



DIIS REPORT

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ADDRESSING CLIMATE CHANGE AND CONFLICT IN DEVELOPMENT COOPERATION

EXPERIENCES FROM NATURAL RESOURCE
MANAGEMENT

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Acronyms

ADR	Alternative Dispute Resolution
ASAL	Arid and Semi-arid Lands
ASEAN	Association of Southeast Asian Nations
CBO	Community Based Organisations
CBNRM	Community Based Natural Resource Management
DAC	Development Assistance Committee
DPC	District Peace Committee
FAO	Food and Agriculture Organisation
IISD	International Institute for Sustainable Development
IWRM	Integrated Water Resources Management
NAPA	National Adaptation Plan of Action
NGO	Non Governmental Organisation
NPC	National Peace Commission
NPPCM	National Policy on Peace-building and Conflict Management
NRM	Natural Resource Management
OECD	Organisation for Economic Co-operation and Development
RBO	River Basin Organisation
REDD	Reduced Emissions from Deforestation and Degradation
SADC	Southern African Development Community
UN	United Nations
UNEP	United Nations Environment Programme

Abstract

This report presents the main findings of a desk study of experiences with conflict prevention and resolution in natural resource management, and how these can be applied in development cooperation in relation to climate change.

The report briefly discusses the link between climate change and conflict, including the need to see climate change as a conflict multiplier rather than as a major direct cause of conflict in itself. The report then goes on to review approaches and lessons learnt from conflict prevention, management and resolution in natural resource management at the local, national and transboundary levels respectively.

On this basis, the report provides recommendations on how development cooperation can address the potential conflict multiplier effects of climate change, including guiding principles and key entry points for support. The latter include (i) enhancing so-called structural conflict prevention measures, (ii) supporting institutional mechanisms for managing and resolving conflict, and (iii) 'conflict proofing' policies and development interventions.

I. Introduction

This report presents the main findings of a desk study on experiences with conflict prevention and resolution in natural resource management, and how these can be applied in development cooperation in order to address the potential conflict multiplier effects of climate change. The study was undertaken by the Danish Institute for International Studies, with funding from the Danish Ministry of Foreign Affairs.

A number of previous studies have addressed the topic of climate change and conflict from an overall perspective and/or in relation to security studies (Brown & Crawford 2009). The current study examines the issue from the perspective of natural resource management and -governance, which is closely related to that of climate change and where stakeholder conflicts are a well-known issue. On this basis, the study provides recommendations for possible approaches and key elements when addressing climate-related conflict in development cooperation.

The study has a particular focus on land and water aspects, and an emphasis on the African setting. However, many of the findings and recommendations also apply to other aspects of climate-related conflict and natural resource management in the South. The main implications for development cooperation can also be found in a shortened version of the current report, which has been published as a Danida 'How to Note'.

The study has drawn its information and analysis from several sources, namely:

- (i) A review of literature on addressing conflict in natural resource management, with a particular emphasis on land and water in the African setting. This involved an initial literature search which produced a longlist of titles on the subject, including both academic articles and 'grey' literature which reported the findings from studies related to specific projects etc. The literature in this longlist was categorised by type into case studies of natural resource conflicts (stand-alone and comparative), and general reviews and recommendations on addressing conflict in natural resource management. A total of 50 references were selected for review from the 'case study' category. These were studied with the aim of extracting information on (a) what caused natural resource conflicts and (b) what are the experiences from efforts seeking to prevent conflicts and (c) what are the experiences from efforts to manage and resolve conflicts? This

information was entered into a matrix for each title, allowing us to gain an overview of cross-cutting issues and approaches. To this was added the findings and recommendations from the more general (non-case specific) literature.

- (ii) Three desk-based case studies of particular natural resource conflict/cooperation situations, namely (i) the 'Wells of Peace' in Niger; (ii) conflict and conflict resolution in Northern Kenya, and (iii) the Nile Basin Initiative.
- (iii) A general review of the literature on climate change and conflict, conflict resolution methods and conflict sensitive development.
- (iv) Consultations with relevant practitioners, policymakers and researchers, including interviews in Kenya, and comments on draft versions of this document from staff at relevant policy and action research institutions.

The following section provides an introduction to the relationship between climate change and conflict (chapter 2). This is followed by the review of experiences from natural resource management (chapter 3), the nature and causes of conflict (chapter 4), conflict prevention, resolution and management (chapter 5) at local, national and transboundary level (chapters 6, 7 and 8). The final section provides recommendations for addressing climate-related conflict in development cooperation (chapter 9).

2. Climate change and conflict in Africa

2.1 The link between climate change and conflict

According to most studies, the impacts of climate change in Africa and beyond will be severe, and are already ongoing in many places. It is nevertheless important to avoid across-the-board assumptions that climate change will automatically lead to conflict. There are a number of reasons for this:

- Predicting the nature of climate change in individual countries and locations is notoriously difficult. In fact, increasing *unpredictability* of rainfall, drought and flooding patterns seems to be a key characteristic of climatic change on the continent (Brown & Crawford 2009). Several studies have furthermore pointed out that different regions will be differently affected, with some areas due to experience increasing overall rainfall, and others less (Stern 2006).
- Human responses to climate change will also most likely be varied and unpredictable: the particular social, cultural and economic context in any given location plays an important role in determining how its institutions and individuals respond to climate change. Whether or not climate change contributes to conflict in a given society will, to a large extent, depend on its resilience and character – e.g. the magnitude of shock that it can absorb, the nature and capacity of social organisation, and the ability to adapt (Adger & Thomkins 2004; Bob 2010).
- The scientific evidence for the relationship between climate change and conflict is as yet limited, and frequently also inconclusive. In 2009 it was widely reported that a statistical study had established a historical link between rising temperatures and civil war in Africa (Burke et al. 2009). Shortly afterwards, another study used the same data to arrive at the opposite conclusion (Buhaug 2010a/b). A key issue here is that conflict tends to be caused by numerous factors, and it is therefore often difficult to identify and single out individual causes.
- Scarcity of natural resources frequently leads to *collaborative* actions and arrangements rather than conflict. This has been documented in recent studies of water governance, both at the transboundary and local levels (Wolf et al. 2005; Ravnborg et al. 2012) and is also evident in the way many local African societies organise the management of scarce natural resources through common property arrangements. Often, conflict is simply too costly or too risky for states or individuals to engage in.
- Climate change is rarely the only or even main cause of conflict. Typically, when climate conflicts are examined in detail they turn out to be rooted in a number

of other or additional issues. Examples of this include the pastoralist conflicts in Northern Kenya, which have been described as some of the world's first climate conflicts (Christian Aid 2006; Yale Environment 2011). However, as recounted later in this report, these conflicts are by no means only about climate change.

2.2 Climate change as a conflict multiplier

Climate change is therefore best seen as a conflict *multiplier*, rather than as a major direct cause of conflict in itself. Climate change may aggravate and extend the scope of existing conflicts, or trigger underlying and latent conflicts to break out into the open.

Previous studies have identified a number of areas in which climate change may contribute to a worsening of conflicts (Brown & Crawford 2009). These include:

- Land and water access. Access and use rights to land are a key feature in most situations where climate change has contributed to natural resource conflicts so far. Climate change can intensify existing conflicts over land, as land becomes less fertile or is flooded, or if existing resource sharing arrangements between different users and land use practices are disrupted. In some parts of Africa, climate change may lead to a decline in available water resources of some 10–20% by the end of the century (op cit.). This may intensify existing competition for access to water at intra-state and/or subnational levels.
- Food security. Reduced rainfall and rising sea levels may lead to a decline in agricultural production and a substantial loss of arable land in some parts of Africa. Reduced yields for own consumption and increasing domestic food prices may in some cases lead to civil unrest, and competition over access to land may intensify.
- Migration and displacement. In some cases, increased scarcity of and competition over access to water and arable land may contribute to internal or regional migration, and disasters such as floods may lead to temporary or long-term local displacement. This may in turn strengthen conflicts between host societies/communities and migrants looking for access to new land and resources.
- Increasing inequality and injustice. Through processes such as the above, some population groups may be particularly hard hit, leading to increased inequality and a sense of injustice. This may intensify existing grievances and disputes between natural resource users and/or between resource users and outside actors such as governments – thereby increasing the risk and intensity of conflict.

- A further and sometimes overlooked way in which climate change can contribute to conflict is through the adaptation and mitigation efforts themselves. For instance, the demand for climate-friendly fuels has meant that large agricultural areas have been set aside for production of crops used in biodiesel or ethanol in several African countries. In some places this has meant that local farmers have lost access to important land and water resources, leading in turn to local protests and disputes. Another example is the controversies surrounding the proposed global mechanism for Reduced Emissions from Deforestation and Degradation (REDD), which if handled poorly could trigger or intensify conflicts over rights to forest areas between local forest users and external stakeholders and within the participating communities, e.g. over benefit sharing.

It should be noted, however, that there are still only a few cases where the contribution of climate change to conflict has been clearly and thoroughly documented. Many examples of climate-related conflicts provided in the current literature are anecdotal or hypothetical, and our knowledge of the processes involved is therefore incomplete.

2.3 Impacts of climate-related conflicts

Conflict is an inevitable feature of human society, and can lead to important social changes when grievances are brought out into the open and social injustices are challenged. Not all conflicts are necessarily negative, but when they escalate into violence and/or abuse of power they can have significant negative impacts in both human and developmental terms. In this respect, experiences from natural resource conflicts in general suggest that:

- Conflicts over natural resources often have particularly negative impacts on the poor, who typically lack the necessary means to defend their interests and rights, and who are frequently the worst hit when conflict leads to breakdown of local livelihoods or displacement.
- Conflicts over land and other natural resources may, in some cases, have significant macro-economic costs, including reduced food production and capital flight. Conflicts may also impact significantly on the structure and vulnerability of national economies, which tend to see decline in manufacturing and a greater reliance on exports of primary resources.
- Natural resources conflicts may, in some cases, contribute to institutional erosion and reduce the reach and capacity of statutory or customary institutions to govern,

regulate and deliver services. Implementation of particular development policies and programmes may be constrained or misdirected in situations where conflicts over natural resources persist. This includes cross-sectoral impacts, e.g. where health and education programmes are constrained by ongoing natural resource conflicts.

- Conflicts may also lead to degradation of the natural resource base itself, e.g. when rules and enforcing authorities lose legitimacy, or when natural resources are drawn upon to finance armed conflict.

While these potential impacts are serious, care should be taken to avoid assumptions about vicious circles whereby local societies disintegrate in a spiral of poverty, resource degradation and violence. Studies suggest the need for a balanced understanding, which avoids undue romanticism, but which also recognises that community members faced with environmental change continuously seek to innovate and adapt within their available circumstances (Leach et al. 1997).

It is furthermore important to emphasise that the responses of local stakeholders to natural resource conflicts do not *necessarily* have negative impacts on local societies or national economies. Migration, for example, is a livelihood strategy already applied by millions of households across Africa, and plays an important part in economic development through e.g. the provision of a labour force in cities and rural economic development through remittances. Conflict may also have positive outcomes, such as in cases where it provides opportunities for local stakeholders to learn about each other's ways of life and different strategies for coping in times of stress.

3. Examining the lessons from natural resource management

The potential contribution of climate change to conflict is strongly related to the governance and management of natural resources.¹ Firstly, factors such as increased flooding, more frequent drought and a general increased unpredictability of rainfall, all impact directly on the quantity and quality of natural resources in a given setting. Secondly, many of the already existing conflicts that climate change may exacerbate and multiply take place within the realm of natural resource management and its associated institutions. And thirdly, because natural resource management has always been subject to conflict, a range of efforts and mechanisms to prevent and resolve conflicts already exists.

A review of the experience of efforts to address conflict in natural resource management can therefore provide important pointers for how to understand, approach and address climate-related conflicts in development cooperation.

Specifically, our review of experiences with conflicts in natural resource management examined:

(a) *The nature and causes of natural resource conflicts.* Conflict studies have repeatedly shown that successful prevention and management of conflicts requires an understanding of their nature and their root causes (e.g. OECD 2001; Brown & Crawford 2009). While this will differ from case to case, it was possible to draw out a number of cross-cutting features that are also highly relevant to climate-related conflict prevention and management.

(b) *Approaches and measures to address conflict.* Efforts to address conflicts typically include an emphasis on one or more of the following elements:

- Conflict *prevention* measures, that seek to prevent new conflicts from developing
- Conflict *management* measures, that seek to contain, limit and mitigate ongoing conflicts

¹ In the following, we use the term 'natural resource management' as shorthand for both the governance of natural resources (including access to and control over resources), and the more technical management aspects as well, as it emphasises the more positive dynamics through which parties may develop constructive responses to difficult situations of conflict.

- Conflict *resolution* measures, that seek to end conflicts by resolving the underlying incompatibilities

(c) *Levels of intervention*. Prevention, management and resolution may take place through a variety of different mechanisms and at different scales. In natural resources management, this typically includes:

- Local mechanisms, e.g. customary and informal mechanisms, local government etc.
- National frameworks, e.g. statutory institutional systems and legal frameworks at national level
- Intergovernmental mechanisms, e.g. regional or transboundary water management bodies

On this basis, we conducted a review of experiences to be found in the literature, asking (i) what are the causes of natural resource conflicts; (ii) what are the experiences of conflict prevention in natural resource management, and (iii) what are the experiences with conflict management and resolution. These questions were stratified according to the intergovernmental, national and local level.

