

TOOLKIT AND GUIDANCE FOR PREVENTING AND MANAGING LAND AND NATURAL RESOURCES CONFLICT

Renewable Resources and Conflict



with funding and support from the European Union



The United Nations
Interagency Framework Team for Preventive Action

About the United Nations Interagency Framework Team for Preventive Action

The United Nations Interagency Framework Team for Preventive Action (the Framework Team or FT) is an internal United Nations (UN) support mechanism that assists UN Resident Coordinators (RCs) and UN Country Teams (UNCTs) in developing conflict prevention strategies and programmes. The FT works closely with UN departments and UN agencies, funds and programmes (UN AFPs) to improve programme effectiveness through better interagency collaboration within Headquarters, and between Headquarters and the field.

The framework team coordinates the partnership between the United Nations (UN) and the European Union (EU) entitled for Preventing and Managing Land and Natural Resources Conflict' on behalf of the partner agencies: the UN Department of Economic and Social Affairs (UNDESA), the UN Development Programme (UNDP), the UN Environment Programme (UNEP), the UN Human Settlements Programme (UN-HABITAT), the UN Department of Political Affairs (DPA), and the Peacebuilding Support Office (PBSO).

About this Guidance Note

This Guidance Note has been prepared by UNEP on behalf of the Framework Team and in collaboration with the Standing Committee of the project, consisting of the EU, UNDESA, UNDP, UNEP, UN-HABITAT, DPA and PBSO. It was submitted for peer review to participating UN departments and UN AFPs.

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Toolkit and Guidance for Preventing and Managing Land and Natural Resources Conflicts

The management of land and natural resources is one of the most critical challenges facing developing countries today. The exploitation of high-value natural resources, including oil, gas, minerals and timber has often been cited as a key factor in triggering, escalating or sustaining violent conflicts around the globe. Furthermore, increasing competition over diminishing renewable resources, such as land and water, are on the rise. This is being further aggravated by environmental degradation, population growth and climate change. The mismanagement of land and natural resources is contributing to new conflicts and obstructing the peaceful resolution of existing ones.

To improve capacity for land and natural resource management (NRM) and conflict prevention, the EU partnered with the UN Framework Team in late 2008. The aim of this partnership was to develop and implement a strategic multi-agency project focused on building the capacity of national stakeholders, the UN system, and the EU to prevent land and natural resources from contributing to violent conflict. Six UN agencies, programmes or departments have been involved, including UNDESA, UNDP, UNEP, UN-HABITAT, DPA and PBSO. The partnership is also designed to enhance policy development and programme coordination between key actors at the level of country offices.

The first outcome of this project is an inventory of existing tools and capacity within the UN system and a set of four Guidance Notes on addressing NRM and conflict prevention. These Guidance Notes cover: (i) Land and Conflict (ii) Extractive Industries and Conflict (iii) Renewable Resources and Conflict, (iv) Strengthening Capacity for Conflict-Sensitive Natural Resource Management.

Based on the Guidance Notes, the second outcome of the project is to deliver a series of training modules for UN and EU staff in country offices, as well as local partners, to enhance the knowledge and skills needed to understand, anticipate, prevent, and mitigate potential conflicts over land and natural resources. Participants will acquire the skills to formulate and operationalize preventive measures in relation to NRM and conflict.

In countries where specific NRM and conflict challenges are identified, the project will aim to provide focused technical assistance in the development of conflict prevention strategies. This could include the deployment of staff and other experts to assist the UN Country Team (UNCT), including the Resident Coordinator (RC) or Peace and Development Advisor, in analysing options and designing programmes. Where needed, dedicated follow-up measures will also be undertaken on an inter-agency basis, in partnership with the EU.

For more information, please contact the Framework Team Secretariat at: framework.team@undp.org or Mr. David Jensen at UNEP on: david.jensen@unep.org.

ACRONYMS

ADR	Alternative Dispute Resolution
AFP	Agency, Funds and Programmes (of the United Nations)
ASM	Artisanal and Small-scale Mining
CBNRM	Community-Based Natural Resource Management
CSOs	Civil Society Organizations
CSPs	Country Strategy Papers
EIA	Environmental Impact Assessment
EITI	Extractive Industries Transparency Initiative
FDI	Foreign Direct Investment
FLEGT	Forest Law Enforcement, Governance and Trade
GDP	Gross Domestic Product
GEF	Global Environment Facility
GBV	Gender-Based Violence
HLP	Housing, Land and Property rights
IUU	Illegal, Unreported and Unregulated
EI/EIs	Extractive Industry/Extractive Industries
EITI	Extractive Industries Transparency Initiative
EU	European Union
FT/Framework Team	United Nations Interagency Framework Team for Preventive Action
ICCM	International Council on Mining and Metals
ICZM	Integrated coastal zone management
IDPs	Internally Displaced Persons
IWRM	Integrated Water Resource Management
MFP	Multi-Stakeholder Forestry Programme

NGO	Non-Governmental Organization
NRM	Natural Resource Management
PCNA	Post-Conflict Needs Assessment
PES	Payment for Ecosystem Services
PPPs	Public-Private Partnerships
RC	Resident Coordinator
SFM	Sustainable Forest Management
SMEs	Small to Medium Enterprises
UN	United Nations
UNCT	United Nations Country Team
UNDAF	United Nations Development Assistance Framework
UNDESA	UN Department of Economic and Social Affairs
UNDP	United Nations Development Program
UNDPA	United Nations Department of Political Affairs
UNEP	United Nations Environment Programme
UN-HABITAT	United Nations Human Settlements Programme
UNHCR	Office of the United Nations High Commissioner for Refugees
UNPBSO	United Nations Peacebuilding Support Office
VPs	Voluntary Principles on Security and Human Rights
WCD	World Commission on Dams

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EXECUTIVE SUMMARY

Managing conflicts that are related to natural resources is now more critical than ever before. As economic and population growth increase levels of global consumption, many countries face growing shortages of vital renewable resources such as freshwater, cropland, rangeland, forests, fisheries and other wildlife. Depletion of renewable natural resources, combined with environmental degradation and climate change, pose fundamental threats to human security. Separately or in combination with other factors, they can destabilize livelihoods, negatively affect ecosystems and undermine peace and development. Governments in developing countries, fragile states and emerging economies, are under increasing pressure to sustainably manage natural resources and resolve conflicts around their ownership, management, allocation and control.

Conflict itself is not a negative phenomenon; indeed, well-managed conflict can be an essential component of social change, democracy and development. However, where local and national institutions lack the capacity to resolve disputes over the degradation or depletion of natural resources, violent conflicts can and do emerge. It is therefore crucial that UN and EU development practitioners understand the key drivers of conflict over renewable resources and what specific role UN and EU policies, programmes and projects can play in the identification of conflict risks as well as entry points to prevent and manage conflicts through the use of sustainable natural resource management (NRM) practices.

Using the available knowledge and best practices that have been collected from existing field operations, this Guidance Note aims to catalyze a common, coordinated and strategic response by the UN and EU - as well as other international actors - to prevent and manage conflicts over renewable natural resources.

Drivers of Conflict Over Renewable Natural Resources

Non-violent resolution of conflict is possible when individuals and groups trust their governing structures to manage incompatible interests. When mechanisms for managing and resolving them break down, conflict becomes problematic and may give way to violence. Weak institutions, fragile political systems and divisive social relations can perpetuate cycles of violent conflict. Preventing this spiral and ensuring the peaceful resolution of disputes is a core interest of both individual states and the international community.

Conflicts over renewable resources generally arise over issues such as who should have access to and control over resources, and who can influence decisions regarding their allocation, sharing of benefits, management and rate of use. It is critical to note that disputes and grievances over natural resources are rarely, if ever, the sole cause of violent conflict. The drivers of violence are most often multi-faceted. However, disputes and grievances over natural resources can contribute to violent conflict when they overlap with other factors, such as ethnic polarization, high levels of inequity, poverty, injustice and poor governance.

In other words, it is when grievances over natural resources – perceived or actual – drive, reinforce or further compound economic, political or security tensions and stress factors that violent conflict may ensue. Simple causal relations between disputes over natural resources and violent conflict rarely follow a direct or linear path. What generally determines whether a conflict escalates to the point of violence is related to: political systems – particularly the degree to which these are based on marginalization and exclusion; the presence and extent of state authority and the rule of law; socio-economic factors – particularly when associated with patterns

of discrimination and inequity; and, the prevailing security situation. The way in which conflicts over natural resources become politicized within the broader conflict and political context is also a determining factor in whether the conflict becomes violent or not.

In order to provide a more practical and focused approach for UN and EU practitioners, this Guidance Note identifies three main categories of conflict drivers for renewable natural resources. These drivers are based on existing academic theory, combined with UN and EU field experiences, assessments and case studies. As these three drivers can interact with and reinforce each other, conflict prevention strategies must often take all three into account:

Driver 1. Competition over increasingly scarce renewable resources: The concept of “resource scarcity” describes a situation where the supply of renewable resources – such as water, forests, rangelands and croplands – is not sufficient to meet the demand. Increasing scarcity of renewable natural resources needed to sustain livelihoods can increase competition between user groups. Social responses to rising competition can include migration, technological innovation, cooperation and violent conflict. There are three main causes for increasing resource scarcity working separately or in combination:

- **Demand-induced scarcity:** Demand-induced scarcity arises when the demand for a specific renewable resource cannot be met by the existing supply. While a resource such as water or cropland may initially meet all local needs, population growth, new technologies or increases in consumption rates can reduce the per capita availability of the resource over time.
- **Supply-induced scarcity:** Supply-induced scarcity occurs when environmental degradation, pollution, natural variation or a breakdown in the delivery infrastructure constrains or reduces the total supply or local availability of a specific resource. As the supply of natural resources is reduced, options for pursuing productive livelihood strategies are undermined, potentially creating competition between livelihood groups.

