been reduced.

Community conservancies represent one model of NRM, and the research suggests that the NRT conservancies in general demonstrate good practice in this regard – though it would be unwise to infer that all community conservancies in Kenya operate according to the same principles and high standards. Useful lessons can be drawn from the experience of the NRT community conservancies, and we have identified these to inform the development of policy recommendations to mitigate the conflict threat of climate change. However, it is important to bear in mind that this sort of community conservancy is essentially a localised and privatised model; and the extent to which this should be more widely replicated as a strategy for NRM and addressing climate change/conflict dynamics is debatable.

If properly co-ordinated, it may be possible to replicate some of the income-generating strategies deployed by community conservancies, including nature-based enterprises (such as tourism or initiatives like the Turkana wind project/carbon credits) and livestock marketing. However, the research suggests that there is a limited market for natural resource-based enterprises, whether they are focused on tourism or on other initiatives such as honey production. Encouraging the unco-ordinated replication of community conservancy natural resource enterprises across northern Kenya risks leading to heightened competition and tension between communities. Secondly, it would not be desirable to replicate across the ASALs the sort of privatised security mechanisms employed by the conservancies. Although they have had a positive impact in reducing insecurity within the conservancies, there is limited accountability and regulation within the broader state security framework. Furthermore, the operations of privately managed community scouts should not be seen to substitute the state's mandate and obligation of providing security for citizens; rather they should complement state systems.

Thirdly, the governance structures established by the conservancies for managing natural resources, and land disputes in particular, are not capable of managing land conflicts across the ASALs. Although these structures have had a positive impact in reducing conflict between ethnic groups over access to resources, the issue of access to and distribution of land in Kenya is highly contentious, and should be addressed by national instruments, such as the National Land Policy. Moreover, the starting point for successful conservancies is security of land tenure. Most Kenyan conservancies are on group ranches, which is a form of private group tenure, but most of Kenya's

drylands are Trust Land (at least 80 percent) which is much harder to secure. Lastly, community conservancies cannot address the risk of climate change in ASAL alone, but need to be part of a broader national framework for adapting to climate change impacts in the ASALs. This is particularly important in respect of the risk that climate change could lead to heightened internal and cross-border migration, an issue that can only be fully addressed at a national and international level, rather than at a local level.

Notwithstanding these limitations of the community conservancy as a model for wider replication, it does illustrate some principles that are relevant to the national level, in particular relating to governance, security and resource management. Therefore lessons from the community conservancy experience can be used to inform national policies related to climate change/conflict dynamics in the ASALs, including policies dealing with climate change adaptation, management of natural resources, and conflict management and security provision. Recommendations for these three key policy areas are outlined below.

The focus on these three specific policy areas is not to suggest that these issues alone are relevant to the challenge of preventing conflict in Kenya's arid and semi-arid lands. Natural resource scarcity and competition – although central to conflict dynamics – is but one of a range of conflict factors, as described in the background section above. These other conflict causes, including the economic and political marginalisation of northern Kenya, and of pastoralists in particular, need to be addressed nationally. This study focuses specifically upon the climate change/conflict dynamic in relation to natural resources, so these broader issues are beyond the scope of this report. These broader areas of policy are however inextricably linked to what is proposed below.

Recommendations

Climate change response

1.1 Ensure climate change strategies are conflict-sensitive

CLIMATE CHANGE POLICY AND PROGRAMMING in Kenya must be sensitive to conflict dynamics, particularly when adaptation measures are being designed and implemented. Those responsible for designing climate change response strategies should be aware of the conflict dynamics, and of how their interventions will affect them. Failing this, the risk is that response strategies could aggravate tensions and increase the prospect of violent conflict.

There are multilateral frameworks in place for responding to climate change in Kenya (e.g. UNDP's country climate change strategy), and the Kenyan MEMR is currently developing the NCCRS, Action Plan and Resource Mobilisation. The NCCRS will articulate planned adaptation and mitigation measures to minimise risks and maximise opportunities, and is due to be finalised in November 2009. The NCCRS is being developed to support Kenya's participation in the global climate change COP15 meeting to be held Copenhagen in December 2009. It is essential that the NCCRS recognises the impact of climate change on conflict and security dynamics in Kenya, and takes this into account when designing and implementing response strategies so as to ensure that they are conflict-sensitive. Two broad lessons will help policymakers and implementers ensure that their interventions are conflict-sensitive:

- **Conflict analysis** The design and implementation of the NCCRS and other climate change response strategies must be informed by an analysis of local and regional conflict dynamics. By understanding conflict dynamics and in particular the issues that divide and connect people within and between communities, the potential impact of interventions on conflict dynamics can be foreseen. It is then possible to adapt interventions to ensure that they do not aggravate conflict tensions, and where possible that they contribute to peacebuilding. As conflict dynamics are likely to change over time, it is important that policymakers and implementers update the conflict analysis regularly and adjust strategies according to the latest findings.
- **Community-based approach** The community conservancy model illustrates the value of a community-led approach to NRM – for example, through the establishment of local governance mechanisms to manage land ownership and access by different ethnic groups. Local communities are best placed to identify conflict risks and potential solutions, and to provide feedback on the impact of interventions on conflict dynamics. The development of national adaptation strategies should therefore be informed by community-level consultations, and communities should be involved in the implementation of these strategies. Representatives from all relevant groups should be consulted – including different ethnic, gender and age groups – to avoid problems arising from particular groups feeling excluded from the process.