The following section reviews the nature and causes of natural resource conflicts, while the subsequent sections presents the findings on experiences with conflict prevention and management/resolution at local, national and transboundary levels.

4. The nature and causes of natural resource conflicts

4.1 Types of natural resource conflicts

Natural resource-related conflicts are essentially social conflicts (violent or non-violent) that primarily revolve around how individuals, households, communities and states control or gain access to resources within specific economical and political frameworks (Turner 2004). Such conflicts may express disagreements about distribution of resources, inequalities, land rights and maintenance issues. Natural resource conflicts are a common feature in many areas in the developing world, and reflect the widespread dependence on access to natural resources for local livelihoods (FAO 2005). Particularly in rural areas, where material conditions are poor, local conflicts are often resource-related.

Natural resource conflicts typically involve one or more of the following: (i) micro–micro conflicts, i.e. between or among local stakeholders; (ii) micro–macro conflicts, e.g. between local and national or international stakeholders, and (iii) macro–macro conflicts, e.g. intergovernmental conflicts. The table below shows examples of the different types of conflicts arising in natural resource management.

Examples of natural resource conflicts

Micro–micro conflicts:

- Intra-community conflicts where some households are excluded or further disadvantaged and benefits captured by other community members
- Conflict over land access between pastoralists and crop farmers
- Conflicts over water access between long-standing resident groups and new-comer households
- Conflicts between neighbouring clan leaders over the control of pasture

Micro–macro conflicts:

- Conflicts between customary and government authorities over control of land allocation
- Conflicts between local farmers and the state over protected areas
- Conflicts between fishermen and the state over hydropower production

Macro–macro conflicts

- Conflicts between two riparian states sharing a river course
- Conflicts between international NGOs and the state over logging
- Conflicts between international companies over diamond and fossil fuel resources

Source: Format adapted from Warner 2000, with examples from the reviewed literature

In practice, a particular area or river may be the subject of all three types of conflict at the same time, and the stakeholders involved may move across both local, national and transboundary dimensions. The above distinction should therefore not be taken too literally. It does however highlight how different institutional mechanisms and forms of organisation (or different combinations of these) may be necessary for different types of conflict.

4.2 Root causes of natural resource conflicts

The causes of natural resource conflicts are often complex and multi-layered. A basic distinction can be made between contributing causes (e.g. climate change, or proliferation of arms), and root causes (e.g. governance, inequality etc.). Understanding the root causes of conflicts is considered crucial in conflict-sensitive development cooperation as it provides the basis for assessing the potential for future conflicts, the dynamics of existing conflicts, and the necessary strategies for conflict prevention and resolution (OECD 2001).

In the literature reviewed, the following root causes of natural conflicts frequently occurred:

Natural resource scarcity/distribution. The natural scarcity of a resource is sometimes a root cause of climate-related conflicts. This includes competing interests among powerful stakeholders at various levels over the control of resources, or conflicts over access between different types of production systems. However, absolute scarcity of water and other resources are in many cases managed without major conflict. At heart, many conflicts are often more about how land and water resources are *distributed* among stakeholders, and the failure of institutions to manage scarce resources of high value in a peaceful and equitable manner (Ashton 2002; Fiki & Lee 2004; Odgaard 2006; Thébaud 2002).

State policies and priorities. National policies such as collectivisation or privatisation of land have in some cases had unintended effects and can ignite land and water conflicts. Policies that deliberately or inadvertently prioritise some sectors, producers and regions at the cost of others have historically been the source of numerous land and water conflicts (Bob 2002; Castro 2005).

Market changes. The advent of new markets and associated changes in production patterns, ownership and resource values, are an underlying factor in some conflicts over

e.g. land grabbing, new commercial water users and rising land values (Hughes 2001; Van Leeuwen 2009; Odgaard 2006). For instance in Somalia pastoral communities are highly affected by land degradation due to the charcoal industry for export to Saudi Arabia. Before these trade mechanisms existed, communities were more resilient to climate change (Baxter 2007).

Competing and insecure rights. Insecurity and inequality in land and water rights is a key factor in many natural resource conflicts. Customary rights systems have been undermined in many areas, but have frequently not been replaced with clear and defensible rights (Odgaard 2006; UNEP 2009). The overlapping and competing nature of resource rights in many areas means that they can be repeatedly challenged and tend to be captured by the more resourceful local or external stakeholders.

Governance constraints. Authoritarian approaches and poor accountability in the governance of natural resources, and in society more generally, is another key factor underlying many conflicts. Government institutions at international, national and local levels also frequently lack the capacity and legitimacy to effectively collaborate and fairly enforce rights and legal frameworks. In some cases customary conflict prevention and resolution mechanisms have been eroded or are unable to respond to large-scale conflicts. More generally, wider political struggles over power, influence and territory may be rhetorically or symbolically linked to land and water, and/or may financially exploit these resources to finance such struggles (Campbell & Crawford 2009; Huggins et al. 2005; Matthew et al 2009).

Poverty and inequality. Poverty does not necessarily lead to overt conflict, as the poor may lack the necessary means to express discontent and engage in conflict. However, from a development point of view, latent conflicts between poor and better-off stakeholders will often be important to address, and may in any case eventually erupt into explicit conflict if livelihoods come under extreme stress. Unequal access to political representation and rights of different population groups is also a common factor in natural resource conflicts (Castro 2005; Grahn 2005).

Demographic change. In some locations population growth has led to increased competition over land and water, e.g. through the reduction of land plot sizes. Likewise, internal or regional migration and displacement may, in some cases, cause or contribute to natural resource conflicts (Theron 2009; Baechler 1999). Nevertheless, universal assumptions should be avoided. Some studies have shown the opposite

effect, e.g. that 'more hands' improve farming outputs, and that migrants contribute to economic growth in host communities (Blaikie & Brookfield 1987; Kessides 2005; Lambin et al. 2001).

5. Conflict prevention, management and resolution in natural resource management

5.1 Conflict prevention in natural resource management

Conflict prevention forms an implicit and often unspoken part of natural resource management practices (Baechler 1999). Traditions, norms, common rules, laws, institutions and policies in natural resource management are ideally all basic elements of conflict prevention, which essentially aims to clarify rights and uses and to bring coexistence to situations of potential resource competition and conflicts of interest (UNEP 2009). The following discussion cannot explore all of these issues, but instead draws out a selection of features related to conflict prevention measures, as found in the literature review.

Conflict analysis typically operates with three overall types of conflict prevention measures namely (i) early warning; (ii) direct conflict prevention and (iii) structural conflict prevention. Natural resource management mechanisms and interventions have not typically operated with these concepts. Nevertheless, elements of all three types of conflict prevention can be found in the natural resource management practices and interventions reviewed:

<i>Type of prevention measure</i>	<i>Aim</i>	<i>Example from natural resource management</i>
Early warning/early response systems	Seeks to monitor and undertake risk analysis in order to provide information for early action to prevent conflicts from arising	Participatory monitoring of natural resources and management agreements
Direct conflict prevention	Short-term actions and interventions aimed at preventing conflict in specific situations where the conflict risk is considered high	Erection of wildlife fences to prevent human/wildlife conflicts
Structural conflict prevention	Aims at addressing the root causes of conflicts in order to remove the basis for conflicts to develop in the first place	Land reform; recognition of customary rights

All three elements of conflict prevention may be carried out at local, national and international levels. While each type of prevention is important in its own right, the literature reviewed indicates that early warning systems and direct conflict prevention measures are of limited effect if they are not backed by structural conflict prevention efforts that address the root causes of conflicts e.g. by addressing inequalities in resource access, institutionalising rights and agreements, and providing supporting national frameworks (Benjaminsen & Ba 2009; Brockhaus et al. 2004). If this is not done, the duration of agreements made through direct prevention measures may be short-lived, and new conflicts may erupt and escalate.

5.2 Conflict management and resolution in natural resource management

Conflict *management* measures seek to contain, limit and mitigate ongoing conflicts, and conflict *resolution* measures seek to end conflicts by resolving the underlying incompatibilities. However, in both practice and in much of the literature, the two aspects flow together and thus they are discussed together in the following sections under the overall heading of ‘conflict management’. This can take a variety of forms, but typically involve one or more of the following elements:

Action	Description
Negotiation	Process of joint problem solving where parties reach agreement through consensus or bargaining
Mediation	Neutral third party facilitates negotiation
Arbitration	Decision-making by a third party, which can be binding or non-binding
Adjudication	Relying on a judge or administrator to make a binding decision
Coalition building	Collaboration of several individuals, groups or associations through alliances or networking
Conciliation	A third party meets individually with the conflict parties, attempting to help them focus on addressing conflict through negotiation
Facilitation	A third party assists in organising or moderating meetings, or in making other logistical arrangements
Fact-finding	The parties (or appointed neutrals) gather information relevant to the conflict and its management/resolution

Source: Castro 2005

In many parts of Africa, conflict management measures will take place in a context of legal pluralism in which different legal orders coexist, contradict, overlap and/or compete with each other. Drawing on Castro's analysis of local capacity for management of natural resource conflicts in Africa, the table below gives an overview some of the most dominant conflict resolution measures.

<i>Main types of conflict management and resolution measures</i>	<i>Description</i>	<i>Example from natural resource management</i>
Customary systems	Customary mechanisms and authorities	Dispute settlement of water access by 'Council of Elders'
National statutory systems	Formal legal systems and bodies	Settlement of land disputes through formal court hearings
Alternative dispute resolution	A range of processes and techniques for dispute resolution outside the judicial process	Mediation and negotiated rule-making over water access with multiple stakeholders and a neutral third party

Source: Developed from Castro 2005

Customary systems may be legally recognised by law, but are distinguished from national statutory systems by their customary and often localised nature, specific to, for example, a particular ethnic group or production system.

Different settings may require a different emphasis on each of these different mechanisms, depending on the history and outlook of conflicts, the existing means for governing conflicts, and the nature and aim of policies and of development cooperation. No single approach is necessarily superior and fits all. They all possess strengths and weaknesses, and their success depends upon analysis of the context and conflicts in question.

6. Experiences from the local level

Documented experiences from addressing conflicts in natural resource management in the South typically have a strong focus on the local level. This is likely a result of the strong emphasis on locally-based natural resource management in recent years, as well as the fact that many conflicts emerge locally, even if they are partially or fully caused by larger scale factors. Local conflict prevention mechanisms identified in the reviewed literature include:

6.1 Local conflict prevention and management in natural resource management

Customary mechanisms

These frequently consist of general ‘traditional’ authorities in communities such as, for example, chiefs or headmen who are asked to settle disputes through mediation, arbitration or adjudication (Baechler 1999; Edossa et al. 2005). In addition or alternatively, conflict prevention and management may involve village councils such as a ‘council of elders’ whose mandates often include explicit reference to ensuring harmony and peace in communities (Adan & Pkalya 2006 a/b). While most interventions in support of conflict prevention and management tend to focus on these traditional authorities, there are also a range of other important conflict prevention and management mechanisms which are ingrained in local customs and not necessarily visible to outsiders. Such measures described in the literature include: (i) village assemblies and inter-community meetings (Grahn 2005); (ii) natural resource management agreements between different resource users, e.g. irrigation management agreements (Wolf 2000) or mutually agreed timing of when herders move cattle across the fields of sedentary farmers; (iii) reciprocal benefit systems, e.g. mutually dependent pastoral and farming systems; (iv) inter-community alliances, e.g. alliances and intermarriages between different communities or ethnic groups with the aim of avoiding conflict over resources (Adan & Pkalya 2006 a/b); and (v) everyday cultural practices that are indirectly aimed at fostering mutual understanding and reducing tension, e.g. ‘dilemma stories’ and family banter in Burkina Faso (Brockhaus et al 2003).

In addition to this, individual livelihood coping strategies contain important conflict avoidance aspects, such as seeking off-farm benefits or regulating herd size with the

indirect aim of increasing room for action to avoid conflict with fellow farmers (Baechler et al. 2002; Campbell et al. 2009). Ongoing climate change adaptation practices employed by herders in dryland areas can also be seen as indirect but important conflict prevention efforts (Beyene 2010; Mwangi & Dohrn 2008).

Community-based natural resource management

In most cases, customary conflict prevention and management measures have been applied to address conflicts between users at the local level (i.e. micro–micro conflicts, although the geographical extent of the ‘local level’ may be far-reaching and cut across national boundaries). Community-based natural resource management (CBNRM) interventions have typically had a different point of departure, namely addressing conflicts between local users and the state or other national or international stakeholders (i.e. micro-macro conflicts). Efforts found in the reviewed literature that are relevant to conflict prevention include: (i) full or (more commonly) partial transfer of use rights communities, either for communal resource management among community members, or as joint resource management with state authorities or private entrepreneurs; (ii) transfer of responsibility for specific resource management tasks to communities, e.g. implementation of management actions, enforcement of regulations, monitoring of resources etc.; (iii) development of resource sharing agreements and Participatory Land Use Planning; (iv) establishment of Community Based Organisations (CBOs) as the management entity for such resources, frequently with national or international NGOs as facilitators, and in some cases involving capacity development to enhance the voice and networks of CBOs; (v) development of benefit-sharing arrangements as incentives for sustainable use, e.g. transfer of forest and wildlife revenues from state to community, and (vi) alternative incomes and livelihoods as a means of reducing pressure from scarce or protected resources.