- **Structural scarcity:** “Structural scarcity” occurs when different groups in a society face unequal resource access. While structural scarcity can result from poor natural resource governance (as described in driver 2, below), it can also occur in a well-functioning governance structure, as the outcome of different land use decisions and tradeoffs. At the same time, cultural practices, gender dynamics as well as social and economic barriers may also lead to structural scarcity.

Driver 2. Poor governance of renewable natural resources and the environment: Policies, institutions and processes governing the access, use, ownership and management of natural resources can be critical drivers of conflict. In many cases, they contribute to both structural scarcity as well as grievances associated with political exclusion, corruption, and an unequal distribution of benefits. At the same time, resource governance plays a critical role in managing conflicts caused by increasing resource scarcity and in resolving grievances before they contribute to violence. Understanding the governance framework for natural resources at the national and local levels, and the mechanisms for resolving disputes, can provide critical insights into why conflicts over renewable resources occur, and how they may be addressed. There are four main causes of poor resource governance, which may work separately or in combination:

- **Unclear, overlapping or poor enforcement of resource rights and laws:** Land and resource tenure systems, rights and related laws determine who can use what resource of the land, for how long, and under what conditions. In many countries, land and renewable natural resources are regulated under a combination of statutory, customary, informal and religious forms of tenure. Disagreements, contradictions or overlapping rights regarding these ‘rules’ as well as uncertainty over resource rights are often at the heart of conflict. A lack of state capacity to extend its presence and authority into rural areas in order to enforce laws and resolve disputes is often a key cause of poor governance of natural

resources. Likewise, a lack of understanding and insufficient consideration of customary law by the state can exacerbate tensions.

- **Discriminatory policies, rights and laws that marginalize specific groups:** When one user group controls access to renewable resources to the detriment of others, natural resource-dependent communities are often marginalized. Violence can occur as individuals and groups seek greater or fairer and more equitable access to key resources. The struggle for increased equity can become linked to the recognition of identity, status and political rights, making conflict resolution processes more of a challenge. As discussed above, this can be a key factor causing structural scarcity.
- **Unequal distribution of benefits and burdens from development projects:** Extractive industries, industrial sites or major infrastructure projects can provide multiple benefits to local communities as well as seriously degrade, exhaust or pollute renewable natural resources and become a major source of grievance. The environmental impacts of development projects can create tensions if communities are not compensated for the damage and do not receive a share of the development benefits, financial or otherwise.
- **Lack of public participation and transparency in decision-making:** Natural resource policies and interventions are often made by the state, in conjunction with private sector actors, without the active participation of affected communities or sufficient transparency and consultation with stakeholders. Where communities and stakeholders are poorly engaged or excluded from the decision-making process over renewable natural resources, they are likely to oppose any related decisions or outcomes. Lost access to key resources, eviction without compensation or sudden price increases for renewable resources such as water, can lead to significant tensions between the affected communities, the government and the private sector.

Driver 3. Transboundary natural resource dynamics and pressures: The challenges of managing renewable natural resources often extend beyond national borders. This is particularly the case for water, wildlife, fisheries, and air quality. Similarly, risks to renewable resources from waste management, pollution, climate change and disasters are often transboundary in nature. While states have the sovereign right, in accordance with the Charter of the United Nations and the principles of international law, to exploit their own resources pursuant to their own environmental and developmental policies, they also have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states. Yet, transboundary dynamics and pressures are often beyond the capacity of a single sovereign state to manage unilaterally, requiring cooperation and co-management with neighboring countries. There are four main types of transboundary challenges that can contribute to conflicts over renewable resources:

- **Allocation or consumption of transboundary renewable resources is unequal or inflexible:** When transboundary natural resources such as water or fisheries are shared between countries, conflicts can arise when one country consumes the resource at higher rates than another, violates agreed allocations or demonstrates inflexibility when faced with natural variation. Alternatively, a lack of sound data on resource consumption rates, quantity and quality can cause inaccurate perceptions leading to unfounded accusations.
- **Impacts on renewable resources caused by infrastructure, industrial development and changed land use in neighboring countries:** The quality or quantity of transboundary natural resources, such as water, fisheries, wildlife and air, can be negatively impacted in one country by infrastructure, industrial development or changes in land use in another country. In particular, pollution generated in one country can easily cross national borders, creating health risks in another. Similarly, changes in land use in one country, including high levels of deforestation and soil erosion, can heighten vulnerabilities to natural hazards in another.

- Traditional livelihood practices or wildlife populations that migrate across national borders:** While national borders define the sovereign boundary of states, these are often not respected by pastoral livelihood groups that migrate seasonally along traditional routes, based on the availability of natural resources such as water and grazing land. Similarly, wildlife populations commonly migrate across national boundaries, shifting economic opportunities from one country to another. Both situations can be important sources of conflict as user groups are faced with increasing competition or lost livelihoods. In addition, these dynamics can contribute to the loss of indigenous communities together with their cultural and spiritual heritage.
- Activities involving the illegal exploitation, consumption and trade of natural resources across borders:** One of the emerging threats to the natural resource base of many countries comes from illegal exploitation of natural

resources by global and transboundary criminal networks. Illicit extraction and trade of natural resources deprives local communities of resource benefits and can lead to conflict. At the same time, pressures such as violent conflict, state failure, disasters or environmental degradation can be powerful incentives for people to migrate across borders, establishing new resource-dependent livelihoods in neighboring countries that fall outside of government regulation and control.

Climate change is not a direct source of conflict, but rather compounds each of the drivers listed above. In this regard, climate change can be understood as a threat multiplier, leading to further resource scarcity, overstressing societies' adaptive capacities and weakening the institutional capacity of states to resolve conflict through peaceful and democratic means. Future risks from climate change, as well as from natural hazards, must therefore be taken into account in any strategy to prevent conflicts over renewable natural resource.



Photo: UNEP, Central African Republic

Conflict Prevention Strategies for Renewable Natural Resources

While competing interests over natural resources can be a source of conflict, they can equally be a shared opportunity for cooperation, confidence-building and sustainable development. Understanding how to transform conflicts over natural resources into mutually beneficial outcomes that deepen trust and inter-dependence between parties is a key aim of effective conflict prevention and conflict management strategies. Such efforts should focus on building consensus and mutual trust around the co-management of natural resources and the environment, determining equitable sharing of benefits and resolving disputes in non-violent ways.

In most cases, conflicts over renewable natural resources interact with pre-existing political, socioeconomic or security tensions and stresses, requiring a response on multiple levels and across multiple sectors. In other words, there is often no “quick fix” to the problem. Appropriate interventions depend on the mix of drivers, livelihood responses, existing governance structures and the level of conflict intensity. In many cases, solutions will require targeted interventions at the local, national and transboundary levels. For renewable natural resources, conflict prevention and conflict management strategies often encompass a blend of four main types of linked objectives and associated interventions:

Objective 1. Reduce competition over scarce resources between livelihood groups:

- **Supporting sustainable livelihoods and reducing vulnerability to resource scarcity:** The *sustainable livelihoods framework* is one method to analyze options and help determine suitable interventions that reduce vulnerability and help prevent conflict. Understanding livelihood strategies in a specific area, particularly where livelihoods compete for the same limited natural resources is key to designing conflict prevention or management strategies. In particular, the risks to minority groups and indigenous people must be assessed.

- **Increasing the availability of renewable resources through protection, restoration, infrastructure and efficient use:** These measures focus on addressing the quality, quantity and availability of renewable natural resources in order to reduce scarcity and competition. Supply-side interventions focus on increasing the overall supply of, or access to, renewable resources, as well as stopping sources of environmental degradation and pollution. Demand-side strategies focus on improving the efficiency of resource use and reducing the per capita rate of consumption. Substitution measures attempt to replace scarce renewable resources with alternatives.

Objective 2. Improve resource governance, accountability and dispute resolution capacity:

- **Establishing the governance framework for natural resources, strengthening implementation capacity and recognizing resource rights:** Improving resource governance includes a range of measures such as: addressing inequitable access; reducing corruption and improving transparency; preventing environmental degradation; establishing and enforcing rights and rules over natural resource use; fostering parliamentary oversight; enhancing public participation in the design and acceptance of such rules; ensuring the transparent identification of any potential social and environmental impacts from development projects; and, establishing mechanisms for the resolution of diverging disputes.
- **Building capacity of stakeholders and civil society to participate in decision-making, to monitor compliance with the governance frameworks, and to access justice mechanisms:** Even when governance frameworks for natural resources exist, stakeholders and civil society groups often lack the capacity to participate in decision-making, to monitor compliance with the governance frameworks, to promote accountability and transparency, and to access justice mechanisms and dispute resolution processes. As these are essential components of good governance and can contribute to conflict prevention, targeted capacity-building is often required.

Objective 3. Improve transboundary management institutions and cooperation:

- **Establish or strengthen transboundary information, resource-sharing agreements, joint institutions, and dispute resolution processes:** The effective management of transboundary resources often relies on a combination of tools and approaches. These can include joint management institutions, flexible resource-sharing agreements, harmonized laws and access to dispute resolution processes. These measures often need to be strengthened as part of conflict prevention efforts.