The process of developing the NCCRS has included consultations with government, private sector, parliamentarians and civil society organisations at the national and regional levels. However, further efforts should be made to consult with local communities, especially mobile pastoralist communities in ASALs who are among those most exposed to climate change. At the same time, it is important to engage the public, and raise their awareness and understanding of climate change and its potential impacts among communities in ASALs. This will allow for more informed participation of communities in the design and implementation of response strategies.

1.2 Support and build upon local adaptation mechanisms

Following from the above, the implementation of national response strategies at the local level should draw upon traditional adaptation and coping strategies employed by pastoralist communities. Without romanticising these mechanisms or ignoring the practical realities of modern Kenya, much can be learnt from the traditional strategies of pastoralist groups. The flexibility and low-intensity use of natural resources employed by pastoralists could provide useful lessons for livelihood security in environments that become increasingly harsh as a result of climate change. To enable this, support should be considered for traditional mechanisms of governance and NRM, including local institutions, such as elders' councils and women's networks.

1.3 Co-ordinate climate change strategies with related areas of policy

As this study illustrates, the conflict impact of climate change is a function of its interaction with a range of other factors: economic, political, environmental and cultural. As such, it is important to recognise that policy development and programming in related areas of development will influence the outcomes of climate change strategies, and *vice versa*. Related policy areas include the environment, water, land, NRM, agriculture, health, education, disaster risk management and early warning. Therefore it is essential that climate change policy is co-ordinated with and complementary to policies in these related areas, and that those policies in turn take the impacts of climate change into account. This would include incorporating climate change forecasts and impacts into relevant planning processes. As an immediate first step, the MEMR should co-ordinate and collaborate with related ministries including those for Land, Water and Irrigation, and Development of Northern Kenya and Other Arid Lands. Such co-ordination will support more holistic and effective climate change responses and enable better consideration of conflict impacts.

In principle a single, over-arching body that is dedicated to co-ordinating and leading on climate change issues would be useful. However, in a political culture that is already bogged down with cross-cutting, inter-ministerial bodies of questionable utility, it is debatable whether there would be added value in creating an additional inter-ministerial body with specific responsibility for climate change.

1.4 Develop joint strategies to address climate change/conflict dynamics

Following from the above point, it is particularly important that strategies for coping with and adapting to climate change are developed with reference to strategies for addressing insecurity and conflict prevention. The evidence and arguments put forward in this study highlight the connections between these issues and the potential for climate change response and conflict prevention policies to be mutually supportive. Policymakers should therefore ensure that strategies for climate change and conflict prevention are co-ordinated and complementary, and that the relevant actors co-operate where necessary.

The brochure for the NCCRS acknowledges the impact of climate change on the environment, health, infrastructure, tourism and agriculture, but does not currently make any reference to conflict or insecurity. National policies on security, and on

peacebuilding and conflict management do not make any explicit reference to climate change. This is not to suggest that security and conflict policy should be dominated by considerations of climate change, or *vice versa*. For many such policies, depending on the context, climate change will not be a significant factor. Nevertheless, it is recommended that options be explored for sharing information and analysis on these issues and devising integrated responses to climate change and conflict. One option could be establishing a working group on climate change and conflict, comprising different government ministries, international institutions, climate scientists, community members, peacebuilding practitioners and social scientists.

1.5 Undertake more extensive and in-depth research

It is hoped that this study will raise awareness and deepen understanding of the relationship between climate change and conflict, and in particular of the effect that climate change may have on natural resource-related conflicts at the local level in ASALs. However, the study deals with only two community conservancies in northern Kenya, so it provides a limited evidence base and perspective. It is not a comprehensive assessment of the climate change/conflict dynamics throughout Kenya, nor indeed across the ASALs. These preliminary findings suggest that further and more extensive research and analysis is required to strengthen understanding of the relationship between climate change and conflict, and to inform the development of conflict-sensitive climate change response policies and programmes.

Proposed areas for further research include:

- A mapping of the areas in Kenya which are most likely to experience insecurity and conflict as a result of natural resource scarcity and competition which is exacerbated by climate change. This would provide policymakers with a clearer picture of the scale of the conflict threat that is posed by climate change, and enable them to begin planning and targeting measures to pre-empt and mitigate the security and conflict risks.
- Analysis of existing community governance structures and mechanisms in the areas most vulnerable to climate change, including both state and traditional structures, local resource management committees, and community security and dispute resolution mechanisms. In the short term, efforts should be made to build upon existing structures and mechanisms for addressing climate change/conflict risks at the local level. Learning from such analysis can inform the development of appropriate local strategies in other contexts.
- Analysis of the extent to which the effects of climate change on natural resource scarcity and competition will influence migration patterns – temporary and permanent migration, and migration within Kenya as well as cross-border. While many factors influence migration patterns, analysis of these and how they might interact with the effects of climate change will help policymakers identify and prepare for the potential security and conflict consequences.

1.6 Strengthen systems for recording and monitoring climate data

Projecting the impact of climate change on conflict and other issues is complex and inevitably somewhat speculative. But it can be made less so through generating detailed and disaggregated climate data. The current climate monitoring system in Kenya, while regionally strong, could still be improved. Although the Kenya Meteorological Department has collected and monitored climatic patterns over recent years at the national level, this study reveals that there is scope to improve the quality of data regarding changing climatic conditions at a local level. Furthermore, the focus has been primarily on monitoring existing and past climatic patterns and less so on projections for the future.