Multi-stakeholder fora and committees

These constitute collaborative mechanisms for the management of natural resources between the national and community level. They include mechanisms that are typically defined by resource boundaries rather than administrative ones, such as Water user Associations, Integrated Water Resources Management (IWRM) basin or sub-basin committees, Protected Area management boards or Participatory Land Use Planning fora. They typically consist of stakeholder representatives from resource user organisations, as well as government sector bodies and/or Local Government authorities, and may be charged with collaborative planning and development of regulations. Some fora, such as sub-basin IWRM committees may also have a conflict management mandate, and may be charged with organising public consultations.

District level institutions

Local government authorities and government agencies at district level sometimes play an important de facto role in everyday conflict prevention and management. For instance, district staff who work in water affairs or other technical departments frequently engage in close contact with community members and may be informally used as mediators or arbitrators if they are trusted and respected. This aspect is rarely mentioned in the literature, and has not been a frequent focus of interventions to address conflicts. Specific conflict prevention and management fora involving multiple stakeholders have been developed at district level in some countries, frequently in post-conflict situations where broader security concerns are involved.

Private sector engagement

The private sector can, in some cases, play a part in innovating and disseminating new technologies and practices that may provide access to new resources or reduce demand for existing ones. This can ideally help reduce the pressure on scarce resources and thereby indirectly contribute to conflict prevention and resolution. Examples include new water technologies (e.g. deep pumps) that can provide access to groundwater resources previously beyond reach and/or associated payment and management schemes. Traditionally private sector engagement in such areas has focussed on technology development, but increasingly also involves broader schemes, such as water payment and management schemes.

6.2 Lessons learnt

- A cross-cutting finding in the cases reviewed is that customary mechanisms are key in local level conflict prevention. Much of the literature highlights the positive potential of customary dispute settlement mechanisms because of their accessibility due to low cost, flexibility in scheduling and procedures, their knowledge of local customs and values, and use of local languages. Moreover, local customs can help reconciliation of the parties after an agreement is reached (Castro 2005). Conflict prevention efforts that have engaged customary institutions have thus in several cases been successful, whereas other efforts that have sought to bypass them have frequently not. However, customary measures are frequently described as being eroded, as a result of increasing pressure on natural resources and/or imposition of new rules and regimes by the state. This suggests that supporting and engaging customary conflict prevention mechanisms should be a priority.
- Most prior support to customary conflict prevention measures seems to have had a rather narrow emphasis on supporting traditional *authorities*. While these are

clearly very important, there appears to be scope for a more integrated approach that works with the wider range of customary prevention mechanisms, such as developing reciprocal relationships between land users, supporting agreements for shared management between local users, and integrating support to local adaptation practices as part of a conflict prevention strategy.

- CBNRM interventions have in some cases succeeded in reducing or overcoming conflicts between local stakeholders and the state or other external parties (e.g. Child & Jones 2006; Mustalahti & Lund 2010), but have failed in others (e.g. Turner 1999; Oldekop et al. 2010). Where CBNRM interventions have failed to reduce conflicts, two key factors are that (i) incentives/benefits for community members have been insufficient compared to the associated restrictions in resource use and access under CBNRM; and (ii) the *de facto* devolution of rights and authority to communities has been limited, and frequently remains with state agencies. In addition to this, alternative income generating activities and livelihood options have in some cases failed due to a lack of understanding of local livelihood strategies, or insufficient attention to market needs (Wollenberg et al. 2001). Hence while CBNRM includes a number of elements that can help address future natural resource conflicts, particular attention is needed to ensure that they are based on an in-depth understanding of local livelihood and market dynamics, and that they are *de facto* supported by national policies and legal systems.
- While both customary and CBNRM measures for conflict prevention can provide important entry points to conflict prevention in natural resource management, they also have limitations. Firstly, they may not be legally recognised and can therefore sometimes be easily undermined by external actors. Secondly, local leaders may benefit from disputes to pursue their own interests. Thirdly, both types of mechanisms are frequently dominated by local elites and are not necessarily pro-poor: while poor local households may prefer dealing with customary institutions in local conflicts, it is not necessarily in their long-term interest to do so. Exclusion of women (who often bear the heaviest consequences of conflict) and young men (who are sometimes key actors in local conflicts) from both customary institutions and CBOs is also frequently reported as a problem, and may contribute to conflict (Baechler et al. 2002; Brown & Crawford 2009). Community level fora furthermore tend to emphasise consensus-based decisions, which in some cases disfavours stakeholders with limited negotiating power.
- Addressing the issue of exclusion in customary and CBNRM institutions is therefore an important aspect of ensuring pro-poor and sustainable conflict prevention and management. Research on local water conflict and cooperation suggests that excluded groups can benefit from using alternative institutional spaces

for venting their grievances when the 'normal' spaces are dominated by elites with opposing interests (Funder et al. 2012.)² Other checks and balances that can help support marginalised stakeholders include regular monitoring and supervision of whether agreements and decisions are upheld by the involved parties (e.g. Child 2006).

- In general the role of women in both conflict and peace building efforts is underestimated. In armed conflicts, women are often victims, suffering from physical, economic and psychological stress as armed conflict tends to exacerbate existing gender discriminations. Furthermore, relative resource scarcity has different impacts on men and women's coping strategies. For example, in pastoral settings women are often responsible for children and cannot easily migrate, and female headed households are particularly vulnerable due to tenure insecurity (Omolo 2011). Studies from the upper eastern region in Kenya, however, also show that women may take part in the cultural reproduction of conflict, by e.g. singing songs that encourage men to raid cattle and carry out revenge attacks. In the Karamoja region in Kenya and Uganda pastoralist women may also be involved in ammunition trading (Mkutu 2008). Efforts to work with women through sensitisation to address these issues have proved successful in some cases.³ Women are also potentially important peacekeepers as they play a key role in establishing continuity, which enables families and communities to move forward in post-conflict situations. The development of District Peace Committees in Kenya is thus based on an initial initiative taken by a group of women in Northern Kenya (see Annex 2).
- Customary institutions and CBOs do not necessarily in themselves have the reach to address conflicts that take place across multiple communities or on a wider geographical scale. They may be most suited to reconcile members of the same social group, as they may not be considered legitimate by people coming in from the outside or other countries, as they may be biased towards members of their own social group. It may therefore be necessary to engage other institutions at other levels.
- In some cases district authorities are mentioned as imposing authoritarian approaches to community members in situations of conflict (Berger 2003; Castro 2005). However, while this is clearly the case in some locations, they may also serve important de facto roles in conflict prevention and management as mentioned

² e.g. where a chief or headman is biased against the grievances of a poor household, the latter may benefit from seeking the support of a local government councillor or a CBO. Or vice versa.

³ Author interview with PeaceNet Kenya, 2010.

above. Cases from Ethiopia, Kenya and some other sites furthermore point to the benefits of approaches that foster collaboration between customary institutions and local government and district agencies in conflict prevention and resolution, for example the District Peace Committees (DPC) in Kenya (see annex).

- Multi-stakeholder fora and committees such as IWRM committees or water user associations at sub-basin level or joint protected area management boards are still under development in many areas. Experiences so far suggest that such fora can be beneficial for aligning interests and planning between stakeholders in some respects, but also that they suffer from challenges of equitable representation (Höyneck & Rieser 2002). They may also, in some cases, be too far removed from or not aligned with the de facto patterns of decision making and conflict resolution sought by local stakeholders. Hence, while such institutions may be beneficial for specific resource planning exercises, it should not be assumed that they are a panacea for resolving conflicts at e.g. community level (Barham 2001).
- The range of third parties that community members choose to involve may be wide, and are not necessarily exclusively either customary or statutory mechanisms. Third parties may be elders, local chiefs, judges and/or local government representatives (Beyene 2010; Grahn 2005; Theron 2009). Third party involvement does not necessarily entail that conflicts get resolved (Castro 2005; Lund 1998; von Benda-Beckman 1981; Moore 1992). If local authority structures or other circumstances change, cases may be retried or reopened by losing parties (Barrière & Barrière 2002; Moore 1992). This is not necessarily because the conflict managing mechanisms do not function properly; it rather reflects how things often work at the local level, and that institutions should be supported in ways that allow them to handle the inevitable re-emergence of some conflicts (Moore 1992). It is moreover important to pay attention to petty corruption and bribery in third party involvement as this reproduces inequality and may aggravate conflicts (Benjaminsen & Ba 2009).
- In general, the above experiences point to the benefits of involving a broad range of institutions and mechanisms in local conflict prevention and resolution. This not only helps avoid conflicts over authority between the various institutions involved, but also helps draw on the comparative advantages of different institutions. For example, the degree of trust often afforded to customary institutions can be complemented by the options for advocacy by civil society institutions, while local government agencies can provide alternative options for voicing grievances, and coordinate activities across locations and upwards to central government (Swatuk 2005).
- Private sector engagement in the innovation of new technologies and approaches has in some cases helped to introduce improved technologies and management

schemes in rural areas, especially within water development. This has frequently helped address important local stakeholder needs. However, the extent to which it has contributed to conflict prevention and resolution in practice is less clear. In some situations, the development of new water resources can in itself induce conflict between local stakeholders who compete for access to new water infrastructure (Bolwig et al. 2009; Funder et al. 2010). As private sector engagement is furthermore based on marketing terms, technologies may not be equally attractive or affordable to different stakeholder groups (e.g. upstream/downstream; poor/wealthy; or farmers/pastoralists), leading to bias and possible conflict as a result. The contribution of the private sector to innovation and dissemination of new technologies and practices thus needs to be balanced by careful attention to issues of access and ownership of the resources in question.

7. Experiences from the national level

Apart from military interventions to stop violence, three types of national level measures to prevent and manage conflict in natural resource management are reflected in the literature reviewed:

7.1 National conflict prevention and management in natural resource management

Development of national institutional frameworks for conflict prevention and management

This can include developing the legal system in order to resolve conflicts through standard judicial procedures, or developing specific national bodies aimed at conflict prevention (Theron 2009; van Leeuwen 2009. See also Danida 2010 a/b). The basic principle of the latter is to provide mechanisms that prevent emerging and existing tensions from developing into actual conflict, by e.g. monitoring through early warning systems, and addressing key issues of concern early on. Typically such institutions also have a conflict management and resolution mandate, and the emphasis is not necessarily on natural resources specifically. A case in point is the National Steering Committee on Peace Building and Conflict Management in Kenya (see annex).

Cross-sectoral policy coordination and planning related to natural resources

A recurrent finding in the study is the call for better harmonisation between different land use and development policies and interests. At the national level, measures to address this typically include cross-sectoral policy integration and provision of appropriate frameworks for practical planning efforts such as IWRM, strategic environmental assessment, land use planning etc.

Reforms and revisions of the allocation and governance of land, water and other natural resources

This includes measures such as land reform, development of new processes and principles for water allocation and payment, and devolution of authority and revenues in natural resource management (Bob 2002; Hughes 2001; Herrera & Gugliema da Passano 2006; UNEP 2009). While such reforms may have a number of purposes, they ideally address basic aspects of resource allocation and can serve to address root causes of many conflicts, such as conflicts over unequal land access for example, and

unclear land tenure or infringement of local water rights. Examples include a range of options such as land reform (Hughes 2001), incorporating customary law and local rights into the formal legal system and policy frameworks (Mwangi & Dohrn 2008), or devolution of forest and wildlife management rights and revenues (Mustalahti & Lund 2010).

Alternative Dispute Resolution approaches

Alternative Dispute Resolution (ADR) is a range of processes and techniques for dispute resolution outside the judicial process (Herrera & Guglielma da Passano 2006). It can be used at local, national and transboundary levels, but is discussed here as there is increasing attention to develop ADR capacity among NGOs and (so far to a lesser extent) government institutions. ADR processes may include:

- *Conflict assessment*: to identify issues, interested parties, and possible pathways for action early on
- *Interest-based negotiation*: between different groups or individuals to understand different parties interests and ways to address them
- *Mediation*: intervention by a neutral third party to assist the parties in reaching a solution
- *Arbitration*: third party listens to facts and arguments presented by the parties or their representatives to render a binding or non-binding decision
- *Negotiated rulemaking*: multiparty negotiations to formulate environmental regulations
- *Policy dialogues*: discussions among different interest groups to encourage mutual understanding.
- *Quasi-judicial processes*: expert opinions to interest groups through techniques such as early neutral evaluations, mini-trials, settlement judges, and fact-finding.

7.2 Lessons learnt

- Cross-sectoral efforts and structural reforms such as those mentioned above are considerable and challenging tasks, but are nonetheless key elements of structural conflict prevention in natural resource management. In a number of the cases reviewed, such national level measures are lacking, and this is frequently described as a major reason why conflicts develop and persist in the first place, or why local efforts to address conflicts fail.
- A recurrent finding in the literature is thus that while conflicts should ideally be prevented locally and through local institutions, national frameworks and

reforms are essential to provide the overall regulatory frameworks and coordinate a concerted nationwide effort towards replication of successful institutions and arrangements (e.g. Kameri-Mbote et al. 2007).