Objective 4. Implement crosscutting measures across all programmes:

- **Designing conflict-sensitive resource management, adaptation and development programmes:** One of the critical aspects of preventing conflicts over natural resources is to ensure a conflict-sensitive approach is integrated within all natural resource management, development and climate change adaptation policies and programmes. Stakeholders and donors need to anticipate the potential sources of conflict that could be generated by their interventions and adopt a conflict-sensitive approach at all phases.
- **Conducting early warning, risk assessments and scenario analysis to identify potential conflict hotspots:** The use of early warning, risk assessments and scenario analysis to identify potential conflict hotspots involving renewable

resources is an important input to any targeted conflict prevention programme. These tools should be used on a systematic basis to identify existing and potential conflict hotspots.

While all conflict prevention and conflict management programmes involving natural resources must be owned by national actors, there are five distinct roles that the UN and EU can be requested to play to support national governments and stakeholders:

- Provide capacity-building support to governments and civil society on environmental governance, sustainable resource management and conflict resolution;
- Act as an impartial actor and trusted third-party in dispute resolution processes;
- Provide early warning alerts when vulnerabilities and risks are detected from global or regional environmental monitoring programmes and assessments;
- Catalyze an international response to emerging resource conflicts and leverage financing; and,
- Broker transboundary cooperation and related agreements.

In addition to the four thematic conflict prevention objectives discussed above, sector-specific strategies are also needed. In this regard, this Guidance Note includes 50 specific conflict prevention activities that can be undertaken for conflicts related to water, forests, pastures and fisheries.

1

INTRODUCTION

1.1 The role of natural resources in conflict

Conflicts over natural resources arise when parties disagree about the management, ownership, allocation, use and protection of natural resources and related ecosystems. Conflict becomes problematic when societal mechanisms and institutions for managing and resolving conflict break down, giving way to violence. Societies with weak institutions, fragile political systems and divisive societal relations can be drawn into cycles of conflict and violence. Increasing scarcity of renewable resources, or grievances over their governance and/or transboundary nature, can drive, reinforce or compound existing stress factors and play a contributing role in the decision to resort to violence.

Preventing this negative spiral and ensuring the peaceful resolution of disputes is a core interest of the UN, the EU and the international community at large. This was highlighted in the 2010 *Report of the UN Secretary-General on Preventive Diplomacy: Delivering Results*.¹ While there are many issues that can cause conflict between groups, the role of natural resources in triggering, escalating or sustaining violent conflict is the focus of this series of Guidance Notes. They provide practical guidance to UN and EU country staff to identify drivers of conflict over natural resources and specific actions these organizations can take in terms of conflict prevention. They also provide a strategic framework for practitioners to prevent conflicts over natural resources, and showcase the available toolkits, guidelines and best practices from UN and EU operations.

The urgency of developing practical guidance on preventing conflicts over natural resources was highlighted by a 2009 UNEP report entitled

From Conflict to Peacebuilding: The Role of Natural Resources and the Environment. This report synthesizes a decade of academic research, and draws on the experiences of the UN concerning the linkages among natural resources, violent conflict and peacebuilding. The main findings from the report include:

- Over the past 60 years, 40 percent of civil wars can be associated with natural resources; since 1990 there have been at least 18 violent conflicts fuelled or financed by natural resources.
- Natural resources and other environmental factors are linked to violent conflict in a variety of ways that are often obscured by more visible drivers such as ethnic tensions, political exclusion and poor governance. Specifically, competition to control or gain access to natural resources can contribute to the outbreak of violent conflict. Natural resources can be exploited by armed groups to fund war. During conflict, individuals and groups may be able to exploit natural resources as part of the conflict economy creating incentives to undermine efforts to build peace.
- The environment suffers tremendous damage during violent conflict. Resources may be targeted for destruction or damaged by bombs and other ordinance; war may displace populations into fragile environments where the struggle to survive degrades the resource base; and, the institutions designed to manage natural resources may be disrupted or shut down during a war.
- In rebuilding war-torn societies, the environment and natural resources play a number of crucial roles—from supporting economic recovery, to the creation of sustainable livelihoods and the resettlement of displaced

populations, to providing opportunities for dialogue, cooperation, confidence-building, and government reform.

The main conclusion of the UNEP report is that natural resources can play different roles throughout all phases of a conflict. Understanding both the dynamics of the natural resource in question and the specifics of how it can contribute to conflict escalation can help policy-makers and practitioners ensure that conflict prevention and conflict sensitivity are included within all NRM programmes, and vice versa. In addition, the report noted that the UN system can no longer separate questions of peace and security from the way natural resources and the environment are managed. Maintaining security, catalyzing economic growth and providing basic services are often impossible without addressing questions of resource ownership, access, control and management.

Whilst each particular crisis or conflict has a unique dynamic - based on local politics, economics and history - the need for preventative action is clear. Politicized revenue allocation from high-value natural resources based around ethnic, religious or regional lines has been a major driver of internal conflict. Similarly, politicized allocation of water, land and other renewable resources is a consistent driver of low level conflict, which can spark into major violence when linked to ethnic, national and other divisions or social inequality. Similarly, migration away from environmentally degraded regions can cause increasing competition for scarce resources within countries and across borders. Organized crime is also becoming increasingly tied to the illegal exploitation and trade of natural resources and wildlife, adding another factor to criminal violence and insecurity.²

Even in countries that have not experienced violent conflict, the corrupting influence of revenues from high-value natural resources on elites is a powerful source of underdevelopment, failing institutions and poor economic growth. The World Bank estimates that over the last 40 years, developing countries without major natural resources have grown two

to three times faster than those with high resource endowment. Furthermore, slow-developing low-income economies largely dependent on natural resources are 10 times more likely than others to experience civil war.³

Fortunately, there is no lack of operational tools and policy options available to address these issues. A wealth of experience exists on preventing and resolving conflicts over natural resources. There is a deficit, however, in the application of these tools and approaches, in the development and coordination of conflict prevention strategies, and in addressing the roots of instability during the implementation of development programmes. Therefore, this series of Guidance Notes will introduce these tools combined with a framework for designing conflict prevention programmes for natural resources.

NRM is a form of conflict prevention. Traditions, customs, rules, laws and policies regulating access to, use and management of natural resources all aim to bring order and predictability to situations where competition and conflicting interests are present. NRM and conflict prevention are closely linked, but it is only recently that policymakers, state resource managers, practitioners, academics and others have attempted to address this connection directly.

It is critical to note that disputes and grievances over natural resources are rarely, if ever, the sole cause of violent conflict. The drivers of violence are most often multi-dimensional. Disputes and grievances over natural resources can contribute to violent conflict when they overlap with other factors such as ethnic polarization, high levels of poverty and inequity, injustice and poor governance. What determines whether a conflict escalates to the point of violence is related more to the political systems - more specifically the degree to which these are based on: marginalization and exclusion (ethnic, religious or other); the presence and extent of state authority and the rule of law; on economic factors, particularly when associated with patterns of discrimination and inequity; and, on the prevailing security situation (history of violence, access to arms).

1.2 Structure of this Guidance Note

This Guidance Note focuses on drivers of conflict over renewable resources. It recommends strategies and country-level interventions that can be undertaken by UN and EU practitioners working at the country-level to prevent conflicts over renewable resources, and to promote strategies for conflict sensitivity in NRM and in the design of development projects. Throughout this Guidance Note, case studies from UN and EU operations are used to highlight key challenges, risks and response strategies. Where necessary, linkages and references to the other three Guidance Notes in this series are also provided.

Section Two examines global trends in the consumption of renewable resources and the main drivers of increasing resource scarcity. It focuses on water, croplands, rangelands, forests, fisheries and protected areas. The main kinds of conflicts that tend to occur over each resource are also highlighted.

Section Three focuses on the three main drivers of conflict over renewable natural resources as well as the potential risks posed by climate change. These include conflicts caused by the following drivers: a) increasing resource scarcity and competition between users; b) poor governance of renewable resources and the environment; c) transboundary dynamics and impacts.

Section Four provides an intervention framework for how the UN and EU can analyze conflicts over renewable natural resources - together with on-going response measures - and then design relevant prevention strategies. The specific roles that the UN and EU can play to support national governments to design and implement conflict prevention strategies are also explored.

Section Five provides a series of thematic conflict prevention strategies that directly address the main conflict drivers. Four main objectives and associated interventions are reviewed: a) reducing competition over scarce resources between livelihood groups; b) improving resource governance, accountability and dispute resolution capacity; c) improving

transboundary information, management institutions and processes; d) implementing cross-cutting measures across all programmes including conflict-sensitivity, early warning, risk assessments and scenario analysis.

Section Six examines conflict prevention interventions for specific resource sectors based on the thematic strategies presented in Section Five. A total of 50 recommended interventions for water, pastures, forests, and fisheries are provided.

Section Seven outlines the additional resources and organizations focused on renewable natural resources and conflict prevention.

This Guidance Note also includes a series of detailed annexes where all of the available toolkits, guidelines and training materials relevant to conflict prevention and renewable resources are listed.



Photo: UNEP, Sudan

2

RENEWABLE NATURAL RESOURCES UNDER INCREASING PRESSURE

In October 2011, the global human population surpassed 7 billion and is projected to rise to 8 billion persons by the year 2025.⁴ This increase, coupled with rising rates of consumption and affluence, is placing further demands on the supply of renewable resources.

In the course of the last half-century, people have made unprecedented changes to the planet's ecosystems as well as the quality and quantity of renewable natural resources. As reported in the *Millennium Ecosystem Assessment*, depletion of the world's natural resources is an issue of global concern: some 60 percent of the ecosystem services are being degraded or used in ways that cannot be sustained.⁵ Today humanity uses the equivalent of 1.5 planets to provide the resources needed to sustain the global economy and absorb associated wastes. Consequently, it now takes the earth one year and six months to regenerate that amount of resources that humanity consumes in a single year.⁶ Even with modest UN projections for population growth, consumption and climate change, by 2030 humanity will need the capacity of two earths to keep up with natural resource consumption.