The establishment of a comprehensive system for collecting and monitoring data at the local level would enable more accurate research on the effects of climate change on security and conflict in Kenya. Climate monitoring products similar to those currently being developed by the Kenya Meteorological Department should be supported. Data collection and monitoring mechanisms at the local level across ASALs should be established, such as local weather stations and information-sharing networks, which involve and draw upon the knowledge of local communities. Climate data generated through these mechanisms should be accessible to policymakers to help them develop climate change sensitive strategies, and specifically to inform climate change/conflict scenarios. To assist scenario development, more attention and resources should be given to projecting climate change patterns in the future.

2. Natural resource management

2.1 Enact the draft National Land Policy

As highlighted in this study, conflicts over natural resources are inextricably linked to their management, with land in particular being a critical issue. Conflict often arises as a result of ambiguity over land ownership, for instance the lack of secure tenure for communities who make customary claim to land which is legally regarded as open-access public land. The case studies show that community conservancies have been effective in countering some of these problems, for instance by legally formalising and consolidating community ownership of the natural resource base through the establishment of group ranches. The community conservancy model is a limited, micro-level solution, but it illustrates some useful principles for more widespread, national application. As outlined below, the draft National Land Policy (2007) will legally enshrine some of these principles at the national level. However, while the policy has been adopted at Cabinet level, it has not yet been approved by the Kenyan Parliament.

At present, land in Kenya is held as Public Land, Trust Land (community land managed by local councils) or Private Land (which includes group ranches). Many communities in the ASALs use open-access public land which can generate conflicts, as explained above. Elsewhere in the country, community access to group ranches or Trust Lands is undermined by corrupt allocation, illegal alienation and abuses of authority. The draft National Land Policy proposes to abolish Trust Land (which conservancies such as Sera are held under) and instead there will be a new title of Community Land. This signifies land that is lawfully held, managed and used by a specific community. By this means, the policy seeks to legally recognise the rights of communities to access resources that they depend upon. As illustrated above, community ownership should generate better incentives and capacity for NRM.

There is a concern, however that with the creation of the new title of Community Land, existing group ranches, which form the basis of a number of community conservancies (such as Lekurruki), may be under threat. Even if group ranches represent a minority of the ASAL land designations, they currently represent the areas where community conservancies have been most effective and sustainable. Therefore it will be important that the new Land Policy protects security of land tenure in such cases, otherwise the existence of the community conservancies themselves may be contested.

The draft policy proposes to establish community-elected governance structures (Community Land Boards) to manage access to Community Land. NRM will be informed by 'customary tenure principles relating to the common utilisation, protection and development of land based resources'⁵⁴ including water, pasture and wildlife. These structures should help to ensure equitable benefit-sharing of natural resources within communities on the basis of pre-existing customary practices.

⁵⁴ Government of Kenya (2007), *Draft National Policy on Land (3.3.1.2)* (Government of Kenya, 2007)

Taking into account specific pastoralist issues, the draft policy recognises “pastoralism as a legitimate land-use and production system”⁵⁵ and will establish a specific “legislative framework to regulate dealings in land in pastoralist areas”.⁵⁶ The policy would allow secondary-user access by providing for “flexible and negotiated cross boundary access to protected areas, water, pastures and salt licks among different stakeholders for mutual benefit to facilitate the nomadic culture of pastoralism”.⁵⁷ These mechanisms should help mitigate conflicts that may arise as pastoralists seek access to resources that others, for instance farmers, may claim exclusive use over.

The enactment of the National Land Policy will be a significant step forward in addressing a number of contentious NRM issues in Kenya, which will in turn mitigate the conflict risks of climate change. It is therefore recommended that parliament approves the draft National Land Policy as soon as possible and that amendments are made to existing land legislation for presentation to parliament, who will make the policy provisions legally binding. It is also recommended that the policy provisions are included in the draft constitution.

2.2 Conflict-sensitive implementation of National Land Policy

The careful and full implementation of the National Land Policy presents an opportunity for tackling some of the root causes of natural resource conflicts; however, it is also highly politicised. The implementation of the National Land Policy, and especially the demarcation of Community Land, will inevitably be a contested and highly politicised process – and possibly in itself be a trigger for violent conflict. This is especially the case where land is already held by communities as group ranches or Trust Land, or where different groups make customary claims to a single area. Furthermore, many areas that are accessed seasonally by pastoralists are also used by farmers for agriculture, meaning that multiple claims for ownership may be made by different groups and on the basis of different property rights. For example, farmers may claim that land belongs to them privately while pastoralists claim they should have access based on customary rights.

Therefore it is strongly recommended that the implementation of the National Land Policy is done in a conflict-sensitive way and that risks of it causing conflict are managed proactively. This includes conducting more consultations at the community level, which will inevitably be a protracted process but will be key for stable and sustainable implementation. The creation of Community Land Boards should also be carefully managed as new governance systems are bound to impact on community dynamics by determining who, and how, different stakeholders control resource access. Where possible, governance structures should build upon and integrate pre-existing informal and traditional resource management mechanisms and customary laws. The provisions for secondary-user resource access will similarly be contentious, and should also be implemented in a conflict-sensitive way.