- Elements of ADR can be seen in civil society approaches to conflict resolution in a number of countries in the South, although experiences within natural resource management are still limited (Castro 2005). The case study on the Peace Wells in Niger (see annex) applies several approaches that can be found under the overall ADR umbrella. ADR approaches are also subject to critique in some of the reviewed literature, namely that they do not necessarily address structural inequalities and may serve to perpetuate or exacerbate power imbalances (Cousins 1996).
- The benefits of using official legal systems in dispute resolution are that it strengthens the rule of law and fosters the principle of equity before the law. However, the literature review found that national legal systems can be inaccessible to the poor, women, remote communities or other marginalised groups due to cost, distance, language barriers, ethnicity, political obstacles, and discrimination (Herrera & Guglielma da Passano 2006; Huggins et al. 2005). People may lack knowledge of procedures and, moreover, adjudication of cases may take a long time. 'Access to justice' initiatives have sought to address this, although primarily outside the natural resource management sector (e.g. Danida 2010 a/b).
- Attempts to make official governance systems more accessible and accountable have been taken in the form of bureaucratic reforms. For example, decentralisation reforms have been widely implemented both in the form of deconcentration (delegating responsibility to field units of ministries) and devolution (transferring substantive power to the local level). In practice, however, decentralisation processes have often been slow to implement in reality, and power inequalities at the local level have sometimes undermined the democratic reform intended by decentralisation. Evidence from the literature review thus suggests that decentralisation sometimes exacerbates, rather than reduces local natural resources conflicts (Ribot 1999; 2002), because local political and economic elites take advantage of pursuing new opportunities provided by decentralisation (Castro 2005).
- In many cases appropriate national level frameworks for preventing and managing conflict in natural resource management are thus in fact in place on paper, but are not de facto implemented. Reasons described in the literature include capacity and funding constraints, resilient institutional cultures and conflicting sectoral interests. Control of the productive resources and their associated revenues can be important funding and power bases for central sector institutions, who may

be reluctant to actually devolve resources. International stakeholders that bypass national policies and legislation have, in some cases, added to this, e.g. land-grabbing as a result of corruption and/or individual exemptions (Cotula et al. 2009).

Approaches that have had some success in reducing these constraints include:

- Highlighting and demonstrating to national policymakers the actual benefits of cross-sectoral coordination and reforms, as well of particular types of land use, e.g. in terms of national economic benefits, efficiency savings and the costs of conflicts to national budgets (UNEP 2009; Uitto & Duda 2002).
- Anchoring reforms and policies in broad public consultation processes, thereby enhancing legitimacy and reducing the scope for central government retrenchment on the issue (Campbell et al. 2009; Nielsen Raakjær et al. 2004).
- Ensuring that reform and policy development is accompanied by appropriate and inclusive conflict prevention, management processes and fora that can monitor and address key issues during formulation and implementation, and provide fora for expressing grievances (Campbell et al. 2009; Edossa et al 2005).
- Enhancing the capacity and frameworks for civil society advocacy and monitoring of natural resource governance, including ensuring that policies and laws are followed through in practice (Theron 2009).
- Strengthening platforms and networks for local government authorities or customary institutions to claim revenues and authority vis-à-vis central authorities as provided in formal policies and laws (Yurdi et al. 2006; Van Leeuwen 2009).
- Supporting integration of customary tenure and resource management institutions in formal national legislation and policy, where this is in accordance with pro-poor development (Byene 2010, Castro 2005; Mwangi & Dohrn 2008).

8. Experiences from the transboundary level

Transboundary conflict prevention and management in Africa has especially focussed on river basin management. Apart from this, major lakes such as Lake Victoria and Lake Chad also have transboundary, intergovernmental collaboration. In addition, in recent years cross-border protected area management has developed in various parts of the region in the form of so-called 'Peaceparks' that help ensure collaboration and conflict prevention across international borders. There have also been emerging efforts to address issues of cross-border conflicts, for example between pastoralists in the Horn of Africa, through cross-border collaboration between local authorities.

The following section draws mainly on experiences generated by transboundary river basin management, which is where the bulk of documentation currently exists. However, many of the emerging experiences from Peaceparks and local cross-border collaboration are similar to these.

8.1 Transboundary conflict prevention – lessons learnt

Of the 63 river basins in Africa, approximately one third are covered by some form of collaborative River Basin Organisation (RBO) (Boege and Turner 2006). In addition to this, more than 150 bi- or multilateral agreements have been developed for international river basins on the continent (Lautze & Giordano 2005). These generally consist of three overall types, namely (a) agreements that cover all shared water bodies between countries (e.g. between Namibia and South Africa); (b) single water course agreements (e.g. the Niger, Zambezi and Nile basins), or (c) agreements that cover specific shared water course projects such as dams (Boege & Turner 2006).

Many of the current RBO frameworks and collaborative agreements are – at least nominally – based on the UN Convention on International Water Courses, which sets down (i) a principle of equitable and reasonable utilisation; (ii) a do no harm principle, and (iii) a duty to cooperate with other, co-riparian states. In accordance with these principles, ratifying governments are obliged to notify other basin states of any major developments they plan to undertake on the water course, and can proceed if other signatories have no objections.

Although disagreements between riparian states have frequently occurred, actual acts of violence and military aggression over transboundary water resources have

been very rare between African states.⁴ This is also evident on a global scale, as documented in the Transboundary Freshwater Dispute Database, which has shown that the vast majority of actions between riparian states are collaborative rather than conflictive (Wolf et al. 2003; see also Ravnborg 2004). Indeed, analysis shows that such agreements have often proved surprisingly enduring in the longer term (Wolf et al 2003op cit.).

This does not, however, mean that all is well. Although most of the major river basins in Africa are now covered by transboundary agreements, two thirds of the continent's basins remain without agreements. Moreover, only 25% of the existing agreements include all riparian nations (Lautze & Giordano 2005). Progress in developing transboundary collaboration has furthermore been protracted in many river basins across the continent, and differences of interest abound. Even where more substantial collaborative mechanisms have materialised, they have typically developed out of long-term processes over several decades, involving an erratic but gradual build-up from single-issue agreements via setbacks and diversions to a gradually wider scope of collaboration. An extreme example of this includes the Nile Basin Initiative described elsewhere in this report, but a similar process is evident in the long-standing efforts to develop a collaborative mechanism for the Zambezi River. Increasing demand for water in the face of recurring droughts and increasing economic development is, in some cases, adding further to intensify competing demands, as in the case of negotiations between Uganda, Tanzania and Kenya on the extraction of water resources from Lake Victoria (Kagwanja 2007).

Our review of the literature also found a number of more specific experiences relevant to conflict prevention and management at transboundary levels:

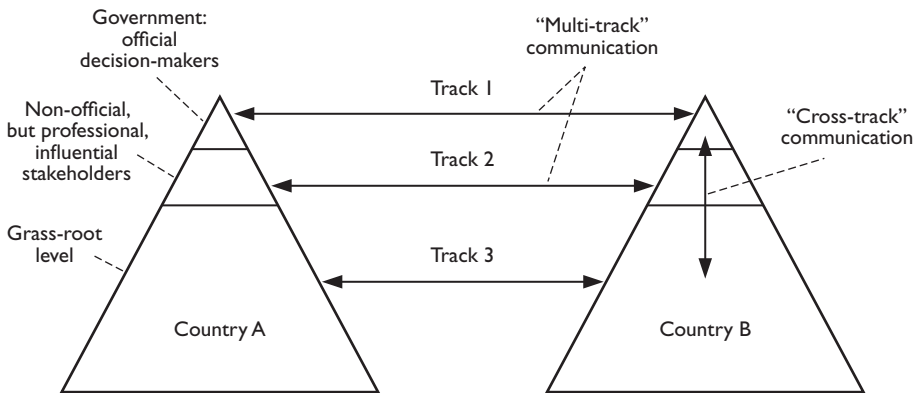
- National interests override all other concerns in negotiation processes. This is repeatedly found throughout the literature. Collaboration for the sake of a higher collective purpose is rare. Collaborative agreements therefore need to generate genuine added value for the involved nation states – whether in terms of economic, political, cultural, security – or environmental benefits (Qaddumi 2008).
- Approximately half of the existing agreements lack clear allocation of water rights between riparian states (Lautze & Giordano 2005). In some cases this is the result of a deliberate strategy which seeks to develop mutual benefits (e.g. mobilising

⁴ One of the few exceptions cited in the literature is South Africa's military intervention in Lesotho in 1998 which – despite claims to the contrary - was reportedly conducted with the intention of ensuring water supply from the contested Lesotho Highlands Water Project (Boege and Turner 2006).

investments and addressing joint risks) before addressing thorny issues of resource sharing. While such a strategy has been successful in the short term in some cases, it also means that critical issues of allocation are only postponed and may lead to breakdown of collaboration at a critical point – especially if water scarcity increases as in the case of climate change (Lautze & Giordano 2005; Mekkonen 2010). A dual process is therefore needed which works simultaneously on optimising benefits and negotiating clear user rights (Mason 2004).

- Cost sharing arrangements can be as important as benefit sharing arrangements. Options for economic compensation are frequently not fully exploited, e.g. compensation from one country to another for loss of downstream water flow (Qaddumi 2008).
- Collaborative programmes that foster economic interdependence and economic integration across boundaries have a stabilising effect on transboundary relationships (Mason 2004), e.g. joint projects to sustainably exploit water resources or the tourism potential of transboundary protected areas.
- Generation of mutual information and data for water course management can act as an important initial platform for collaboration, upon which further collaboration can be built. Positive experiences are quoted from jointly conducted assessments of resources, conflicts and common risks in river basins, and collaborative production of technical data on e.g. water flows and climate change (including early warning of flooding etc.).
- Anchoring transboundary agreements and collaborative activities in wider regional frameworks (e.g. SADC for the Zambezi) has contributed to fostering political will and momentum in some cases, and, furthermore, helps ensure integration with wider regional policies and development efforts.
- Bilateral agreements are far more numerous than multilateral ones, and typically easier to establish. Building on bilateral relationships and exploiting the comparative advantages of two states has proved successful in several instances. However, developing bilateral agreements in a context of multiple riparian states can also be risky, because it may preclude multilateral agreements by excluding other riparians, and can defeat the purpose of basin-wide approaches. Bilateral efforts therefore need to be carefully coordinated with multilateral efforts.
- Support to enhancing water use efficiency and policies in individual countries can help facilitate and sustain transboundary agreements, because the projected water demands of individual countries are reduced (Qaddumi 2008).
- Multi-track negotiation and communication approaches have generally shown favourable results (Mason 2004). This entails working at several levels and in

multiple fora to discuss, negotiate and review collaborative arrangements. The figure below illustrates one approach to multi-track conflict prevention and management. In extension of this, development of river basin organisations has often had an exclusive focus on formal, inter-governmental, decision-making procedures, while engagement of civil society and private sector stakeholders has sometimes been ‘forgotten’ or underestimated. This may increase the risk of conflicts emerging at other levels, including across national boundaries (e.g. Hirsch and Jensen 2006).



“Multi-track” = communication between different tracks of different countries, “Cross-track” = communication between different tracks within one country. Track one (official), Track two (non-official) and Track three (grass-root) diplomacy or conflict management are complementary.

Source: Mason 2004

8.2 Transboundary conflict management – lessons learnt

Just over half of Africa’s existing transboundary agreements contain conflict resolution mechanisms, which is in fact a higher proportion than in some other parts of the world (Lautze & Giordano 2005). Such mechanisms may stipulate provisions for a designated body within the RBO to act as a third party and oversee negotiations between two disputing riparians. If disputes cannot be settled they may, in some cases, be referred to a higher authority outside the RBO, e.g. a regional collaborative body. Mechanisms described in the agreements are, however, not necessarily clear or applied in practice (see e.g. Schulz 2007). Attention to development of clear and well-functioning conflict resolution mechanisms in RBOs is therefore frequently called for (Boege & Turner 2006).

Power asymmetries and economic inequity between states has been a core challenge in transboundary conflict resolution (e.g. Jägerskog & Zeitoun 2009). Attempts to address this have included:

- Identification of incentives for powerful states to shift from conflictive to cooperative behaviour, e.g. through collaborative projects in poor upstream states that help ensure the water security of powerful downstream states.
- Capitalising on the increasing water demands from powerful economies (whether caused by increasing demand or water scarcity) to engage them in collaborative schemes. For example, South Africa consumes some 80% of water resources in Southern Africa, but contributes only 8% and has escalating demands (Scheumann & Neubert 2006). While such a situation poses a potential risk of conflict, it also provides a potential opportunity to engage the country in collaborative negotiations over riparian rights, as is currently the case.
- Enhancing the capacity of weaker states to engage in negotiations and technical management issues (op cit.).
- Undertaking the above activities alongside efforts to develop frameworks in accordance with UN principles on equitable sharing of water courses (Mekonnen 2010).

Experiences from such efforts suggest a need for long-term engagement and involvement of third parties, and may be particularly challenging in situations where the powerful riparians are located upstream. Other experiences related to conflict resolution in transboundary water governance include:

- Building human resources capacity for transboundary conflict resolution, including training of legal experts for mediation and brokerage at the regional level, which are often lacking
- Initiating practical, on the ground, projects as vehicles for collaboration
- Addressing local transboundary conflicts by establishing joint border commissions or regular exchange visits between local authorities, as applied in parts of Northern Kenya
- Engaging international donors as third parties/facilitators to support dialogue and practical collaboration, although care should be taken to avoid agreements and collaborative frameworks becoming essentially donor-driven

9. Addressing climate-related conflicts in development cooperation

The following section proposes key principles and elements for addressing climate-related conflict in development cooperation. The recommendations are based on the review of experiences from natural resource management discussed above, as well as on literature relating to climate change and development specifically. Experiences from conflict and security studies and ‘conflict sensitive development’ approaches are also drawn upon.