From a historical perspective, annual global resource extraction and use increased from about 7 billion tons (7 Gt) in 1900 to about 50 billion tons (55 Gt) in 2000, with the main shift being from renewable resources to non-renewable, mineral ones. During this period, the annual resource use per capita has doubled from 4.6 tons/capita in 1900 to eight to nine tons/capita at the beginning of the 21st century. Evidently this varies according to the development status of a country, on income and on population density. For industrial countries with high population density resource use is around thirteen tons/capita, while those with low population density require twenty-six tons/capita and above. The

same variation can be observed among the rapidly industrializing countries: while the high-density developing countries used five tons/capita, the comparable low-density developing countries used ten tons/capita.⁷

As consumption increases, countries will face growing shortages of vital renewable resources such as freshwater, cropland, rangeland, forests, fisheries and other wildlife. In all of these cases, institutional, political or economic factors can be as important as physical or material factors in limiting the availability of natural resources. Governments can make scarcity worse (for example through perverse subsidies or price controls); similarly, perceptions of scarcity can be as damaging as absolute limits.⁸

At the same time, climate change threatens to alter the distribution and availability of many critical natural resources, potentially throwing local livelihoods and rural economies into upheaval. The poor are the most vulnerable and face particular challenges in protecting themselves, their families, their assets and their livelihoods against environmental risks, shocks and stress. A 2007 report from *International Alert*, for example, found that 46 countries are vulnerable to conflict as a result of climate change interacting with economic, social and political problems. In short, fragile governments will have great difficulty taking the strain of climate change on top of all other current challenges.⁹

To put these challenges into perspective: nearly half of the world's population is directly dependent on renewable natural resources for its livelihood.¹⁰ Some 2.5 billion people live directly from agriculture – farming crops and livestock¹¹, while 1.6 billion people rely on forest resources for all or part of their livelihoods.¹² In addition, 150 million people count wildlife as a valuable livelihood source and

560 million derive all or part of their livelihood from fishing and/or aquaculture.^{13 14 15} Of the 1.2 billion people estimated to survive on less than US \$1 a day, 70 percent live in rural areas with a high dependence on renewable natural resources.¹⁶ Developing countries tend to be more dependent on natural resources as their primary source of income, and their ability to achieve development gains and poverty reduction is often dependent on access to natural resources.

A number of scholars and development practitioners argue that increasing scarcity of renewable resources could have profound social consequences, including more deeply entrenched poverty, large-scale migration, sharpened social cleavages, and weakened institutions.^{17 18} Where these factors interact with preexisting socio-economic, ethnic or religious tensions, they can potentially contribute to violent conflict. The following sections outline some of the key global trends in the use, management and degradation of renewable resources, highlighting the most common drivers of conflict. The role of climate change and natural hazards in aggravating the scarcity of renewable resources is also discussed.

2.1 Water

Pressure on limited fresh water resources is mounting, driven by increasing population, economic growth, industrial pollution, and loss of forested watersheds. The predicted effects of climate change are likely to aggravate water scarcity even further in some regions. As demand is increasing, some countries are already reaching the limits of their water resources. As a result, competition for water is intensifying – whether between countries, urban and rural areas, economic sectors, or different livelihood groups. This may make water an increasingly politicized issue.¹⁹ There are an estimated 263 international rivers, covering 45.3 percent of the land-surface of the earth (excluding Antarctica).²⁰ However, fewer than 10 countries possess 60 percent of the world's available fresh water supply: Brazil, Russia, China, Canada, Indonesia, the United States, India, Colombia and the Democratic Republic of Congo.²¹

Water use has been growing at more than twice the rate of population increase in the last century. For

example, while the world's population tripled, the use of renewable water resources grew six-fold. Over the last 50 years, freshwater withdrawals have tripled.²² Worldwide agriculture accounts for 70 percent of all water consumption, compared to 20 percent for industry and 10 percent for domestic use.²³ Unless agricultural water use is optimized, water demand for agriculture worldwide would increase by 70 to 90 percent by 2050, creating acute problems for countries that are already reaching the limits of their water resources.²⁴ Today, four hundred and fifty million people in twenty-nine countries suffer from water shortages.²⁵ It is predicted that 47 percent of the world population will be living in areas of high water stress by 2030.²⁶

The concept of water stress applies to situations where there is not enough water for all uses, whether agricultural, industrial or domestic. It has been proposed that when annual per capita renewable freshwater availability is less than 1,700 cubic meters, countries begin to experience periodic or regular water stress. Below 1,000 cubic meters, water scarcity begins to hamper economic development as well as human health and well-being.²⁷ Based on these criteria, the UN estimates that by 2025, 1.8 billion people will be living in countries or regions with absolute water scarcity and two-thirds of the world's population could be under conditions of water stress.

In 2010, access to clean drinking water became an official basic human right. A resolution introduced by Bolivia was adopted by the UN General Assembly without opposition. Although the decision does not make the right to water legally enforceable, it is symbolically important and places more political obligations on national governments. The combination of rising water scarcity due to increases in demand and the potential consequences of climate change make the need for cooperative, equitable and sustainable management of national and transboundary water resources more important than ever.

The main sources of conflict over water include:

- Competition between different water sectors (agriculture, industrial, domestic);
- Competition between different livelihood groups (farming, livestock, fishing);

- Degradation of water quality caused by pollution (industrial, agriculture, urban);
- Reduction of water supply caused by development/infrastructure projects;
- Lost access to water supplies and/or exhaustion of supply;
- Natural variation in water availability and sudden contraction of supply;
- Exclusive control of water resources and access;
- Conversion from public to private management and changes in pricing structure;
- Unclear water use and access rights; and,
- Uncoordinated transboundary management.

2.2 Cropland

The global area identified as cropland is estimated to range between 1.47–1.53 billion hectares, approximately 11 percent of Earth’s land mass.^{28 29} Seventy-five percent of the world’s poor are rural, and most are engaged in farming.³⁰ At the global level, food production has continued to keep pace with population growth over the past two decades. Gains in production have come primarily from improved yields and intensification, where the use of fertilizers plays a major role.³¹ However, despite solid gains made, millions in developing countries still face chronic hunger and malnutrition due to problems in distribution and inequitable consumption. Another major challenge is declining food yields in some of the most vulnerable areas caused by a combination of declining soil fertility, erosion and salinization.³²

More significant gains in agricultural production will be necessary to meet continued global population growth. This will require expanding farmland and using more intensive production techniques. A conservative estimate is that, in developing countries, six million hectares of additional land will need to be brought into production each year until 2030.³³ A projected population increase of 27 percent and a wealth increase of 83 percent by 2030 would

imply a demand for agricultural production that is 50 percent higher than today’s. Even if agricultural productivity increases at current rates, it would be necessary to expand the global agricultural area by roughly 10 percent to meet demand. The demand for phosphorus, most of which is used as fertilizer, is predicted to increase by 50–100 percent by 2050.³⁴

However, increasing water scarcity is slowing the expansion of irrigation in many regions where water is now a major constraint to production.^{35 36} Increasing expansion of agricultural areas will come at the expense of forest cover, wetlands and rangelands potentially creating new conflicts.

When food prices rocketed in 2007-2008, the subsequent period of relatively high and volatile prices demonstrated to many import-dependent countries their vulnerability to food insecurity, prompting them to secure additional food supplies overseas. The boom led to a “rediscovery” of the agricultural sector by different types of investors and a wave of interest in land acquisitions in developing countries. Compared to an average annual expansion of global agricultural land of less than four million hectares before 2008, approximately 56 million hectares worth of large-scale farmland deals were announced even before the end of 2009. More than 70 percent of such demand has been in Africa.³⁷ Production of soybean, rapeseed, sunflower and oil palm accounted for a significant portion of new output.³⁸

Calculations using 2005 population projections show that at least 20 countries are in the extreme stress category in terms of per capita availability of cropland, or less than 0.07 hectares per person. Countries with either low per capita levels of cropland or fresh water were 1.5 times as likely to experience an outbreak of civil conflict compared to countries with more adequate supplies during the 1990s.³⁹ Evidence from case studies suggests that shortages of cropland may be more closely associated with civil disturbances in low-income countries compared to shortages of fresh water.⁴⁰ While local and national institutions have been surprisingly effective at defusing tensions around water scarcity, land lends itself to longstanding private and inequitable ownership as well as conflicting traditions of landholding.

The main sources of conflict over croplands include:

- Unequal distribution of land or inequitable access;
- Expansion of farms, competing land claims and a lack of dispute resolution capacity;
- Land grabbing by foreign actors and/or local expropriation and eviction;
- Lack of secure tenure and access to water;
- Pollution of water supplies from agricultural runoff; and,
- Commercialization of common property.

2.3 Rangelands

Rangelands, consisting almost entirely of land that is too dry or too steeply sloping to support crop production, account for 25 percent of the earth's land surface, approximately 3.4 billion hectares - more than double the area that is cropped.⁴¹

Tapping the productivity of this vast area depends on ruminants - cattle, sheep, and goats - animals whose complex digestive systems enable them to convert roughage into food, including beef, mutton, and milk, and materials such as leather and wool.

Livestock is the fastest growing agricultural sector – making up over 50 percent of agricultural GDP in many developing countries.⁴² As a result, pressure on the land coupled with unsustainable use has increased. Globally grassland degradation is estimated to be 20-35 percent.⁴³ In Africa, the number of livestock, a cornerstone of many African economies, often exceeds the carrying capacity of grassland by half or more. A study that charted the mounting pressures on grasslands in nine southern African countries found that the capacity of the land to sustain livestock is diminishing; the drylands of Africa and Asia pose particular challenges. Climatic fluctuations appear most pronounced in sub-Saharan Africa and South Asia, resulting in the poorest regions with the highest levels of chronic undernourishment being exposed to the greatest degree of instability and vulnerability to climate change.⁴⁴

The main sources of conflict over rangelands include:

- Increasing competition between rival pastoral groups over common rangelands;
- Increasing competition between livelihood groups;
- Lost access to rangelands and increased conversion to other forms of land use;
- Unclear access and use rights; and,
- Transboundary movements and illegal use.