2.3 Increase support for the Ministry of Development of Northern Kenya and Arid Lands

As well as the National Land Policy, other policy instruments will have a major bearing on NRM. The ALRMP, run by the Ministry of State for Development of Northern Kenya and other Arid Lands, seeks to strengthen institutional capacities for NRM at the local level. ALRMP has developed a Natural Resource Management Vision and Strategy for the ASALs which is outlined in the Draft National Policy for the Sustainable Development of Arid and Semi Arid Lands (2004). The policy seeks to ensure co-ordinated, efficient and effective utilisation of natural resources though

⁵⁵ Government of Kenya (2007), *Draft National Policy on Land* (3.6.3) (Government of Kenya, 2007)

⁵⁶ Ibid

⁵⁷ Ibid

community capacity building, participatory planning and decision-making⁵ If adequately resourced, the strategy should have a positive impact in terms of strengthening the capacity of communities to manage their natural resources, which in turn will mitigate the conflict risks of climate change. It is therefore recommended that central government ensures adequate support to the Ministry for Development of Northern Kenya and other Arid Lands to accomplish its ambitious goals.

3. Conflict prevention and security

3.1 Include climate change in National Policy on Peacebuilding and Conflict Management

In September 2009, the Ministry of State for Provincial Administration and Internal Security published the NPPCM, the product of five years of deliberations and consultations. The policy seeks to provide a comprehensive picture of conflict in Kenya, as well as of responses to conflict, with a view to harmonising conflict prevention and peacebuilding strategies on the basis of a new institutional architecture.

The NPPCM identifies key conflict drivers, including competition for scarce resources, and identifies the various typologies of conflict in Kenya. Prominence is given to the 'Environmental context of conflict' with the statement that "[g]enerally, conflicts arise from unsustainable utilisation of environment and its attendant resources, which leads to depletion. Thus, scarce natural resources, worsening environmental conditions and increased populations have resulted in stiffer competition for land, pasture, water, fish, mineral and forest resources. This has precipitated conflicts over access, control and ownership frequently degenerating into violent conflicts within and among communities". Elsewhere, the policy acknowledges the dual-direction interaction between conflict and natural resources, stating that "conflict ... leads to the destruction of the environment and the unsustainable use of natural resources".⁵⁹ The policy also emphasises the significance of conflicts in pastoralist areas, emphasising the role of unpredictable climatic conditions in this. It also highlights the salience of land conflicts in Kenya, attributing this to the politicisation of land, different land-tenure and land-use systems, boundary disputes, and land-related conflicts.

The recognition of natural resources and the environment as critical factors underlying conflict in Kenya is welcome. As too is the prominence given to conflicts in pastoral areas, and the acknowledgement of the significance of land issues. However, there is no reference anywhere in the national policy to climate change, and specifically to the impact that climate change will have upon Kenya's environment and natural resource base, especially in conflict-prone pastoralist areas. This is all the more surprising given that the government's NCCRS makes the link between climate change, environmental factors and the difficulties facing pastoralist communities.

Without wishing to overstate or over-simplify the relationship between climate change and conflict, it is imperative that Kenya's conflict prevention policy as well as programming recognises the significance of climate change through its impact upon the environment and natural resource availability. The significance of natural resources to conflict in Kenya is fully acknowledged, but the missing link is connecting this conflict issue to climate change. On the basis of the connection between climate change and conflict, Kenya's peacebuilding and conflict management policy should include provisions to deepen analysis of the relationship and to develop strategies specifically to address the conflict risks arising from the impact of climate change upon natural resource availability.

⁵⁸ Government of Kenya (2004), *Draft National Policy for the Sustainable Development of Arid and Semi Arid Lands (1.2.2)* (Government of Kenya, 2004)

⁵⁹ Republic of Kenya, *National Policy on Peacebuilding and Conflict Management* (Republic of Kenya 2009)

3.2 Include conflict prevention and security in the National Climate Change Response Strategy

As noted above, the NCCRS brochure makes no reference to the conflict or security implications of climate change despite recognising the severe and detrimental impact of climate change upon Kenya's natural resource base. Just as Kenya's conflict prevention policy should take into account and develop strategies to respond to climate change, so too the climate change response should take into account the impact of climate change upon conflict and security dynamics and incorporate this into its intervention strategy. The government should therefore ensure that strategies for climate change and conflict prevention are co-ordinated and complementary, and that the relevant actors co-operate where necessary. As recommended above, the establishment of a climate change/conflict working group would enhance policy coherence and complementarity by providing a forum where different actors can share experiences and knowledge, and jointly develop integrated responses to climate change and conflict.

It is worth noting that the peacebuilding and conflict management strategy makes several references to the importance of conflict sensitivity, and that one of the policy's main objectives is to "promote sustainable conflict-sensitive planning (and) implementation". This recognition of the importance of conflict-sensitive approaches to planning and implementation is commendable, and the policy elsewhere commits to "mainstreaming conflict sensitivity in service delivery and development programming amongst government agencies".⁶⁰ Therefore the earlier recommendation regarding the need to conflict-sensitise the NCCRS and related strategies is a matter of expanding the focus of conflict-sensitive programming explicitly to include climate change responses, rather than formulating a new policy objective.

3.3 Learn from and build upon traditional conflict management mechanisms

The value and efficacy of traditional structures and mechanisms for resolving disputes and mediating conflicts is often cited – and sometimes overstated. Local conflict mediation and resolution in Kenya used to rest on an array of institutions of community governance, including elders' councils, women's networks and age-sets. However, these institutions have in many cases broken down over time, due to a range of factors including increased conflict (especially associated with SALW proliferation) and the emergence of state institutions with conflict management responsibilities. Restoring customary governance institutions would enhance capacities to mediate and resolve conflicts at the community level and the NPPCM recognises the need to build on these structures. It further undertakes to strengthen such mechanisms in order to provide "ownership and cultural relevance to the interventions in each conflict context".⁶¹ This is an encouraging development that should be supported so that it is translated from rhetoric to reality.