9.1 Guiding principles for addressing climate-related conflicts in development cooperation

Guiding principles for addressing climate-related conflict resolution include:

- *Climate-related conflicts should be seen in the perspective of other development challenges.* Conflicts are serious and should be addressed. However, climate-related conflict is not necessarily the only or indeed the biggest development challenge in a given setting, and it should not divert attention or funding from efforts to address other fundamental development issues.
- *Interventions should be based on careful analysis of the links between climate change, conflict and development.* Climate-related conflicts are typically complex and multi-layered, and prior assumptions about the role of climate change in conflicts often turn out to be wrong or only part of the story. Thorough analysis is therefore needed prior to interventions.
- *Interventions should help prevent and resolve conflicts, not suppress them.* The aim of addressing climate change conflicts is not to suppress or subdue them, but to prevent and resolve them to the satisfaction of those involved. Experience shows that interest-based negotiation is often more effective than agreements based on nominal consensus.
- *Attention to poverty alleviation and inequality.* Mechanisms for addressing climate-related conflicts should have an emphasis on equitable access and pro-poor outcomes. This may include special efforts such as innovating means for the interests of the poor to be considered in consensus-based mechanisms, which are not necessarily pro-poor in themselves.
- *Draw on existing mechanisms and principles for resolving conflict as far as possible.* Where relevant, existing principles and mechanisms for addressing conflicts

should be supported and built upon. These may range from customary conflict resolution mechanisms, through the emerging body of private sector institutions and NGOs specialised in conflict resolution in e.g. Africa, to national frameworks and the various initiatives on conflict prevention and resolution in the African Union.

- *Balancing support to micro and macro scales.* Experience show that local conflicts are best solved locally, and that the principle of subsidiarity should apply in addressing conflicts. However, the underlying causes of many climate-related conflicts are not generated locally, but from the national and even international level. Reforms and efforts may be needed at these levels to provide the frameworks that make local conflict prevention and resolution possible and sustainable.
- *Cross-sectoral approach.* Addressing climate-related conflicts will typically take its outset in the ‘green’ sectors, i.e. agriculture, natural resource management and environment, etc. However, conflict prevention and resolution requires engagement with institutions and efforts in other sectors, e.g. governance, legal systems, social development etc.
- *Donor harmonisation* is particularly critical when addressing climate-related conflicts. Engaging with the root causes of climate-related conflicts requires effective harmonisation across development efforts. Moreover, because interventions themselves may cause or contribute to such conflicts, it is essential that efforts are coordinated. DAC principles on conflict-sensitive development can form a point of departure for this.

9.2 Key questions to consider

Key questions and issues to consider when addressing climate-related conflict prevention and resolution in the programming of development cooperation include:

Is climate-related conflict actually an issue? As discussed earlier, climate change does not necessarily contribute to conflict. A careful assessment of the situation is therefore necessary, which avoids prior assumptions about the links between climate change and conflict in the target area for support, and which considers whether external intervention may actually do more harm than good to existing conflict prevention and resolution processes.

What types of conflicts may be fuelled by climate change? In order to determine how and to what extent development cooperation can help address climate-related conflicts, an assessment must be made of the nature and scope of such conflicts in the target area

of support. This should include an assessment not only of ongoing conflicts (where conflict resolution may be needed), but also of the potential for future conflicts (where conflict prevention measures may be needed). The conflicts that climate change may contribute to can take a variety of forms and may be latent and not immediately visible, as well as ongoing and explicit. Section 3.2 discussed root causes of natural resource conflicts, which are also often at the heart of climate-related conflicts.

What are the root causes of climate-related conflicts? The various forms of conflict to which climate change may contribute are in most cases originally caused by other underlying factors. Policymakers cannot address all such root causes at any one time, nor can development cooperation hope to engage with equal force in all these issues. These root causes are, however, necessary to understand in order to assess the potential for future conflicts, the dynamics of existing conflicts, and the necessary strategies for prevention and resolution. Section 3.2 discussed the root causes of natural resource conflicts, to which climate change may contribute.

What is the intensity of the conflicts? The intensity of climate-related conflicts has implications for the nature of development cooperation. Violent conflicts are usually particularly urgent and critical to address, but may range from a fight at a local stream to actual warfare. Careful consideration is needed of which aspects of violent conflict development cooperation can address, and which aspects are beyond the scope of such support. In addition to this, consideration of non-violent conflicts is important. The vast majority of land and water conflicts are non-violent, and yet constitute a critical issue for large numbers of people.

What is the scale of the conflicts? Land and water conflicts typically involve one or more of the following: (i) micro–micro conflicts, e.g. between or among local stakeholders such as pastoralists and farmers; (ii) micro–macro conflicts, e.g. between local and national or international stakeholders such as farmers versus the state or a hydropower company, and (iii) macro–macro conflicts, e.g. between countries such as two states sharing a river course. All three types of conflict are equally important to address. Local conflicts may be less ‘visible’ but are numerous and may therefore affect considerable numbers of people in total. They may also eventually have implications at national and international levels.

What is the scope of climate-related conflict prevention, management and resolution? In order to address climate-related conflict, donor cooperation efforts need to identify how their support should be related to the wider process of conflict prevention,

management and resolution, and what the necessary scope of such support should be. Different settings may require a different emphasis on conflict prevention, management and resolution, depending on the history and outlook of conflicts in the area, the existing means for governing conflicts, and the nature of the support framework. It should be noted that studies of land and water conflicts show that conflicts rarely constitute perfect conflict cycles. Instead, conflicts may fluctuate between conflictive and cooperative situations, or they may include sub-conflicts that are at different stages. An integrated approach involving prevention, management and resolution measures is therefore often needed.

What types of institutional frameworks and mechanisms exist and should be supported?
 As discussed in the review of experiences from natural resource management, a range of mechanisms exist for addressing conflict prevention, management and resolution. The following table provides an overview of the main options:

<i>Level</i>	<i>Typical institutional framework</i>	<i>Typical mechanisms for preventing, managing and resolving conflict</i>
International	<ul style="list-style-type: none"> • Intergovernmental mechanisms (e.g. regional organisations, transboundary water management bodies) 	<ul style="list-style-type: none"> • Multilateral and bilateral diplomacy and agreements/conventions
National	<ul style="list-style-type: none"> • Government agencies • NGOs 	<ul style="list-style-type: none"> • Statutory authorities and legal systems
Local	<ul style="list-style-type: none"> • Local government • Deconcentrated national authorities • Customary authorities • Traditional courts 	<ul style="list-style-type: none"> • Statutory authorities and legal systems • Customary conflict resolution measures and practices • Alternative Dispute Resolution (emerging, may also be applied at other levels though so far rarely in NRM)

9.3 Recommended entry points for support

Particular crisis situations such as droughts, floods or armed conflict may in some cases warrant special funding for acute, short-term conflict management and resolution through e.g. emergency relief channels. However, given the objectives and general

remit of most development agencies and partners, the main thrust of development cooperation in this area should be on supporting the basic enabling environments and frameworks for addressing climate-related conflicts, and ensuring that development interventions themselves do not contribute to such conflict. Possible entry points for support include:

9.3.1 Structural prevention of climate-related conflicts

Preventing conflicts from arising in the first place is the most effective and sustainable means of addressing any conflict. This requires structural conflict prevention measures at policy level, which address the basic sources of conflict. In climate-related conflicts, this entails engaging with root causes such as land and water scarcity, distribution, rights, markets, governance and inequality.

Clearly, policymakers cannot address all root causes at any one time, nor can development cooperation hope to engage with equal force in all these issues. However, from a strategic and long-term perspective, enhancing and expanding existing efforts to address these issues is a fundamental entry point for support to climate-related conflict prevention. This also ensures a ‘no regrets’ approach, as efforts to address these fundamental aspects of natural resources governance and management will be of importance to overall development and environmental goals, regardless of the specific outcomes of climate change.

The following selected elements are of particular relevance to land, water and other natural resources. Several of the elements are already being addressed in existing natural resource management and adaptation efforts, but will require increased attention, funding and expansion if climate-related conflicts are to be effectively prevented.

Enhancing governance mechanisms in land and water. Representative and transparent governance institutions are key in preventing climate-related conflicts, because they control and regulate access to valuable natural resources, and prioritise development. Efforts to enhance and pilot democratic and inclusive representation in natural resource governance are underway in many countries, ranging from community-based approaches through to local government, national and regional bodies. These provide experiences to build upon and adapt, but there is still much progress to be made and many issues to resolve. This includes (i) supporting institutional arrangements that innovate mechanisms for equal representation in multi-stakeholder settings; (ii) addressing the constraints that often block *de facto* devolution of natural resource control from national to lower levels; (iii) enhancing and clarifying the role of local

government institutions in natural resource governance; (iv) strengthening customary decision-making mechanisms where these are viable and pro-poor; and (v) replicating and scaling up best practices from the multitude of existing pilot models for joint and community-based natural resource management.

Addressing property rights and tenure security. Access and use rights to land and water are a central feature in most situations where climate change has contributed to natural resource conflicts so far. Addressing these issues is therefore a challenging but crucial aspect of preventing climate-related conflicts. This may include (i) support to national reforms and frameworks that provide transparent and equal opportunity for access to and ownership of land, water and other natural resources; (ii) measures that regulate and ensure transparency in large-scale land deals to avoid conflicts caused by land-grabbing etc.; and (iii) strengthening or adapting customary rights systems for collective resource sharing in multiple user contexts where these are sustainable and pro-poor (e.g. common property arrangements, reciprocal arrangements between farmers and herders, etc.)

Improving food security and expanding livelihood options. Sustainable and equitable livelihoods and food security are a key factor in the resilience of communities to external shocks and pressures, and experience suggests that this reduces the risk of conflicts and social grievances. Elements include (i) enhancing opportunities, policy frameworks and investments in agriculture, including an emphasis on small-scale producers at national and local levels through e.g. increased access to capital, markets and improved technologies; (ii) development of opportunities for livelihood diversification and alternatives, including new means of income generation and off-farm employment; and (iii) enhancing adaptation practices and disaster preparedness in agriculture and natural resource use to prevent climate change from adding to existing risks and insecurities.

Increasing and sustaining the supply of land and water resources. Ensuring sustained or improved availability of natural resources can in some cases help reduce the risk that resource scarcity (whether natural or relative) contributes to conflict. This may include support to (i) regulation of resource use, enhanced use and conservation practices, and restoration of degraded lands, including attention to the fact that resource degradation may just as often be caused by international and national stakeholders as by local ones; and (ii) infrastructure and technology development to enhance provision of e.g. rural water supply, or reduce demand for natural resources such as fuel wood. Development of alternatives to existing natural resources such as wood and wild foods

is a further option. Development cooperation can help facilitate innovation of new practices by providing initial support to innovation and/or institutional frameworks that support dissemination of new ideas and technologies. This can include support to private sector engagement in developing/adapting and piloting new technologies and associated schemes. However, development of new resources and technologies also has a conflict potential in itself (as a result of competition for access and/or unequal dissemination), and must therefore be complemented by careful attention to access rights, resource governance and planning.

While these are substantial issues, they are not issues that are new to existing development cooperation programmes, many of which already seek to address issues of natural resource governance, access and management. Solidifying and scaling up such existing support can therefore provide important steps in preventing climate-related conflicts, while at the same time enhancing natural resource governance and management more generally. These dual benefits can form the basis of high-level policy dialogues between (and within) national governments and development partners on preventing climate-related conflicts.

9.3.2 Institutional frameworks for managing and resolving conflicts

In many areas, conflicts are already ongoing and climate change may further intensify them. Moreover, even if conflict prevention measures are successful it is inevitable that some new conflicts will appear or re-emerge. Support to effective institutional frameworks for managing and resolving conflicts can help avoid that climate-related conflicts escalate or become intractable, for example by providing opportunities for negotiation and resolution between parties. While formal legal systems are in place in many areas, they are often difficult for ordinary people to access, or may not have the capacity or 'reach' to address climate-related conflicts, including transboundary ones. Customary conflict resolution mechanisms are widely used for resolving local conflicts, but are in some cases eroded, biased or lack the mandate and scope to address new issues related to climate change, or large-scale conflicts. Existing support to natural resource management and climate change adaptation has only rarely included conflict management and resolution features. Supporting institutional development in such cases is therefore an obvious entry point.

As discussed in previous sections, a range of methods and approaches for conflict management and resolution exist, although frequently these are applied as one-off efforts in particular crisis situations. In the following the emphasis is on supporting the institutionalisation of climate-related conflict management and resolution, which

can thereby help avoid the escalation of emerging new conflicts, as well as resolving existing ones. Possible elements for development cooperation include:

Supporting national frameworks for climate-related conflict management and resolution. This can include (i) development or enhancement of national strategies for conflict resolution, including attention to land, water and climate change issues; (ii) integrating conflict resolution measures in national climate change plans, e.g. National Adaptation Programmes of Action (NAPAs), disaster preparedness plans etc.; (iii) developing or strengthening national organisational mechanisms for conflict resolution and associated policy development including, for example, cross-sectoral fora and platforms for multi-stakeholder interaction including government and civil society; and (iv) capacity development and awareness-raising in government and security agencies on conflict management and resolution related to land, water and other natural resources.