2.4 Forests

Forests currently cover around 30 percent of the Earth's landmass, approximately 4 billion hectares.^{45 46} While definitions vary, the term "forests" commonly applies to land with a tree canopy cover of more than 10 percent and area of more than 0.5 hectares.⁴⁷

The global trade in timber and other forest products is estimated at almost US\$330 billion per year. However, in 2010 only about 10 percent of the total forest cover was managed under schemes to certify socially and environmentally responsible forestry.^{48 49}

In addition to being used as a source of wood and employment, forests provide a range of environmental and social services, including: water and carbon storage; non-timber forest products; biodiversity habitat; erosion control; regulating river flow; and, reducing the impacts of natural hazards. An estimated 1.6 billion people rely to some extent on forests for their livelihoods, while more than 2 billion people use biomass fuels, mainly firewood, to cook food and to heat their homes.⁵⁰ In many developing countries, more than 80 percent of total energy consumed comes from forests and related biomass. Up to 45 percent of the largest cities in the world depend to some extent on forested water catchment areas for their water supply.⁵¹ Forests also store 25 percent of terrestrial carbon.

Global deforestation is taking place at an alarming rate – evidenced in the decline in natural forest cover of 13 million hectares per annum during the

period 1990-2005. The main drivers of deforestation are unsustainable practices, intensive farming, human settlements and illegal logging.⁵² Although the rate of deforestation is slowing down, large areas of primary forest and other naturally regenerated forests are declining, especially in South America and Africa.⁵³ Deforestation results not only in biodiversity loss, but also contributes 12-15 percent to global warming by releasing CO₂ into the atmosphere and hampering further CO₂ storage.⁵⁴ Insecure or ambiguous land tenure in many countries has a negative impact on sustainable forest management.⁵⁵

Forests have multiple - often competing - constituencies for commercial, subsistence, and cultural uses; this places them frequently at the center of struggles over control of access and use. While these contests can be widespread, they tend to be nonviolent. If violence erupts, it tends to be localized. Indeed, quantitative evidence suggests that countries with large amounts of forest (either in total area or as a proportion of national territory) are no more likely to experience civil war than those without forests.⁵⁶

There is, however, an association between the likelihood of conflict and the size of the forest industry. For countries experiencing civil war that have other extractive resources available, the abundance of forest increases the duration of the conflict. This effect is heightened with increasing accessibility of forests. In other words, forests do not cause conflict, and armed conflicts tend not to be fought over forests. However, certain aspects of forest use often exacerbate armed conflicts, especially when forests are “lootable” (requiring low cost and low skill for extraction).⁵⁷

The main sources of conflict over forests include:

- Disputes between forest communities over a shared boundary;
- Disputes between a forest community and forest concession holder over access and benefits;
- Illegal logging and harvesting of non-timber forest products;
- Lack of community participation in decision-making over forest management;

- Unrecognized resource rights; and,
- Incompatible uses that exclude specific user groups.

2.5 Fisheries and marine resources

Seafood is a significant source of protein for nearly three billion people and is the planet's most highly traded food commodity, contributing to the livelihoods of more than 560 million people.⁵⁸ However, at least one quarter of marine fish stocks are overexploited or significantly depleted as a result of global overfishing.^{59 60} In many sea areas, the total weight of fish available to be caught has declined by 90 percent since the onset of industrial fishing.⁶¹ The contribution of fish to the global food supply is anticipated to decrease in the next two decades as demand for fish increases and production lags. Shortfalls will predominantly affect developing nations as exports rise, leaving fewer fish for local consumption.⁶²

Illegal, Unreported and Unregulated (IUU) fishing contributes to the overexploitation of fish stocks and is a hindrance to the recovery of fish populations and ecosystems. One study that reviewed the situation in 54 countries and on the high seas, estimated that lower and upper estimates of the total value of current IUU fishing losses worldwide are between \$10 billion and \$23.5 billion annually, representing between 11 and 26 million tons.⁶³ The study also found a significant correlation between governance capacity and the level of IUU fishing. Developing countries are most at risk from illegal fishing, with total estimated catches in West Africa being 40 percent higher than reported catches. Such levels of exploitation severely hamper the sustainable management of marine ecosystems.⁶⁴

Aquaculture increased by 245 percent between 1992 and 2009 with most growth occurring in Asia. The global aquaculture production has grown from 14 million tons in 1992 to nearly 51 million tons in 2009, which equals more than half of the total wild fish catch. This has created jobs and important economic benefits, but the environment has suffered from a loss of mangroves, poor fish-waste management, an influx of antibiotics, impacts of producing or catching large quantities

of small fish for feed, and competition between escaped farm fish and neighboring wild fish.⁶⁵

The main sources of conflict over fisheries and marine resources include:

- Illegal and legal fishing by foreign vessels competing with local users;
- Disputes over resource access or allocation between fishing communities;
- Competition over productive fishing grounds or target species;
- Unrecognized resource rights or unclear jurisdiction;
- Pollution and other threats to fish habitat including mangroves and coral reefs;
- Tensions between subsistence, commercial, and conservation interests;
- Technology use and fishing capacity; and,
- Managing transboundary movements of fish stocks and sharing benefits.

2.6 Protected areas

By 2010, there were over 148 000 protected areas in the world, covering almost 13 percent of the land area or 17 million square kilometers — an area as large as the Russian Federation.⁶⁶ Marine protected areas, however, cover only around 7 percent of coastal waters (extending out to 12 nautical miles) and just above 1.4 percent of the oceans. New targets for increasing the reach of protected areas globally were set by governments in the Nagoya Protocol, negotiated in October 2010. Under a 20-point plan, they made commitments to protect 17 percent of terrestrial and inland waters, and 10 percent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, by 2020.⁶⁷

Protected areas harbor great biological richness and are a major source of material and non-material wealth. They represent important stocks of natural, cultural and social capital, supporting the livelihood and wellbeing of many. For example, a study

conducted in 2003 found that 33 of the world's 105 largest cities obtain a significant proportion of their drinking water from protected areas.⁶⁸ Providing this water through other means would likely be a costly endeavor and beyond the means of some cities.⁶⁹

As the world's population grows and the demands on natural resources increase, protected areas become both more important and more threatened within a national setting. A combination of external threats is also difficult or impossible to control for most governments. These include climate change, development beyond their boundaries, transboundary pollution, invasive species, habitat fragmentation and a loss of wildlife migration corridors. These threats will only intensify in the decades ahead. Interestingly, more than 80 percent of the world's major armed conflicts during the last half century have taken place in some of the most biologically diverse and threatened places on earth.⁷⁰

Despite their obvious importance to humans, ecosystem services and the value of protected areas are often ignored in decisions to convert natural areas into more “economically productive” land uses, such as infrastructure, commercial agriculture, and pasture. There are several explanations for this. First, until recently, ecosystem services have been poorly understood; their value is often not evident until the services are lost and alternatives must be found. Second, even at a local level, the benefits of many ecosystem services are broadly disbursed, while earnings from actions that provide a short-term payoff (but cause ecosystem degradation) are concentrated. As a result, individuals can gain in the short-term, even though over time, or when many individuals try to benefit, the resource base is degraded. Third, many of the world's poor simply have practical subsistence needs that lead them to use resources unsustainably, even if doing so is not a good long-term development choice.

The emergence of the concept of payments for ecosystem services has raised expectations among many stakeholders that ecosystems and protected areas can be conserved through popular payments to ecosystem service providers, rather than through unpopular measures of command and control. The basic logic is simple: those that provide

ecosystem services by foregoing alternative uses of the land should be compensated by the beneficiaries of that service.

The main sources of conflict over protected areas include:

- Restricted or lost access to key livelihood resources by neighboring communities;
- Wildlife within protected areas poses risks to local communities;
- Unequal distribution of benefits from protected areas with local communities;
- Lack of participation in decision-making when establishing or managing protected areas;
- Illegal harvesting of timber and non-timber forest products;
- Boundary disputes between protected areas and major concessions; and,
- Managing transboundary movement of wildlife and sharing benefits.

2.7 Climate change and natural hazards

While climate change is global in nature, its impacts will vary widely by region. The key consequences of climate change are likely to be: sea-level rise; changes in the intensity, timing and spatial distribution of precipitation; changes in temperature; and, greater variability in the frequency, magnitude, and duration of extreme climate events such as droughts, floods, and tropical storms. All of these factors could influence the availability and distribution of renewable natural resources, thereby further aggravating or exacerbating scarcity of supply.

In regions where renewable resource scarcity is a reality, natural hazards can further compound the drivers of scarcity by directly damaging natural resources, triggering migration, or increasing demand for natural resources during the reconstruction process.

However, the impact of climate change and natural hazards need to be understood within the context of vulnerability. Vulnerability represents the interface between exposure to physical threats and the capacity of people and communities to cope with those threats.⁷¹

Adapting to climate change and reducing risks from natural hazards involves reducing the exposure of populations to the potential impacts, while increasing their adaptive capacity and resilience. Preventing conflicts that may be triggered or affected by climate change and natural hazards depends on the identification of vulnerable livelihoods, and providing dedicated support for adaptation and vulnerability-reduction measures.