3.4 Community-based governance structures should co-ordinate with District Peace Committees

As noted earlier in the report, community-level governance structures, such as those created in community conservancies, are effectively operating a system of governance that is parallel to, and largely independent of, state-supported peace structures, notably the Peace Committees. Although Peace Committees have not been established nationwide nor on a consistent model, and in some cases exist more in name than in practice, they do represent a key part of the conflict prevention architecture in Kenya, especially at the district level. Moreover, District Peace Committees have proven more sustained and effective in the ASALs than in other parts of Kenya. However, they often have few links with the conflict resolution mechanisms of community conservancies.

⁶⁰ Ibid

⁶¹ Ibid

Community governance and conflict resolution mechanisms may benefit from linking to local government structures, particularly the District Peace Committees, in terms of greater political support and avoiding duplication or contradictory efforts.

3.5 Strengthen small arms control by implementing the National Action Plan

The proliferation of SALW, especially among pastoralist communities, is a major factor fuelling conflict in northern Kenya. There is an urgent need for the government and concerned stakeholders to review and implement Kenya's National Action Plan for Arms Control and Management at the district level in the most affected areas.

The adoption of the SALW Policy should be accelerated by the government to provide the much needed direction to address SALW in all its aspects in the country and to ensure this policy is coherent with government policies in related areas of regional development and conflict prevention. Additionally the institutions charged with the responsibility of co-ordination and implementation of the action plan at various levels should be strengthened to ensure sustained SALW action. Towards this end, measures should be undertaken to build the capacities of the Kenya National Focal Point and the District Task Forces.

3.6 Make state security provision more responsive, community-centred and accountable

As noted earlier in this study, the ineffective provision of security by the state authorities is a fundamental factor contributing to conflict in northern Kenya's arid and semi-arid lands. Without adequate security provision there is little deterrence to prevent attacks such as cattle-rustling, and there is unlikely to be a rapid response when they do occur. In general enforcement of the rule of law in these areas is weak and access to justice is very limited. Therefore conflict actors are able to operate relatively freely in the ASALs and with a degree of impunity. In the absence of alternative security and justice mechanisms, communities defend themselves through mobilising and arming their youth, escalating the number of conflict actors and making the use of violence to resolve disputes far more likely. As explained above, climate change will act as a threat-multiplier increasing the prospect of violent conflict. Therefore the Kenyan Government must be prepared to pre-empt and mitigate the consequences. This means that it should prioritise strengthening state security provision in the ASALs, with a particular focus upon ensuring that it is effective, accountable and based upon strong community/police partnerships so that there is less reliance on auxiliary security agents in the ASALs in the longer term.

3.7 Ensure regulation of auxiliary and privatised security agents

The case studies suggest that, in the two selected community conservancies at least, the scouts who are employed to provide security do not operate in isolation from the local authorities and security forces. Nevertheless, there is a risk that private security mechanisms are taking on the role and responsibility of state security providers.

Community scouts only provide security to communities within close proximity to the conservancy and are not part of a comprehensive framework for delivering security across the region. Furthermore, while the KPRs may have helped to create a secure environment for conservancies, they are often not perceived as neutral security agents and have been accused of complicity in cattle-rustling.

Given the security context described above and the slow pace of security sector reform in Kenya, it would be unrealistic to rely wholly upon the state for security provision in the ASALs – however much that may be the ideal to aspire towards. The reality is, and is likely to remain for some time, that security in these areas will be dependent to some degree upon auxiliary or privatised security agents, such as the KPRs or the community scouts. In this case, there should be clear and transparent criteria for recruiting

KPRs and scouts, and thorough vetting should be done to ensure that they are suitable. Recruitment should be accompanied by proper training of the auxiliary and privatised security agents and they should be regularly monitored to ensure that they are more accountable. Furthermore, private security mechanisms should be regulated to ensure that they fit within broader state security frameworks.

3.8 International aid policy and programming in Kenya should be sensitive to conflict and climate change

The primary focus of the report's recommendations is the Kenyan government and its policies, and it is for the Kenyan government to take the lead in responding to the conflict and security threats posed by climate change. However, the international community must support the Kenyan government in this regard, both by assisting it to implement the above recommendations, and by ensuring that its own aid policies and programming in northern Kenya – both humanitarian and development – take into account the risks outlined in this report regarding the links between climate change, conflict and natural resource management. International aid policies and programming, by bilateral and multilateral donors as well as by international agencies, should seek to address these risks wherever possible. Ill-conceived international assistance could aggravate the factors identified as fuelling conflict and insecurity, while conflict-sensitive assistance will help to mitigate these risks.

ANNEX: Analytical framework and tools

Establishing the conflict and climate context

There are many temporal and spatial tools to help understand the conflict and climate context affecting natural resource availability and access. The three techniques used in this study are outlined below.

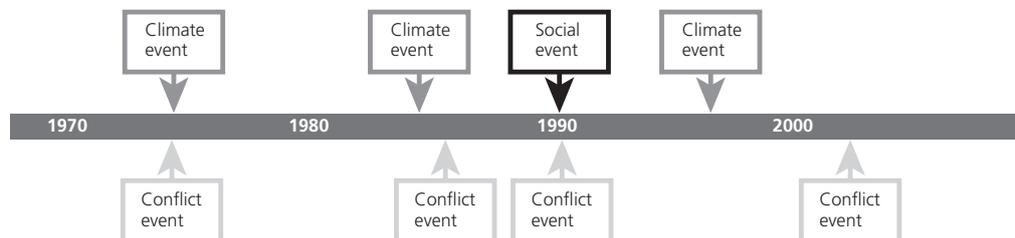
Hazard mapping

Hazard mapping is a spatial tool that produces a map of a community area. On the map are identified the important landmarks, boundaries, settlements, facilities and livelihood resources in the community and the areas and resources at risk from climate hazards and conflicts. The map provides a useful reference point for visualising and locating the extent and severity of conflict/climate impacts and in assessing the appropriateness of coping strategies and responses.