Enhancing capacity for conflict management and resolution in local institutions. In many cases, conflict management and resolution related to land, water and other natural resources is most effective if carried out by local institutions. This includes conflicts that are geographically widespread, but where a concerted and coordinated effort by local institutions has been undertaken. Particular success has been achieved in locations where district authorities and customary institutions have joined forces to address conflicts. Support to local institutional frameworks will complement the decentralisation process underway in many countries. Elements can include: (i) support to district level frameworks for conflict management and resolution, through e.g. enhancing awareness and capacity in local government authorities and/or existing land and water fora of conflict management/resolution approaches, or supporting the development of 'Peace Committees' or similar at district and local levels; (ii) forging better links between district authorities and customary conflict resolution institutions, including establishing collaborative mechanisms for conflict management and resolution related to natural resources, and clarifying the respective roles of district and customary institutions in this respect; (iii) Strengthening customary conflict resolution mechanisms where these are deemed to be representative, transparent and timely, including enhanced abilities to address new or larger scale issues brought on by climate change, and (iv) including women as active stakeholders in peace building initiatives and supporting women's representation in e.g. district level institutions.

Improving access to formal and informal dispute resolution and justice systems. Formal legal systems are frequently poorly accessible to rural populations and the poor in

particular, and while customary conflict resolution mechanisms can be highly effective, they are not always impartial and may be biased against some population groups, the poorest or women. Enhancing access to resolution of disagreements and disputes can help avoid escalation into intensive and/or large-scale conflicts. Options for support include (i) improving access to formal justice systems, such as enhancing the capacity of/accessibility to local courts in land and water dispute resolution, and training of lawyers in environmental justice issues; (ii) supporting platforms and methods for mediation and negotiated rule-making that are flexible and low-cost; (iii) providing alternative spaces for unbiased third-party arbitration (e.g. similar to an ombudsman function) in land, water and other natural resources; (iv) innovating mechanisms to monitor and enforce agreements and rules on land and water allocation, in order to ensure they are not violated by powerful stakeholders; and (v) enhancing opportunities for voicing grievances through support to civil society advocacy, environmental justice networks etc.

Addressing transboundary resource management challenges. Transboundary water conflicts between nation states are rare and a significant number of transboundary agreements exist over jointly shared water bodies. Nevertheless, progress in developing wider regional governance mechanisms is frequently hampered by opposing national interests. Climate change may create new challenges in this respect, such as increased flooding and/or water scarcity as a result of droughts, or increased migration across borders in some cases. Experience from transboundary water cooperation and other efforts such as Peaceparks suggests that transboundary collaboration on conflict management and resolution can be enhanced through support to (i) ensuring that policy dialogues in multilateral natural resource organisations (e.g. river basin organisations) are linked to regional political and/or economic bodies (e.g. SADC, ASEAN etc.); (ii) applying ‘multi-track’ approaches that work at several levels at once with different stakeholder groups; (iii) incorporating/building on bilateral agreements, where these exist, in order to foster trust and collaborative projects between countries; (iv) establishing mechanisms for local cross-border cooperation and conflict management/resolution, e.g. joint border commissions or regular exchange visits between local authorities; (v) building capacity for regional cooperation and conflict resolution, e.g. training legal experts for mediation and brokerage at the regional level, and innovating economic compensation models; (vi) focusing on information sharing as an initial platform for collaboration, including provision of technical climate and natural resource data, and joint resource and conflict assessments, and (vii) supporting in-country efforts to increase internal water use efficiency and policies,

thereby reducing possible in-country stumbling blocks and constraints to regional cooperation and resource sharing.

9.3.3 'Conflict proofing' policies and development interventions

National policies and associated donor cooperation programmes on agricultural development, natural resource extraction, climate change adaptation and suchlike may, in themselves, set off conflicts over, for example, land use, to which climate change can further contribute. Moreover, climate change-related conflicts may impact the outcomes of development cooperation. In some cases, climate screening of development interventions is now carried out, but traditionally these have only addressed conflict risks to a very limited extent. The planning and implementation of such policies and development programmes is therefore a significant possible entry point for building 'conflict proofing' measures into such efforts.

Strengthening policies and planning in land use, natural resource management and economic development. A frequent cause of conflicts in land and water has been the implementation of economic and land use policies that are not harmonised with local land use practices or efforts in other sectors, or which marginalise particular production systems. Development cooperation can therefore help support (i) identification and harmonisation of differing development goals, sector goals and land use practices in and across policies and plans, and (ii) ensuring that policies and plans do not unduly marginalise particular regions, production systems or stakeholders. Examples include harmonisation of national agricultural development plans with pastoral strategies, or ensuring that water and energy needs for urban development priorities do not drain the water supplies of rural areas.

Application and facilitation of climate-related conflict analysis. A number of methods of conflict analysis and strategic conflict assessment exist, and have been successfully applied in emergency relief and development interventions. However they have rarely been used in connection to climate change, land use planning and natural resource management. Good scope exists for adapting such methods for use in development cooperation that addresses these issues, as well as in related government policy and sector planning. This can include joint conflict analysis involving multiple stakeholders from different sectors and at different levels. Although such methods should involve more than merely ticking boxes, they need not be overly time consuming. They can be formalised into programme design procedures and will thereby also improve the overall quality of risk assessment, climate change screening and donor harmonisation in programme development.

Linking to conflict management and resolution mechanisms in programme design and implementation. Development cooperation programmes in agriculture, natural resource management and adaptation to climate change frequently introduce new approaches that are sound and well considered (and which may help address the root causes of conflicts), but which are often unprepared for the fact that they may set off conflicts in themselves. Examples include collaborative and inclusive approaches to natural resource management, such as benefit sharing and establishment of community-based organisations for resource management. Programme designs should therefore include measures for resolving conflict that may arise from the programme interventions themselves. This can be done by engaging existing conflict resolution institutions as collaborating partners in the implementation of agricultural natural resource management and adaptation to climate change, or by innovating/adapting methods and approaches for conflict resolution as an integrated part of support to these fields.

The extent to which the above entry points can be engaged with will depend on a range of factors in the particular context, scope and framework of the development cooperation effort in question. Individual policies and programmes targeting areas where climate-related conflicts are assessed to be a potential issue should, as a minimum, work on ‘conflict proofing’ the interventions in question. This can be extended with support aimed specifically at the other entry points, either by enhancing and supplementing existing policies and programmes working in the fields of natural resource management, climate change and governance issues, or (where none exist) by developing new efforts in these fields.

9.4 Monitoring conflict prevention and management interventions

Monitoring of climate-related conflict prevention and management/resolution efforts may consist of:

- Monitoring whether interventions aimed at preventing and managing/resolving conflicts are successful
- Monitoring to ensure that interventions do not contribute to or create conflicts (i.e. whether ‘conflict proofing’ efforts are adequate)

In the former case, monitoring should be an integrated part of the institutional mechanisms and measures supported/developed by the intervention. Including

establishment or strengthening of conflict monitoring systems can thus be an important output in itself. For interventions where the scope is limited to no-harm 'conflict proofing', selected indicators and means of verification on conflicts can be built into the policy/programme design, preferably drawing on existing measures in government or community frameworks. In both cases, baselines can be developed on the basis of initial conflict analysis, for which methods exist.

A range of early warning systems for monitoring conflict have been developed outside the field of natural resource management, which can be adapted. These seek to forecast when, why and where conflict will erupt. Early warning measures may include both qualitative and quantitative approaches or a combination of both, and can be applied at transboundary, national and local levels. Specific methods for monitoring climate change, drought, flooding and other natural disasters exist and are already applied by governments in some countries. Participatory, village-based versions of such mechanisms have also been developed. Some of these apply indigenous knowledge, thereby building on rather than duplicating existing local knowledge. In addition to this, participatory methods for monitoring natural resource governance and benefits at community level have been established in some parts of Southern Africa, which can be adapted for use in conflict monitoring.

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Annex I - Case study: the Peace Wells in Niger

Conflicts over natural resources in Niger are often the result of a combination of a range of socioeconomic, political and climatic factors including: high levels of poverty with Niger being the third poorest country in the world, increasing and extremely high population growth with the highest fertility rate in the world (7.1 births per woman), processes of sociopolitical marginalisation depriving most vulnerable groups from accessing resources and difficult climatic conditions including erratic rainfall, extreme heat and prolonged dry seasons leading to increased pressure on natural resources including water, arable land and pastures.

In the intermediary zones of the country, the dominant livelihood strategies include agriculture and animal husbandry in various combinations depending on ethnic group and socioeconomic background. Droughts in the 70s and 80s forced herders, who had lost all or most of their cattle, to move further south where rainfall is more abundant and settle around existing villages and attempt new livelihoods, often combining agriculture and herding. However, higher population densities in the south lead to greater competition and conflicts over access and usage (Cotula 2006).

Causes of conflicts

Conflicts often arise between different users of natural resources i.e. farmers and herders and in relation to access to water. Livelihood strategies in these zones are changing towards more integration (agriculture, cattle and other income generating activities) as a way to reduce risks by diversifying strategies. Also, decreasing soil fertility and increasing population pressure leading to cultivation of more and more land is restricting the necessary movement of cattle which, combined with changing mobility patterns outside the normal post-harvest season, is leading to crop damage in the fields and hence conflicts (Cotula 2006).

In the dry eastern part of the country, where pastoralism is the dominant livelihood, different pastoral communities including the Fulani and their sub groups (Fulbe, Woodabe, etc.), Toubou and their sub-groups (Azza, Daza, Tedda), Arabs and their sub groups (Awlad Slimane, Mogharba, Mohamid, etc.) and the Touaregs, live with only limited agriculture possible in the south. Here mobility is a precondition for the pastoral livelihood like in most parts of the Sahel (Thébaud 2002: 82). In the pastoral areas, land ownership is less fixed than in the agricultural zones, because there is more mobility. The pastoral communities, however, do have a conception of a 'home territory' (Thébaud 2002: 230). The home

territory is determined by the digging of wells. Historically, claims to territory are, thus, intimately tied to the digging of wells. The wells are owned by different clans and families who thereby control access to the pastures. A complex system of traditional wells exists; the depth and size of a well determines the availability of water, which in turn determines the rhythm of consumption of the pastures around it, which also depends on the size of the herds. Access to these wells and water points is regulated by agreed rules, traditionally based on the principles of prior negotiation and reciprocity. It is customary to allow guests access to the well; you never know when you will be the guest in another part of the country. When there is plenty of pasture, visitors can stay for long. When pastures and water are limited, the visitors have to move on. In this way the owners of a well can ensure that resources are not overused and depleted (Cold-Ravnkilde 2009; Thébaud 2002).

Previous attempts to develop water infrastructure in Niger provide an example of how project interventions can cause conflicts. The government of Niger and donors, in their attempt to help the pastoral population, laid the foundation for many of the conflicts that dominated Niger in the 80s, 90s and on. (Thébaud 1990; 2002) To ensure a better and more efficient use of the pastures many large expensive wells were established throughout the country. However, these modern wells with public status and free access were implemented with little understanding of pastoral land tenure regimes and led to many problems; especially regarding insufficient maintenance (no ownership); overuse with premature depletion of surrounding pastures, and poor management and regulation leading to tensions and violent conflicts between user groups (Cold-Ravnkilde 2009; Thébaud 1990; 2002). Some of them have even been illegally privatised which inevitably contributes to the existing messy institutional setup. The failure of government and donors to understand complex links between water, land and livelihoods, combined with the collapse of the Hissein Habré regime in neighbouring Chad in 1990, has had a very negative and long lasting impact in the country.

Efforts to address conflicts

The costs of conflicts are high for the human beings directly involved, for governments, for neighbouring countries and for the international community. Resolving conflicts is cumbersome and expensive. Unfortunately, conflict prevention provides no quick fixes either, but rather requires a long-term presence and a holistic approach that recognises that conflicts over natural resources are about livelihoods, attitudes and power.

CARE has worked with conflict prevention in Niger since 1974. In both the intermediary zones (Dakoro and Maradi area) and in the eastern zone (Diffa) the

organisation has approached conflict prevention as embedded in a broader and longer-term programme approach aiming at livelihood security. This entails working in several dimensions including 1) alleviating pressure on the natural resource base through improved agricultural techniques and natural regeneration techniques, diversification of livelihood strategies, alternative income generating activities, rehabilitating water points and wells, establishing cattle corridors etc. 2) supporting participatory land-use planning at community and district level 3) facilitating inter-community dialogue and collaborative natural resource management and 4) raising awareness about relevant policies including decentralisation, water and land, as well as influencing national policy and strategies.

Box I. From Conflicts to Coexistence

In 1998, when the Baban Raffi Community Development Project – targeting both sedentary and pastoral populations – started in the Maradi region, the year recorded 35 conflicts turning violent. By the end of the project, records showed that in 2003 only one conflict turned violent.

The CARE Denmark, EU– Danida funded pilot initiative ‘Wells for Peace’ thus forms an integrated part of a longer-term programme in Niger aiming at livelihood security for pastoral communities. Other initiatives include peace caravans targeting the youth and their attitudes as the young are often the first players in a conflict; inter-community dialogue fora bringing communities together which may not have spoken for years; training in decentralisation, civic rights etc. as well as food security initiatives that aim to improve cattle production and establish food and fodder stocks.

The Wells for Peace initiative sought to respond to the challenges of access to water in Eastern Niger characterised by high levels of tension and a history of armed conflicts over access to natural resources – not least following the establishment of public wells by the government in the 80s and 90s – and more specifically to propose a new sustainable approach for establishing wells in the pastoral zones in Niger. The starting point for the initiative was the non-existence of a recognised approach for establishing wells in pastoral areas characterised by high mobility and ethnic diversity.