The findings of a recent assessment on the links between disasters and conflicts note the following:⁷²

- Disasters, particularly those associated with drought and desertification, and rapid-onset disasters are more likely to contribute to conflicts over limited natural resources than any other type of conflict.
- Small-scale, rapid-onset disasters are less likely to contribute to national level/widespread conflict, but can have a significant impact on local-level conflict, particularly when they (re)-occur in highly vulnerable and resource-scarce contexts.
- Slow onset, protracted disasters - such as those involving drought - can deepen conflict over resources across large areas when they occur in places where people face high levels of poverty and competition over limited natural resources.
- The overlap of disaster and conflict exacerbates gender-related vulnerabilities and violence. Case studies showed cumulative and long-lasting impacts that occurred in contexts with significant differences between how women and men gain access to and control social, economic and political resources.

In 2009, a report by the UN Secretary-General identified five ways in which climate change may affect security and heighten the likelihood of conflict.⁷³ These include:

- The increasing vulnerability of populations, due to threats to food security and human health, as well as exposure to extreme events;
- The slowing down or reversal of development processes, undermining states' ability to maintain peace and stability;
- Coping strategies, including climate-induced migration, contributing to competition over resources;
- The disappearance of territory, with implications on rights, sovereignty, and security;
- Conflict over shared resources, whose availability may be impacted by climate change.

In July 2011, the UN Security Council debated the security implications of climate change. The debate resulted in a Presidential Statement (S/PRST/2011/15), which recognized the following three issues:

“The Security Council expresses its concern that possible adverse effects of climate change may, in the long run, aggravate certain existing threats to international peace and security. The Security Council expresses its concern that possible security implications of loss of territory of some States caused by sea-level rise may arise, in particular in small low-lying island States. The Security Council notes that in matters relating to the maintenance of international peace and security under its consideration, conflict analysis and contextual information on, inter alia, possible security implications of climate change is important, when such issues are drivers of conflict, represent a challenge to the implementation of Council mandates or endanger the process of consolidation of peace. In this regard, the Council requests the Secretary-General to ensure that his reporting to the Council contains such contextual information.”



Photo: UNEP, Sudan

3

FRAMEWORK FOR UNDERSTANDING DRIVERS OF CONFLICT OVER RENEWABLE RESOURCES

Conflicts over renewable resources are essentially political issues concerning: who should have access to and control over resources; whose views should count in identifying and prioritizing issues and problems; and, desirable management goals and rates of use. These key political questions can become sources of tension and division, based on the competing interests of different individuals, groups or countries. Such conflicts can occur at the local, national and transboundary levels as well as involve multiple stakeholders including communities, private sector actors, civil society organizations, local authorities and national governments.

However, conflicts are not in themselves a negative phenomenon. They can be an essential component of change and development. Non-violent resolution of conflicts is possible when the parties have trust in their governing structures and institutions to manage incompatible or competing interests. Conflict becomes problematic when mechanisms for managing and resolving them break down and give way to violence. Weak institutions, fragile political systems and divisive social relations can be drawn into cycles of conflict and violence. Preventing this negative spiral and ensuring the peaceful resolution of disputes is in the core interest of nations, societies and the international community.

The relationship between renewable resources and violent conflict is a complex one. Increasing scarcity of natural resources, poor resource governance, or transboundary dynamics and pressures are rarely, if ever, the sole cause of violent conflict. The causes of the violence vary greatly by country, with many countries experiencing a combination of security, socio-economic, and political tensions. These stresses may be internal (e.g. high inequality between groups, ethnic polarization, or political exclusion) or they

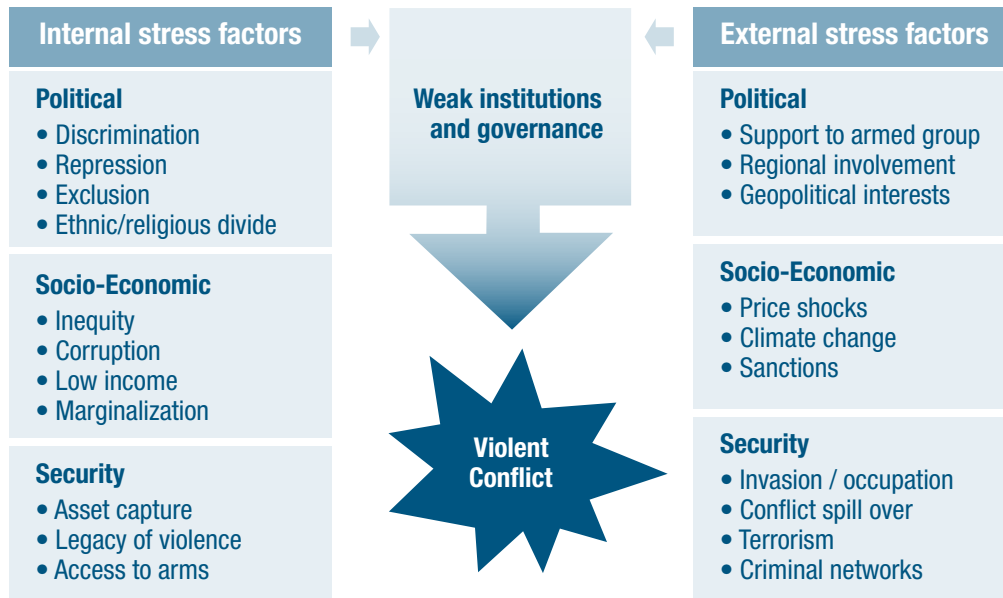
may be external (e.g. including global economic shocks, impacts of climate change, international drug trafficking, or the infiltration of foreign forces).⁷⁴ Strong institutions and good governance can prevent these stresses from escalating and leading to violence. However, when these stresses occur in societies with weak institutions and governance, violence is often the outcome (see Figure 1). Institutional reform is often difficult or impossible where violence is present. As a result, countries that fail to build legitimate institutions risk entering a vicious cycle of repeated violence and weak institutions.⁷⁵

A mixture of underlying causes and immediate events are often the triggers of violence.⁷⁶ Grievances over renewable natural resources can contribute to instability and violent conflict, when they overlap with other factors such as ethnic polarization, high levels of inequity, injustice and poor governance. In other words, it is particularly when conflicts over renewable resources drive, reinforce or further compound security, socio-economic, and political stresses that violent conflict may result (see Figure 2).

As mentioned in Section Two, climate change is not a direct source of conflict, but rather exacerbates resource scarcity and existing vulnerabilities. Climate change is usually presented as a threat multiplier, overstressing societies' adaptive capacities, weakening the institutional capacity of states to resolve conflict through peaceful and democratic means, and creating or exacerbating political instability. This is particularly so in conditions where state capacity to manage the ecological, social and economic impacts of climate change is limited (see Figure 3).

For more than twenty years, a rigorous research agenda by scholars from a range of disciplines has

Figure 1: Internal and external stress factors that contribute to violent conflict when combined with weak institutions and governance. Conflicts over renewable resources can drive, reinforce or compound any of these stress factors⁷⁷



examined and debated the role played by natural resources in contributing to violent conflict. The themes have evolved and enlarged, and the various views are still consolidating. The main challenge has been separating the distinct role played by natural resources in contributing to violent conflict from other more direct and visible conflict drivers. In practice, the contribution played by natural resources almost always blurs with other drivers, with the effect that it becomes extremely difficult to attribute particular conflict dynamics to increasing scarcity of natural resources, poor resource governance or transboundary dynamics.⁷⁸ While it is possible to identify particular instances in which renewable resource availability and conflict may be correlated, the deeper question is how they are linked, and what are the specific transmission mechanisms through which increasing scarcity of renewable resources or grievances over their governance can lead to conflict.⁷⁹ This question is further explored in this section of this Guidance Note.

In broad terms, it is generally understood that conflicts are caused by disputes between parties involving one or more of the following root causes⁸⁰ :

- **Beliefs:** Different principles, values and ideologies on what is right or wrong and how the world should be organized;
- **Interests:** Competition between different users to capture or protect specific resources;
- **Information:** Relates to the level of common understanding of the issue, including the lack of/ relevance of/interpretation of or assessment of information;
- **Relationships:** Poor communication, misunderstandings, conflict history and lack of trust between the parties; and,
- **Procedures:** Types of decision-making procedures and concerns about the fairness of their outcomes.

Figure 2: Conflicts over renewable natural resources drive, reinforce or compound other stress factors.