Historical timeline

An historical timeline is a graphical technique to identify and plot key events in a community against a timescale. For this study it enabled key conflict, climate, social and development events to be plotted, as illustrated below. The technique provides an insight into the nature of past conflict and climate events, and their key associations, trends and changes over time. The process of developing and agreeing a chronological sequence of events often highlights the different experiences and perceptions of stakeholders. As a result, the aim of a timeline is not to necessarily create an objective history but to understand the perceptions of the people involved and to create awareness that one perspective is only part of the 'truth'.

Generic historical timeline



Seasonal calendar

A seasonal calendar records the key events and activities of a community that occur during the year. As with the historical timeline, a seasonal calendar is a tool that can illustrate the temporal dimensions of conflict and climate variability and change and helps to make associations between the two processes. The calendar is developed as a matrix with the months of the year on the horizontal axis and the main social and livelihood activities, as well as climatic, security, hazard, disease events, plotted on the vertical axis. In this manner, it is possible to plot the seasonal occurrences of these activities and events and better understand how they relate to each other. It is useful for identifying which livelihoods strategies are employed at different points of the year and for discussing their effectiveness. The sample seasonal calendar below picks out some of the main seasonal events identified by communities visited during the study. One pattern that emerged was that the cattle-raiding often occurs during the rainy season when there is sufficient grazing and the *morans* (warriors) have more time on their hands, whilst the grazing conflicts generally occur during the dry season and drought periods when there is a scarcity of pasture and water.

Sample seasonal calendar

Category	Event	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Social	Christmas												
	Circumcision												
Livelihood	Tourism season												
	Grazing committee												
Climate	Rains												
	Dry season												
Security	Cattle-raiding												
	Grazing conflicts												
Disease	Malaria												
	Pneumonia												

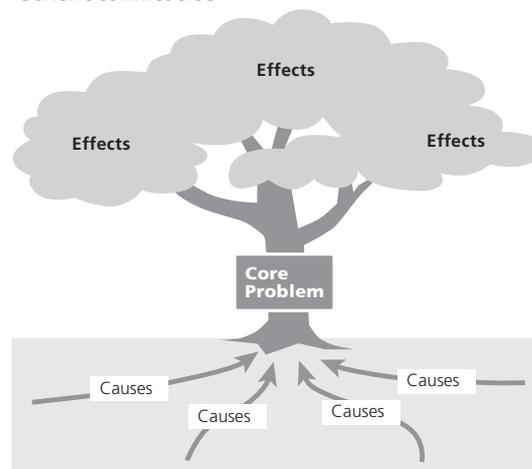
Conflict sensitivity tools

The main conflict sensitivity tools used for this study were *conflict trees* to systematically understand the conflicts, and *conflict-sensitive screening* to assess the effectiveness and appropriateness of existing strategies and to identify potential new strategies, as explained in the following sections.

Conflict tree

A conflict tree provides a useful technique for understanding conflict in a systematic way, as illustrated in the schematic diagram below. The technique involves identifying the main issues associated with conflict and classifying them according to the core problem (the trunk), its underlying causes (the roots), and the subsequent effects (the branches) that define and shape conflicts in a region.

Generic conflict tree



Identifying and classifying issues in this manner helps to stimulate discussion about conflict, reach consensus on the core problem, relate causes and effects to each other and identify conflict issues that should be addressed. As conflict trees are developed, the complexity and cyclical nature of conflict emerges. For example, the identified issues are often both a cause and effect of a conflict. In addition, the dynamic and evolving nature of conflict can be seen with its many layers of causality. However, an aspect that is not often captured by conflict trees are the actors that are involved in the conflict and how the interactions between the stakeholders can often become the main drivers of the conflict. Although other techniques can be used to examine stakeholder interactions, these were not utilised by this study.

Conflict-sensitive screening

Conflict sensitivity screening is a participatory exercise to assess how existing strategies and activities of an institution are positively or negatively impacting the surrounding conflict dynamics and then providing recommendations for how these strategies and activities can be modified or altered to more effectively minimise

conflicts and contribute to peacebuilding. This sometimes involves identification of new strategies or activities that are currently not being undertaken.

For the study, the screening process involved the identification of the key community wildlife conservancy strategies and activities. It was subsequently possible to link conservancy strategies/activities to the key conflict issues previously identified and to assess whether the strategies had a positive or negative impact on the conflicts. Based on this assessment, recommendations were made to adapt existing strategies/activities and identify new ones.

Climate-sensitivity tools

The climate-sensitivity tools used for this study were *climate risk assessments* to identify the main climate hazards, their impacts and existing coping mechanisms and a *climate-sensitive screening exercise* to assess the effectiveness and appropriateness of existing and potential strategies and activities, along the lines of the conflict-sensitive screening described above.

Climate risk assessment

The climate risk assessment exercise is a technique adapted from the Community-based Risk Screening – Adaptation and Livelihoods (CRiSTAL) approach (IUCN *et al* 2007). The first step of the process is to determine the main climate hazards facing the community. For each climate hazard the main impacts on community livelihoods are listed, as are the corresponding coping strategies that are currently used to address the identified hazards.