The first phase of the Wells for Peace initiative ended mid 2011. Three major outputs have been produced: 1) a new approach for pastoral water has been developed, tested around 15 wells and documented; 2) a manual for facilitation has been developed

and recognised for national purposes and, 3) a contribution has been made in terms of approach and methodology to the national strategy for pastoral water which is currently being finalised by the government.

Whereas CARE and other NGOs have worked with collaborative natural resource management institutions and agreements in Niger before, the main innovation in Wells for Peace is that the initiative has developed a thoroughly participatory approach in which a social agreement amongst key stakeholders and users is reached before the infrastructure – in this case a well – is established.⁵ This serves to promote collaborative and sustainable management of scarce resources from the onset through a transparent and inclusive process. The social agreement between users, in this case both sedentary and mobile, is negotiated over a period of time before a request for the infrastructure can be lodged with the relevant authorities.

Although the initiative is still young (first phase 2005–2011, second phase 2011–2013) reviews conclude that the social agreements between different user groups contribute to keeping the social tensions low in a period where the Diffa region has been afflicted by repeated and severe droughts and food insecurity. While the approach thus seems promising for similar socioeconomic settings, it is clear that establishing the social agreements is not a quick fix for conflicts. Rather it is a very time consuming and complex process requiring respect, humility and patience, with a broad and in-depth knowledge of the diverse social dynamics in the communities. This investment is, however, preferable to conflicts and instability with consequences for livelihoods and humans in the short and long term.

In the process of supporting the social agreements, and hence preparing for transparent and inclusive collaborative management, recorded challenges include:

- User groups have different interests and there is a strong likelihood of elite capture and of more vulnerable or marginal groups losing out. It is difficult for even good facilitators to overcome the challenges of reconciling diverse interests and power relations.
- The social agreements remain fragile and are only agreed upon for particular points in time. Social relations and livelihoods are changing over time and thus the social agreements need to be reviewed on a regular basis, not least when newcomers arrive or changes in the environment occur.

⁵ The process is described in detail in the manual “Guide National d’Animation en Hydraulique Pastorale”, August 2011 published with the National Ministry for Environment and Water, Niger.

- The anchorage in the decentralisation process is an important learning opportunity for institutionalising processes of local governance around infrastructure; i.e. including citizens in local planning, prioritisation and decision making, tendering, surveillance, construction, management, maintenance etc.

Initial feedback has been positive and the Nigerien authorities are keen to see this new approach adopted for the creation of all new water wells in pastoral areas. The second phase of Wells for Peace is focusing on greater anchorage to the communes and the relevant public authorities, which is regarded as central to successful adoption. It is estimated that the additional costs of the new approach for water well establishment can be significant (up to + 30%), but could be reduced through economies of scale.

Box 2. The social agreement, which subsequently has been widely shared, covers key elements including:

- Location of the well taking into account relevant climatic, hydrological and socioeconomic dimensions, existing web of wells and water points and the interests of diverse user groups: sedentary, mobile, highly mobile, small herds, large herds etc.
- Clarification on the status of the land and recognition of pastoral land tenure regimes, as the digging of a well changes the rights to a territory
- Type of well (small or large diameter) according to the carrying capacity of the pastures to avoid overgrazing
- The composition of the local management committee to ensure democratic and accountable representation, representation of different user groups, including groups with high mobility
- Roles and responsibilities for all actors including the more mobile user groups
- Rules for access to the well for different users: sedentary, mobile, highly mobile, small herds, large herds etc.
- Financial contributions to the well, investment and maintenance costs
- Maintenance and protection of the well (eg. sand dune fixation), identifying timetable and responsibilities
- The complete request, including the request for digging with the consent of local leaders, the signature of the councillor, representatives for all different users (sedentary and mobile)
- The publishing of the social agreement, to ensure recognition of the status of the well by all parties and potential visitors and to increase accountability of leaders to uphold the agreement

Box 3. Promising results

In 2005, when the CARE Danmark/Danida funded programme PROGRES started in Diffa region, 56% of all conflicts in the area turned violent. In 2008 this figure had decreased to 24%. In 2010, despite the catastrophic pastoral season, project data shows that 0% of recorded conflicts descended into violence.

Several instances of potential violent conflict surrounding the Wells for Peace wells have been defused as a result of the social agreements and the collaborative management mechanisms in place that provide for consultation among the various interests and powers concerned. No conflicts were recorded around the Wells for Peace Wells during the 2009–2010 crisis, rather the wells offered somewhat of a safe haven for stricken herders with nowhere to go, even if that alone was insufficient to save many of their cattle from death.

Conclusion

The Wells for Peace project exemplifies how NGO development intervention can also offer an opportunity for conflict prevention, despite the fact that previously water infrastructure projects in Niger have been a source of conflicts due to ignorance of pastoral land tenure regimes (Thébaud 2002; de Bruijn & van Dijk 1995). The new approach of the Wells for Peace project has conflict prevention potential by virtue of bringing stakeholders together, agreeing upon the rules of resource use in water-starved areas and setting up institutional frameworks of resource regulation before the infrastructure is implemented, in areas where conflicts would otherwise be a likely scenario. It may also have helped to put together the necessary agreement for use of resources, regardless of scarcity, for present and future users as well as people coming in from other areas.

A key observation is that power is at play and that, even with a conscious and deliberate approach to avoid elite capture of resources and management institutions, this remains a potential scenario. Development staff and partners must be aware of the power relations in project interventions and of the potential negative impact – in terms of conflicts and further marginalisation of vulnerable groups – that can arise from external projects and limited understanding of context and socioeconomic dynamics. The social agreements and the emphasis on consensus and transparency in rules of access is an attempt to promote more peaceful, sustainable and inclusive access to resources.

Box 4. Other tools and approaches

1. Regular review and discussion of historical and social ties in communities. Analysis of the successes and weaknesses of these ties
2. Regular analysis of needs and interests of conflicting parties and communities, and also analysis of the remote supporters of each group. Analysis of what everyone wins and loses to ensure everyone's interests. Include the role of youth in conflict dynamics. Poor young men may engage in cattle theft simply 'to become men' and start their own family
3. Bringing players to analyse their own situation, needs and interests to better understand what has triggered and sustained the conflicts at one time or another. Supporting players to make recommendations for resolution and decide own modalities for implementation of recommendations
4. Identification of positive leaders or agents for change in all communities and at all relevant levels from community to national level, carefully including leaders from all ethnic, age and gender groups
5. Organisation of forums for leaders to ensure commitments from all stakeholders for peace between communities and peace culture development. These forums must be held at neutral sites and include the invitation of policymakers from national and regional levels. The forums can lead to the development of simple recommendations and plans with clear responsibilities for their implementation and the fixing of accountability for the leaders as regards implementation and monitoring/evaluation of the recommendations. Subsequent forums will include presentation of progress and new recommendations

Annex 2 – Case study: drought and conflict in northern Kenya

The pastoral conflicts in northern Kenya have been labelled ‘the world’s first climate change conflicts’ by some observers and development agencies (Christian Aid 2006⁶ However, climate change is – if anything – only part of the story. The following review of the conflicts in the area demonstrates both the dangers of making quick assumptions about climate change and conflict, but also provides examples of efforts that can help address climate-related land and water conflicts.

The arid and semi-arid lands of northern Kenya (commonly referred to as ASAL) are among the poorest in the country, and are primarily inhabited by some three million pastoralists of various ethnic groupings. In recent years conflicts over access to land and water resources in the region have escalated. The conflicts primarily take place among pastoralist clans, but also involve disputes between pastoralists and sedentary farmers. The conflicts are frequently violent and involve mutual armed attacks and cattle raids among pastoralist clans. Historically, cattle raids have been a way of distributing wealth within pastoral communities and a means of dowry payment and building alliances with other groups. Raids were also related to role of the *morán* (young warrior), who had to prove himself worthy of manhood through participation in cattle raids (Mkutu 2010; 2008; Meier et al. 2007; Omolo 2011). However, during the last 25 years, these conflicts have been aggravated due to the increased numbers of small arms which are coming in along arms flow routes from neighbouring countries (Somalia, Ethiopia and Sudan) (Mkutu 2008). Furthermore, outside, often urban-based, actors with commercial interests in livestock are contributing to the conflicts by paying the young men to raid and livestock is no longer kept within the communities (FAO 2001; Meier et al 2007). This has escalated the conflicts and produced wider effects, including loss of human life and property, disruption of socioeconomic activities, degradation of resources, displacement of a substantial number of people across the region⁷ as well as cross-border clashes between pastoralist groups (Campbell et al. 2009; Mkutu 2008; 2010; Omolo 2011; Pkalya et al. 2003).

⁶ See also statements by the Head of Kenya’s UN Office for the Coordination of Humanitarian Affairs in the documentary film “When the Water Ends: Africa’s Climate Conflicts” Yale Environment 2011.).

⁷ Internal displacement in the region is typically a result of several combined factors, including drought, poverty and conflict. In 2003, before the severe droughts of 2009 and 2011, one report estimated that the conflicts alone had led to the displacement of some 165,000 people (Pkalya et al. 2003).

Root causes of the conflicts

Behind the conflicts are a number of root causes:

- *Reduction of rangeland.* Colonial land appropriation in Kenya was followed by a land allocation process characterised by patronage and corruption among non-pastoral political elites. After independence Kenya introduced private land tenure, discriminating against non-settled peoples. Pastoralists were among the losers in this process, losing access to parts of their former rangelands (Mkutu 2008). Recent decades have furthermore seen an expansion of protected areas and sedentary agriculture on pastoral grazing lands. Pastoral and non-pastoral population expansion over the past century has contributed further to reducing available grazing land per capita.
- *Regional marginalisation.* Northern Kenya has suffered from economic marginalisation as both colonial and independent governments have prioritised other parts of the country with sedentary agriculture on the grounds that pastoralism was a backward way of life (author interview 2011; Mkutu 2008). Road infrastructure is minimal, there have been few investments in development and cattle rearing, and law enforcement and basic security services have not been prioritised. Political representation from the region in central government has been weak (Campbell et al. 2009).
- *Politicisation of ethnicity and resource competition.* As elsewhere in Kenya, some local and national politicians have played a significant role in conflicts by framing land access as an ethnicity issue in order to generate votes and patronage, whereby ethnic identities are manipulated to serve political agendas. Furthermore, competition for resources is mobilised around ethnicity, which creates mistrust between communities (Campbell et al. 2009).
- *Long-standing rivalries over access to land, water and cattle.* While shared grazing arrangements have been common among pastoralist clans, there has also been historical competition and conflict between them over the control of natural resources. As grazing lands have been reduced, these conflicts have intensified.
- *Commercialisation of raids* linked to foreign markets and the proliferation of small arms provide additional incentives to engage in cattle raiding (Meier et al. 2007; Mkutu 2010). Young pastoral men are hired and armed by businessmen to raid for commercial trade and export (FAO 2001). For the *Morans* facing increasing levels of poverty and unemployment, raiding has gained new dimensions as social recognition is no longer gained solely from marriage and participation in the local community. To prove manhood and pride requires economic means and the possession of arms (Meier et al. 2007; Mkutu 2010).

- *Inappropriate responses to conflicts by government.* Government responses to the conflict have typically consisted of reactive, ad hoc deployment of armed security forces in efforts at disarmament without planned efforts at managing or resolving conflicts (Mkutu 2008). The authoritarianism of the approach to these operations and of district government authorities has generated local resentment, a paradoxical increase in arms and has alienated customary conflict resolution institutions (Mkutu 2008; Pkalaya et al. 2003). Furthermore, some authors argue that government officials are deliberately fuelling conflicts to fund political campaigns (USAID 2002). According to Meier et al., “The Kenyan government’s neglect or uneven responses to exacerbating pastoral fighting is an indicator of vested interests and should be considered a causal factor in pastoral conflict” (2007: 719).

The conflicts of northern Kenya are, in other words, to a large extent caused by national and local governance failures, and unresolved land and water rights. Climate change has therefore not caused the conflicts, but it may be aggravating them:

The impacts of drought on conflict

Drought cycles in Kenya have, in recent years, contracted from once every 9–10 years to once every 2–3 years (Campbell et al. 2009), most recently evident in the severe droughts of 2009 and 2011 (Omolo 2011). The causes of the contracted drought cycles are disputed: while several sources attribute them to climate change, others refer to natural weather cycles caused by El Niño.

Regardless of their origin, the droughts illustrate how extreme climatic variation may contribute to existing land and water conflicts. The recurring droughts have led to severe famine in the region, with some studies claiming stock losses of 80–90% in some communities (Kimenye 2007). Historically, herders have resorted to outlying grazing areas reserved for droughts and other crisis situations. However, such areas have increasingly become off-limits or over-exploited as a result of the general reduction in available grazing land over the past decades. This has prompted herders to extend their search for pastures beyond customary boundaries, thereby intensifying conflict over access to land and water among clans (Pkalaya et al. 2003).

The recurring droughts have, furthermore, prompted herders to employ the traditional coping strategy of migrating cattle to other regions of Kenya and beyond the national

borders to e.g. Ethiopia (Huho et al. 2009; Huho & Mugalavai 2010). In some areas this has led to conflicts with resident farmers or other pastoral herders (Campbell et al. 2009). An opposite trend of incoming herders from the surrounding countries seeking pasture in Kenya has also been reported, further contributing to conflicts in the area.