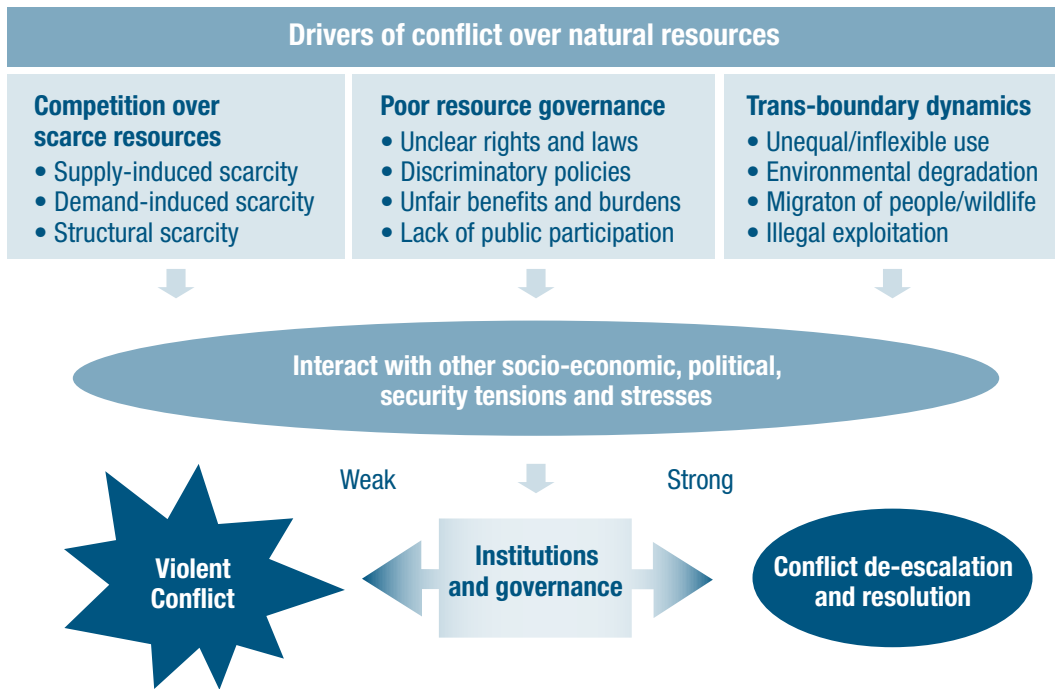
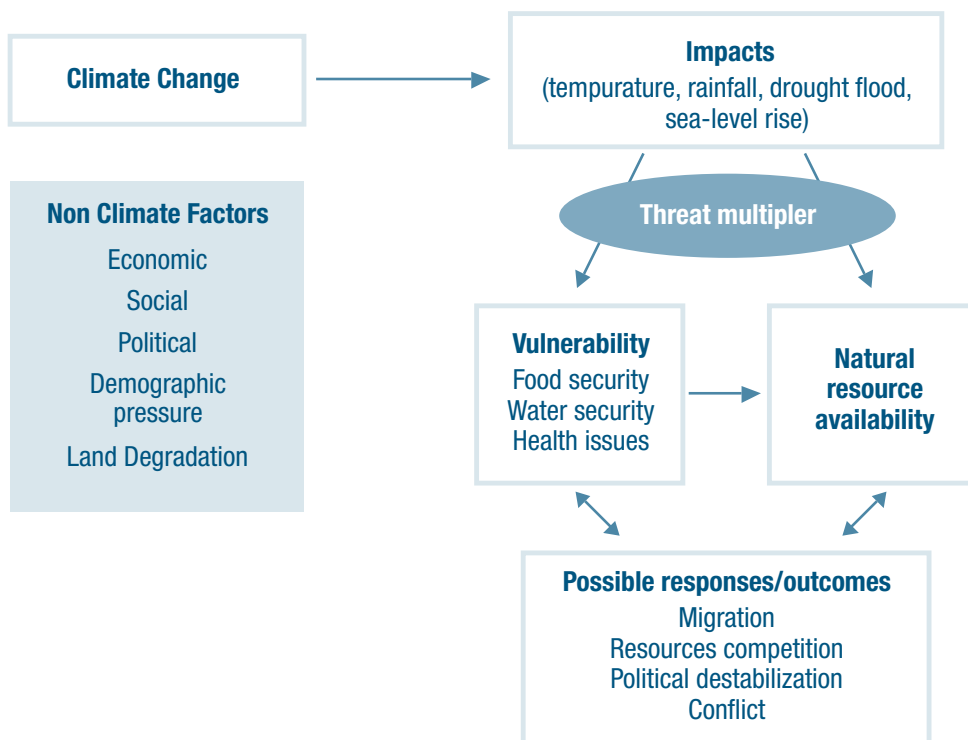


Figure 3: Climate change acts as a threat multiplier on the availability of natural resources and existing vulnerabilities.

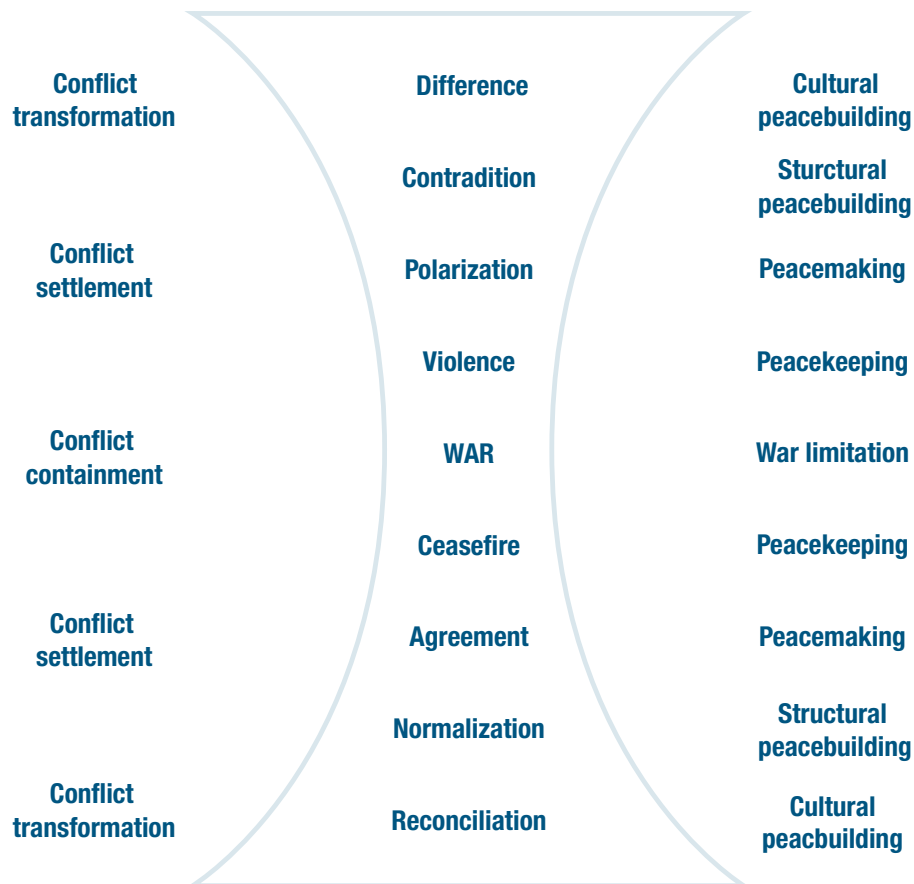


While competing interests or opposing beliefs may lie at the heart of any conflict, these also interact with the level of available information, the previous conflict history, level of trust between the parties, and the prevailing system of decision-making. In this regard, it is critical to understand that conflicts are only partly about the nature of the dispute, and are as much about the relationships between the disputing parties, their conflict history, and the broader political, economic and social context in which they are situated.⁸¹ In general, the resolution of a specific conflict will be more durable where it is based on the consensus of the parties combined with a legitimate process and less durable where it is based on the exercise of power by one party over another.

Many writers have recognized the dynamic nature of conflict and the limitations of a static analysis in explaining the interplay between the various drivers and dimensions.^{82,83} At a basic level, conflicts are understood to pass through a number of successive phases as depicted in Figure 4.

This model is highly simplified. Actual conflicts usually do not follow a linear path. Rather, they evolve in more haphazardly, alternatively experiencing progress and setbacks toward resolution. Cooperation and conflict can actually co-exist and oscillate over time, which makes the peacebuilding process quite complex.⁸⁵

Figure 4: The hourglass model: Conflict containment, conflict settlement and conflict transformation⁸⁴



The goal of conflict transformation efforts is to pursue non-violent social change - in other words, to transform destructive conflicts into constructive ones.⁸⁶ In conflict transformation work, preventing violence, not conflict, is the overarching aim.⁸⁷

Fragile states, defined by their failure to deliver security and basic services to their citizens, suffer from a complex array of weaknesses — in economic management, political legitimacy, regulatory quality, social inclusion, and institutional effectiveness. These weaknesses can lead to violent conflict, but the precise mechanisms are frequently underexplored. Fragile states are a major focus for conflict prevention and transformation efforts.⁸⁸

While this background is useful to understand the nature of conflict, this Guidance Note has identified three main drivers of conflict over natural resources in order to provide a more practical and focused approach for UN and EU practitioners. These three drivers are based on existing academic theory, combined with UN and EU field experiences, assessments and case studies. These drivers, working alone or in combination, have been important factors in contributing to violent conflict when acting alongside other socio-economic, political and security stresses. The existence of one or more of these drivers is essential to consider when designing effective conflict prevention programmes:

- Driver 1. Competition over increasingly scarce renewable resources;
- Driver 2. Poor governance of renewable natural resources and the environment; and,
- Driver 3. Transboundary natural resource dynamics and pressures.

Each of these drivers of conflict over natural resources is explored in more detail in this section. Although conflicts over renewable natural resources can occur at many different levels, this Guidance Note focuses on conflicts over natural resources at the local, sub-national, national and transboundary levels that may inter-act with larger political, economic or security stress factors and vulnerabilities.

3.1 Driver 1: Competition over increasingly scarce renewable resources

The concept of “resource scarcity” describes a situation where the supply of renewable resources – such as water, forests, rangelands and croplands – is not sufficient to meet the local demand. Increasing scarcity of renewable natural resources needed to sustain livelihoods can increase competition between user groups or between economic sectors. Social responses to rising competition can include migration, technological innovation, cooperation and violent conflict. There are three main causes for increasing resource scarcity working separately or in combination:⁸⁹

The first cause of resource scarcity is known as “**demand-induced scarcity**”. This arises when demand for a specific renewable resource increases and cannot be met by the existing supply. While a resource such as water or cropland may initially meet all local needs, population growth, increases in consumption rates, and/or the use of new technologies can reduce the per capita availability of the resource over time. This dynamic was first described in the 1800’s by Thomas Malthus who observed that, throughout history, societies have experienced epidemics, famines, or wars that often reflect the fundamental problem of populations overstressing their resource limitations.⁹⁰

The second cause of resource scarcity is known as “**supply-induced scarcity**”. This occurs when environmental degradation, natural variation or a breakdown in delivery infrastructure constrains or reduces the total supply of a specific resource. As the supply of natural resources is reduced, options for pursuing productive livelihood strategies are undermined, creating competition between livelihood groups that are difficult to resolve.