Climate-sensitive screening

The climate-sensitive screening exercise is the same exercise as for conflict-sensitive screening, but examining how the conservancy strategies and activities positively and negatively impact the climate hazards affecting the natural resource base and in turn the livelihoods of the community.

References

- Africa Peace Forum, Centre for Conflict Resolution, Consortium of Humanitarian Agencies, Forum on Early Warning and Early Response, International Alert and Saferworld, *Conflict-sensitive approaches to development, humanitarian assistance and peacebuilding. A Resource Pack*, London (2004)
- Boko M et al, *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, IPCC, Geneva (2007)
- Brown O and Crawford A, *Climate Change and Security in Africa: A Study for the Nordic-African Foreign Ministers Meeting*, IISD, Geneva (2009)
- Brown, O, Hammill A & McLeman R, 'Climate change as the 'new' security threat: implications for Africa' in *International Affairs* Vol. 83 No. 6 (2007)
- CARE (draft), *Climate Vulnerability and Capacity Analysis (CVCA) Handbook*, Draft for review, November 2008
- Conservation Development Centre, *Realising the economic development and poverty alleviation potential of nature in Magadi*, Report for Department for International Development CDC, Nairobi (2002)
- Conservation Development Centre, *Northern Kenya Conservation, Conflict and Security Study. Phase 1 Scoping Report*, unpublished, Commissioned by Saferworld, CDC, Nairobi (2008)
- Christian Aid, *Life on the Edge of Climate Change: The plight of pastoralists in Northern Kenya*, (2006) <http://www.reliefweb.int/rwarchive/rwb.nsf/db900sid/LTIO-6VHRL6?OpenDocument>, 24 October 2006
- Downing C, Preston F, Parusheva D, Horrocks L, Edberg O, Samazzi F, Washington R, Muteti M, Watkiss P, Nyangena W, Kenya: *Climate Screening and Information Exchange*. Report to Department of International Development Issue No. 2, September 2008
- Economist, The, 'East Africa's Drought: A Catastrophe is Brewing' in *The Economist*, 24 September 2009 http://www.economist.com/world/middleeast-africa/zdisplaystory.cfm?story_id=14506436, 26 November 2009
- Eriksen S & Lind J, 'The Impacts of Conflict on Household Vulnerability to Climate Stress: Evidence from Turkana and Kitui Districts in Kenya' Submitted to *Human Security and Climate Change International Workshop* – Oslo 21–23 June 2005
- Fisher S, Ludin J, Williams S, Ibrahim Abdi D, Smith R, Williams S, *Working with Conflict: Skills and Strategies for Action*, 3rd Impression, Zed Books, London (2005)
- Hagmann, T & Ludi, E, 'Pastoralist Conflict Resolution in the Horn of Africa' in *Understanding Environment, Conflict and Co-operation*, United Nations Environmental Program (UNEP), Nairobi (2004)
- International Conference on the Great Lakes Region, *Regional Program of Action for Peace and Security: Project no. 1.1.2 Disarmament of Armed Nomadic Pastoralists and the Promotion of Sustainable Development in Zone 3*, ICGLR, Bujumbura (2006)
- International Institute for Sustainable Development, *Conflict-Sensitive Conservation: Practitioner's Manual*, IISD, Winnipeg (2009)
- IUCN, IISD, SEL, Inter Cooperation, *CRiSTAL (Community-based Risk Screening – Adaptation and Livelihoods) User's Manual: A decision support tool for assessing and enhancing project impacts on local adaptive capacity to climate variability and climate change: Version 3*, November 2007, IUCN, Nairobi (2007)
- Kenya National Bureau of Statistics, *Population Projections by Province*, KNBS, Nairobi (2008)
- Lekurruki Conservation Trust, *Lekurruki Strategic Plan Summary 2008–2012* (2008)
- Malleret-King D and King A, *A socio-economic assessment to support improved natural resource management in Ngutuk Ongiron and Girgir Group Ranches, Samburu District, Kenya*, The African Wildlife Foundation, Nairobi (2005)
- Malleret-King D and Hatfield R, *Assessment of the Costs and Benefits of the Lekurruki Community Conservancy (Local and PA Levels)*, CARE International, London (2008)
- McSweeney C, New M & Lizcano G, *UNDP Climate Change Country Profiles – United Nations Development Programme: Kenya* (2008), <http://country-profiles.geog.ox.ac.uk> 15 October 2009
- Meier P, Bond D & Bond J, 'Environmental influences on pastoral conflict in the Horn of Africa' in *Political Geography* Vol. 26 (2007)