Efforts to address conflict

A number of initiatives have been launched to address natural resource conflicts in Kenya in general, and in the northern region specifically:

A National Policy on Peace-building and Conflict Management (NPPCM) has been developed, funded through development cooperation and drawn up on the basis of a national consultative process (Republic of Kenya 2009). The policy addresses the need for an integrated framework to address conflict management and resolution, and emphasises the need to form partnerships for conflict resolution among grassroots, traditional institutions, civil society, government, regional organisations and development partners. The policy is not, however, specifically linked to climate change aspects, just as the National Climate Change Response Strategy and other government efforts in climate change are silent on conflict prevention and resolution issues (Campbell et al. 2009).

A National Peace Commission (NPC) has been established in Kenya, charged with addressing conflict prevention and resolution within the country in general. The committee acts as an inter-agency body of state and non-state members and partners, including government line agencies, civil society organisations and academics. The committee works to facilitate and coordinate conflict management initiatives (Republic of Kenya 2009).

Formation and replication of District Peace Committees (DPC) across Kenya. Originally based on traditional dispute resolution mechanisms, such as the *Alfatah* councils of elders in Wajir district in northern Kenya in the 1990s the Peace Committees were formalised into the district level structure across the country following the post-election violence of 2007 (Republic of Kenya 2009). In principle they operate at village, division and district levels and are charged with coordinating and resolving conflicts between and within communities, including issues such as grazing, land and water conflicts. While memberships vary, the committees typically include representatives from local women's and youth organisations, religious groups, NGOs, local government and

the district line agencies and administration, and the customary conflict resolution institutions (e.g. councils of elders). Problems have included elite capture and gender bias in representation, and a lack of clarity on whether the committees are merely mediators (who facilitate negotiations) or arbitrators (who make judgements) (Adan and Pklaya 2006b). Furthermore, e.g. in Isiolo, the DPCs have been used as political platforms to gain votes, which has hampered their legitimacy in the eyes of the communities (author interview 2011). Nevertheless, some Peace Committees have been successful in brokering agreements between pastoralist communities over grazing rights, and have in some instances managed to reduce tensions between customary and local government and district authorities (Adan & Pklaya 2006b). Finally, with the prospect of Kenya's new constitution and the devolution to the county governments, the future mandate of the DPCs is uncertain (author interview 2011).

Establishment of Joint Community Conservancies. These consist of community trusts established with private sector support to manage and own natural resource conservancies. While initially focussed on wildlife management, the conservancies have evolved to include conflict resolution in rangeland and natural resource management more broadly. Joint grazing committees have been established consisting of elders from different ethnic groups and clans, charged with establishing and enforcing bylaws in conflict-prone shared grazing areas, and resolving conflicts and disputes that arise. Where conflicts cannot be resolved, a task force sanctioned by traditional authorities is brought in to mediate. The joint grazing committees undertake collaborative conflict analysis exercises, and have successfully resolved a number of conflicts in the area, including long-standing ones. Joint land use planning activities are undertaken, and income generation activities have been initiated including tourism and livestock marketing. Problems have included a lack of involvement of young warriors, who are typically the key actors in conflicts, and development of a conflict resolution structure that is parallel rather than linked to District Peace Committees and local government efforts (Campbell et al. 2009; author interview 2011).

Climate change predictions for Kenya vary, but recent models predict that the expected increased rainfall will be offset in the arid and semi-arid areas by increasing evapo-transpiration due to rising temperature. As a result, growing periods and crop productivity are not expected to increase, and may even decrease in some areas. This has prompted some analysts to conclude that mobility-oriented livelihoods such as pastoralism may be the only viable economy in these areas in the future. A programme of development cooperation efforts is currently underway to restore pastoral livelihoods and the cattle economy in the region, including funding from Danida and other possible development partners.

Conclusion

The case is noteworthy for the attempts to institutionalise conflict prevention and management mechanisms, and for seeking to do so through a nationwide programme of district level collaborative efforts (the District Peace Committees), supported by national level policies and fora. Although these national and local institutional mechanisms are not oriented specifically towards natural resource management (or indeed towards northern Kenya specifically) the approach illustrates how conflicts that extend over a large geographical area can be addressed from the national, district and local levels. The relatively successful approaches associated with joint grazing committees in connection to community conservancies illustrate how linkages can be (re-)established in inter-community conflicts, but also how such institutions can easily be captured by elites and used for political purposes.

The experiences with these approaches are, however, still in their early stages, and the extent to which they are truly successful remains to be seen. Broader governance issues clearly remain a key factor: critics have complained that the government response to early warnings of the 2011 famine in northern Kenya and the rest of the Horn of Africa was minimal, and that delivery of food aid is plagued by corruption. This highlights the importance of parallel efforts to address governance more generally.

Annex 3 - Case study: The Nile Basin Initiative

The Nile Basin is in many respects an 'extreme case' in transboundary water governance. It encompasses a greater number of riparian states than any other river basin in the world, and is entangled in myriad geopolitical relationships that, in some cases, extend well beyond the basin itself. It is arguably also the river basin in Africa where intergovernmental tensions have been most severe. Despite this, some progress towards collaboration has been made in recent years, and the brief description below is focused on the approaches applied in this respect.

Home to the longest river in the world, the Nile Basin covers approximately 10% of Africa's land area and encompasses eleven riparian states populated by 336 million people.⁸ Its source, Lake Victoria, contributes 14% of the river's water, while most of the remaining water originates in Ethiopia (Tadesse 2010). The river forms the backbone of Egypt's economy, which is entirely reliant on its waters for irrigation and hydropower. Sudan has, to a lesser extent, sought to exploit the river's hydropower potential, while large-scale extensive use of Nile water has historically been relatively less developed in the countries further upstream.

Root causes of the conflict

Egypt's all-important reliance on the Nile for food security and energy lies in contrast to its downstream position on the river. Any major development in upstream countries that threatens to reduce downstream water quantity and quality is therefore of acute interest to the country. Historically, these concerns have also been shared by countries outside the region, due to the country's strategic position in the Middle East. In 1929 Egypt and Britain thus signed the Nile Water Agreement which bound all British colonies in the region to refrain from any action that would diminish the volume of water reaching Egypt, and allowed Egypt to inspect and veto any upstream plan or project (Kagwanja 2007). A water allocation ratio between Egypt and Sudan was included in the agreement, revised in 1959 after Sudan's independence to an allocation ratio of the river's water of 3:1 in favour of Egypt.

⁸ The eleven riparian states of the Nile Basin are Burundi, DRC, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Tanzania, Uganda and, most recently, South Sudan.

The hydro-politics of the Nile Basin have since evolved around the efforts of Egypt and Sudan to maintain influence over the river's waters vis-à-vis the remaining eight riparian states further upstream. Of the latter, Ethiopia has consistently refuted the agreement and reserved the right to make unilateral claims on Nile waters, while the remaining countries have since gained independence and are increasingly laying claim to the basins' water resources as part of their economic development process. In the 1970s this led to overt threats of war from Egypt on any country that endangered its water supply, and alleged efforts by Egypt to stall development projects in upstream countries through a variety of means, including blocking loans through the ADB (Kagwanja 2007; Tadesse 2010). The dispute has nevertheless continued. Ethiopia is in the process of constructing a number of dams on the Blue Nile, despite protests by Egypt that some of the new dams will reduce water levels downstream as a result of evaporation from the reservoir. Meanwhile Kenya, Uganda and Tanzania have proceeded with plans to exploit the waters of Lake Victoria, thereby in principle violating the 1929 and 1959 treaties.⁹

Efforts to address conflict

A number of efforts have been made to enhance collaborative management of the Nile waters:

Bilateral cooperation

Preceding multilateral collaboration, a variety of bilateral cooperation activities have been undertaken, of which several have been at the initiative of member states themselves (Mason 2004; Kagwanja 2007). Examples include:

- Uganda–Egypt collaboration on controlling the effects of excessive rains in Lake Kyoga (ostensibly caused by El Niño). The rains led to accumulation of islands of papyrus and water hyacinth, which in turn caused local flooding and blocked the outflow from the lake to the Nile
- Egyptian technical and financial support to groundwater development in Kenya and Tanzania, thereby reducing potential future surface water uses
- Uganda–Egypt agreement on controlling aquatic weeds in Lake Victoria, which constrain local fisheries and increase evapo-transpiration.

⁹ A description of selected transboundary disputes between Nile Basin states can be found in Westermann (2004).

While these and similar projects and agreements have not always been technically successful, they exemplify tangible interventions that build upon the respective interests of two collaborating countries. They have not, however, been backed by any overarching bilateral agreements between the involved countries.

Multilateral cooperation

Multilateral collaboration in the Nile Basin has proven a far more cumbersome exercise than the individual bilateral projects and agreements. However, during the late 1990s and until recently the collaborative effort between the riparian states have improved on several fronts. There have been several reasons for this, including a strategic shift by recent Egyptian governments from confrontation to collaboration as a more effective means of influencing upstream water development (Kagwanja 2007; Tadesse 2010). In addition, a variety of regional collaborative efforts paved the way for talks between the riparian states (see Mekonnen 2010). The most prominent multilateral effort, however, has been the Nile Basin Initiative (NBI), funded by a wide range of international development partners and initiated from 1999 onwards. This has included:

- Establishment of a Nile Council of Ministers, which holds annual meetings at ministerial level, and a Technical Advisory Committee which prepares suggestions for the former
- Negotiations towards the establishment of a Cooperative Framework Agreement which sets the principles for a new water sharing agreement in the Nile Basin based on equitable sharing, and aimed at replacing the temporary NBI with an actual Nile Basin Commission
- A 'Shared Vision Programme' and a 'Subsidiary Action Programme' of specific collaborative water management activities undertaken throughout the basin at regional, national and (to a lesser extent) local level, including joint hydropower projects with shared costs and benefits, collaborative training programmes, joint water management schemes, etc.
- A mechanism for civil society involvement throughout the region known as 'The Nile Discourse', facilitated by and engaging NGOs in the basin
- Development partners acting as third party facilitators, including the World Bank, UNDP and CIDA.

The negotiation process under the NBI has been protracted and suffered numerous setbacks, and has been criticised by observers on a number of fronts, including for a tendency to allow for too much ambiguity and flexibility in the negotiation process,

and insufficient attention to ensuring *de facto* civil society involvement. Nevertheless, most analysts agree that the NBI has contributed to bringing the collaborative process forward by establishing a regular framework and schedule for negotiation, as opposed to the previously intractable situation (Cascao 2008; Kagwanja 2009; Mekonnen 2010; Tadesse 2010). Mason (2004) identified those approaches in the NBI process that have been most successful in enhancing cooperation, namely:

- Multi-track communication: facilitating and mediating stakeholder dialogue at different levels, i.e. ministerial, technical, formal and informal dialogues simultaneously
- Separating joint interests from disagreements and moving ahead on both fronts through separate channels and negotiations
- ‘Packaging’ benefits, i.e. applying the principle that not all parties had to benefit equally in each individual project, as long as the total sum of benefits from combined packages of interventions were felt to be equal
- A two-pronged approach that combined negotiation and mediation processes with simultaneous hands-on implementation of actual projects and programmes, in order to achieve momentum and ‘irreversibility’ of collaboration
- Linking public debate to formal negotiation, i.e. identifying key issues and interests through public conferences and civil society hearings, and feeding these into formal negotiations through mediators and facilitators

However, while these approaches have contributed to breaking the deadlock of earlier decades (when the involved states were not even able to agree on when or where to meet), a firm agreement remains to be approved by all parties, and new developments have further complicated matters: the recent droughts in East Africa have affected food security and reduced hydropower generation in these countries, thereby adding further to the perceived need for further development of irrigation and hydropower to meet increasing populations and economic development in countries such as Ethiopia, Uganda, Tanzania and Burundi (Tadesse 2010; Kagwanja 2009). At the same time Saudi Arabia, South Korea and other countries have engaged in substantial land acquisitions in Ethiopia and other riparian states for commercial crop production, thus adding more to the pressure from upstream countries to exploit Nile waters (Brown 2011). The emergence of South Sudan as a new riparian state on the scene has also complicated matters.

Meanwhile, negotiations under the NBI have led to the formulation of a draft Cooperative Framework Agreement which provides the premise for a new, more

equitable, water sharing. While this has now been ratified by most of the upstream states, Egypt and Sudan continued to refuse to do so in 2010, leading to a major crisis in negotiations. However, following the Egyptian revolution in 2011, the temporary new government has showed renewed interest in further negotiations. Most recently, the upstream states have agreed to delay initiation of the Cooperative Framework Agreement in order to engage Egypt and Sudan in a further round of negotiations.

Conclusion

The above brief sketch of the Nile Basin Initiative thus illustrates the particular challenges of addressing intractable conflicts where multiple stakeholders and geopolitical concerns are involved. Nevertheless, several of the dynamics seen here can be applied equally to conflicts at any level: for example, the complications fostered by historical precedents, the challenges posed by inequality and the ability of powerful parties to defend unequal access rights, and the impacts of global political processes on the evolution of particular conflict and cooperation situations. Such features emphasise the need to avoid assumptions of 'quick fixes' in the resolution of complex conflicts, and the need for a longer term intervention/mediation strategy which addresses the key underlying factors of conflict, and which provides institutional frameworks that can accommodate a changing context. Apart from this, the fact that the NBI has contributed to at least providing a regularised forum and mechanism for negotiation and cooperation among the parties suggests that such interventions are not necessarily fruitless, even if the process is cumbersome and long term.