- Mukinda F, 'Arms Mop Up in Top Gear' in *The Daily Nation* 1 October 2009, <http://www.nation.co.ke/News/-/1056/666676/-/ungjsl/-/index.html>, 1 October 2009
- Morgan J, 'Kenya's Heart Stops Pumping' *BBC News* 29 September 2009 <http://news.bbc.co.uk/1/hi/world/africa/8023875.stm>, 1 November 2009
- Niamir-Fuller M, *Managing Mobility in African Rangelands: The Legitimization of Transhumance* Practical Action Publishing, Warwickshire (1990)
- Northern Rangelands Trust (NRT), *Fact Sheet. Northern Rangelands Trust. Isiolo, Kenya. September 2007* (2007)
- Northern Rangelands Trust (NRT), *Sera Conservancy Facts* (2009), <http://www.nrt-kenya.org/sera.html>, 23 October 2009
- Northern Rangelands Trust (NRT), *Lekurruki Conservancy Facts* (2009), <http://www.nrt-kenya.org/lekurruki.html>, 23 October 2009
- Nori M & Davies J, *Change of Wind or Wind of Change? Report on the e-conference on Climate Change, Adaptation and Pastoralism, organised by the World Initiative for Sustainable Pastoralism* (2007), <http://www.iucn.org/wisp/resources/?2339/>
- Obiya F & Sairi S, Lekurruki Security, *Wildlife Monitoring & Community Liaison Report* (2008)
- Omiti J & Irungu P, *Institutional and Policy Issues relevant to pastoral development in Kenya. Discussion Paper No. 031/2002*, Institute of Policy Analysis and Research, Nairobi (2002)
- Republic of Kenya, *National Action Plan for Arms Control and Management. Office of the President Special Programmes*, Republic of Kenya, Nairobi (2006)
- Republic of Kenya, *Samburu District Vision and Strategy 2005–2015. Office of the President, Arid Lands Management Programme*, Republic of Kenya, Nairobi (2005)
- Republic of Kenya, brochure on the *National Climate Change Response Strategy*. Ministry of Environment and Mineral Resources, Republic of Kenya, Nairobi (2009), [http://climatechangeinkenya.googlegroups.com/web/MEMR+\(2\).pdf?hl=en&gda=Ukd5cUQAAACCoZmntUj_KDWwnZYnOG_ofU9ySsHpdkS6hhQ2PPV3Sl8gKr6lQWMMrjvU1GzubQZV4u3aa4iAIyYQIqbG9naPFok6En6spqEZ2X3nfm7O9Q](http://climatechangeinkenya.googlegroups.com/web/MEMR+(2).pdf?hl=en&gda=Ukd5cUQAAACCoZmntUj_KDWwnZYnOG_ofU9ySsHpdkS6hhQ2PPV3Sl8gKr6lQWMMrjvU1GzubQZV4u3aa4iAIyYQIqbG9naPFok6En6spqEZ2X3nfm7O9Q)
- Republic of Kenya, *National Draft Policy on the sustainable development of Arid and Semi Arid Lands. Office of the President*, Republic of Kenya, Nairobi (2007)
- Republic of Kenya, *Draft National Land Policy. Office of the President*, Republic of Kenya, Nairobi (2007)
- Republic of Kenya, *The Wildlife (Conservation and Management) Bill. Ministry of Tourism and Wildlife*, Republic of Kenya, Nairobi (2007)
- Republic of Kenya, *National Policy on Peacebuilding and Conflict Management. Office of the President Special Programmes*, Republic of Kenya, Nairobi (2009)
- Shambaugh J, Oglethorpe J & Ham R, with contributions from Tognetti S, *Trampled Grass: Mitigating the impacts of armed conflict on the environment*, The WWF Biodiversity Support Program, Washington (2001)
- Tompkins E L & Adger W N, 'Defining a response capacity for climate change' in *Environmental Science and Policy* 8(6), 562–571 (2005)
- UNDP, *Project: Coping with Drought and Climate Change* (2009), <http://sdnhq.undp.org/gef-adaptation/projects/project.php?id=5>, 4 October 2009
- Wairagu F, *Analysis of Conflict Dynamics in Samburu and East Baringo Districts, Kenya*, Draft Report prepared for Saferworld (2006)
- Warner M, *Complex Problems, Negotiated Solutions: Tools to Reduce Conflict in Community Development*, ITDG Publishing, London (2001)
- Western D, Russell S & Mkuu K, 'The status of wildlife in Kenya's protected and non-protected areas', A paper commissioned by Kenya's Wildlife Policy Review Team and presented at the First Stakeholders Symposium of the Wildlife Policy and Legislation Review, 27–28 September 2006, African Conservation Centre, Nairobi (2006)
- White M, *Sera Community Wildlife Conservation Strategic Plan 2007–2011*, Prepared for Northern Rangelands Trust and Sera Conservancy Trust (February 2007)
- World Institute for Sustainable Pastoralism, *Global Review of the Economics of Pastoralism*, IUCN, Nairobi (2006)

The Conservation Development Centre (CDC) focuses on supporting and advising organisations working on the interface between natural resource conservation and human development. In northern Kenya, their recent work has included protected area planning for the Meru Conservation Area, and evaluating the conservation and development linkages and impacts resulting from private and community wildlife conservancies.

The International Institute for Sustainable Development (IISD) is an independent environment and development policy research institute, headquartered in Canada with offices in New York and Geneva. For the past three years it has explored the links between climate change and the risk of violent conflict, and is pioneering conflict-sensitive design and implementation approaches for application by conservation organisations operating in the conflict-prone Albertine Rift (DRC and Uganda) in partnership with CDC.

Saferworld is an independent non-governmental organisation that works to prevent and reduce violent conflict and promote co-operative approaches to security. Saferworld has been working with local partners in Kenya since 1997 on a range of conflict prevention programmes, including the promotion of conflict-sensitive approaches to development.

This study aims to be of relevance to policymakers both at the national and international level, who are concerned with addressing the conflict threats posed by climate change. It is also relevant for conservation, peacebuilding and development organisations working in arid and semi-arid lands.

COVER PHOTO: Kenyan pastoralist armed with AK-47 rifle. © SIEGFRIED MODOLA, IRIN

ISBN 1-904833-42-X



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