Degradation of renewable resources can be caused by a number of factors, including pollution from industrial practices, agricultural run-off, and inadequate waste management. Violent conflicts themselves also cause environmental degradation, either from direct bomb damage and destruction, the legacy of landmines and unexploded ordinance,

or indirectly from coping mechanisms and survival strategies used by local people. The strategies adopted when livelihoods are threatened in times of conflict can lead to large-scale liquidation of natural resources, including forest products, fisheries, pastures, and wildlife. Sudden onset disasters such as hurricanes, earthquakes, floods and fires can also cause extensive environmental degradation.

Regardless of the cause of environmental degradation, per capita availability of critical resources declines as the overall supply decreases, which can result in increased competition between users as well as increased tensions. This is particularly the case when one user group causes degradation to the detriment of another.

CASE STUDY 1: Increasing scarcity of renewable resources as a contributing factor to violent conflict in Darfur⁹⁴

Sudan has been the theatre of armed conflict and civil unrest for more than half a century. In Darfur, recurrent drought, increasing demographic pressure and political marginalization are among the forces that have pushed the region into a spiral of lawlessness and violence that has led to over 300,000 deaths and the displacement of two million people since 2003.

While the causes of conflict in Darfur are complex and that many of them have little or no link to environment or natural resources, regional climate variability, water scarcity and the steady loss of fertile land have been found to be important underlying factors.⁹⁵ A study on the causes of conflict in Darfur from 1930 to 2000, for example, indicates that competition for pastoral land and water has been a driving force behind the majority of local confrontations for the last 70 years.^{96 97}

In recent decades, a marked increase in population density in the region has put pressure on the traditional sedentary and pastoralist livelihood systems, by increasing the demand for scarce natural resources such as water and land. Population growth led to increased grazing pressure that contributed to reduced vegetation cover. This in turn deepened the desertification process affecting the region and led to a decrease of topsoil volume and quality.

In addition, the region has experienced a marked decline in rainfall – sixteen of the twenty driest years on record have occurred since 1972 – leading to failed harvests and a reduction of grazing lands.

Overall, the long-term increase in livestock density coupled with a reduction of rangeland area, accessibility and quality led to overgrazing and land degradation. This fostered violent competition between agriculturalists, nomads and pastoralists in a region where some 75 percent of the population are directly dependent on natural resources for their livelihoods.⁹⁸

The coping strategies of the Sudanese pastoralist societies include: (i) competing directly with other grazers for preferred areas of higher productivity; (ii) moving and grazing livestock on cropland without consent; and (iii) reducing competition by forcing other pastoralists and agriculturalists off previously shared land⁹⁹. Each of these strategies entailing a conflict risk for violence.¹⁰⁰

Until 1970, a well-documented history of local resolution for such conflicts, through established mediation and dispute resolution mechanisms, existed. Since then, however, legal reforms and decades of conflict have essentially destroyed many of these traditional structures and processes, and failed to provide a viable substitute. Thus, to support an overall peace process in the region, associated governance and dispute resolution mechanisms will be critically important in order to address resource scarcity and prevent conflict. Climate variability potentially linked to global warming will further compound water scarcity, soil infertility and competition over dwindling resources, making effective governance and early warning even more important.

Source: UNEP, 'Sudan Post-Conflict Environmental Assessment,' UNEP, Geneva, 2007.

Changes in the supply of renewable resources, in particular water, can also be caused by natural variation. Similarly, reduced supplies can also be caused by poorly maintained infrastructure, or a lack of infrastructure investment.

The third and final cause of increasing scarcity of renewable resources can be attributed to “**structural factors**”. This occurs when different groups in a society face unequal resource access. While structural scarcity can be caused by poor NRM (as described in driver 2), it can also exist even in a well-functioning governance structure, as the result of different land use decisions and tradeoffs. At the same time, it can also be caused by cultural practices as well as social and economic barriers. For example, in many regions of the world, women face restrictions in purchasing land, drilling water wells or harvesting resources. Similarly, poverty itself can act as a significant barrier to purchasing the equipment needed to access and exploit a natural resource.

Five key conditions influence the likelihood that increasingly scarce renewable resources will contribute to conflict:⁹¹

- The degree of absolute physical resource scarcity;
- The extent to which the scarce supply is shared by two or more groups/sectors/states;
- The relative power of those groups/sectors/states;
- The ease of access to alternative resources; and,
- The capacity to deploy coping mechanisms together with their expected duration.

In situations where two or more groups/sectors/states with unequal power face increasing resource scarcity, and have no access to alternatives, or to coping mechanisms, potential conflict hotspots can be identified.

When the supply of natural resources cannot meet local demand, a number of outcomes are possible. In many cases, the resource will simply be depleted and/or degraded by competing user groups, as each group struggles to maintain its livelihood. Aquifer exhaustion, deforestation, land degradation, and overfishing are common examples of this phenomenon. Degradation of the resource base further compounds resource scarcity, creating a negative downward spiral. Different livelihood groups may also begin a process of “resource capture” whereby each attempts to secure access to and/or control over key natural resources to the exclusion of other users.⁹²

The possible consequences of increased scarcity of renewable resources include growing insecurity as livelihoods become less resilient and poverty becomes more entrenched on the one hand, and migration, economic decline and civil unrest as a result on the other. Where these tensions interact with other stress factors, they can contribute to violence.

There are a number of violent conflicts where increasing scarcity of renewable natural resources and competition between livelihood and/or ethnic groups has been identified as important underlying drivers. For example, UNEP’s post-conflict environmental assessment in Sudan found that regional climate variability, water scarcity and the steady loss of fertile land were important underlying factors for the conflict in Darfur (see Case Study 1).⁹³ Other UNEP assessments have also identified rising scarcity of renewable resources as a major development concern and source of rising tension. Case Study 2 discusses rising land and water scarcity in Rwanda while Case Study 3 focuses on the drivers of water scarcity in the Gaza Strip.

CASE STUDY 2: The challenge of rising land and water scarcity in Rwanda¹⁰¹

UNEP's assessment in Rwanda found that high population pressures and acute land scarcity in rural areas have resulted in land fragmentation, which in turn has led to over-cultivation and overgrazing, exacerbating Rwanda's chronic soil erosion problem. As a result, severe land scarcity, land degradation and very low productivity are the principal constraints on future growth. Furthermore, despite its abundant water resources, Rwanda experiences water scarcities due to inadequate and inefficient supply networks, which limit access to water. Currently, only 71 percent of the Rwandan population has access to safe drinking water supplies. Per capita water availability at 610 m³ per year in 2005 is well below the international limit of water scarcity at 1,000 m³ per year. However, the UNEP report emphasizes that growing water scarcity is not absolute, given the country's substantial water resource base. Rwanda's water predicament can be readily tackled with an appropriate combination of governance, technological, ecosystem restoration and market-based responses.

Source: UNEP, 'Rwanda - From Post-Conflict to Environmentally Sustainable Development,' UNEP, Geneva, 2011.

CASE STUDY 3: Increasing water scarcity in the Gaza Strip driven by demand and supply factors¹⁰²

The availability of freshwater has also long been a challenge for the Gaza Strip, which is one of the most densely populated areas in the world. UNEP's assessment found that on the one hand, demand-induced water scarcity has been driven by rising population levels and increasing demands for drinking and irrigation. With a population growth rate of approximately 3.8 percent, the population has steadily risen from 1,022,207 in 1997 to 1,416,543 in 2007, an increase of nearly 40 percent on a total area of 378 square kilometers.¹⁰³ As a result, over pumping of the Coastal Aquifer, which stretches from Israel in the north to Egypt to the southwest, is estimated to be 130-150 percent over the sustainable yield. This has resulted in saltwater intrusion into the aquifer, with 70 percent of the water now estimated to be contaminated with brackish salt water.¹⁰⁴ On the other hand, supply-induced scarcity has been caused by a combination of conflict, a lack of wastewater treatment, leakages within the distribution network, and heavy use of fertilizers and pesticides for agriculture.¹⁰⁵

Prior to the escalation of hostilities in December 2008 and January 2009, the people of the Gaza Strip received only half of the water needed to meet international standards. WHO noted that 80 percent of this water did not meet international drinking water standards. The destruction of wells, tanks and distribution networks for water supply and sewage during the hostilities, as well as the blockade that Israel has placed on the Gaza Strip since January 2009, preventing tools, cement, and other basic supplies from reaching the population, have further challenged an already dire situation.¹⁰⁶ Reducing water scarcity and addressing sustainable water management will be a critical component of any long-term peacebuilding process in the region.

Source: UNEP, 'Environmental Assessment of the Gaza Strip, Following the Escalation of Hostilities in December 2008-January 2009,' UNEP, Geneva, 2009.

3.2 Driver 2: Poor governance of renewable natural resources and the environment

Governance of renewable natural resources and the environment refers to the institutions, policies and processes that are established to regulate their management, ownership, allocation, use and protection. Resource rights and related laws determine who can use what resources, for how long, and under what conditions.¹⁰⁷ Understanding the NRM framework in a country can provide critical insights into why conflicts over renewable resources occur, and how specific grievances may be addressed. In general terms, there are four types of grievances generated by poor resource and environmental governance.

First, unclear, overlapping or poor enforcement of resource rights and laws: In many countries, land and renewable natural resources are regulated under a combination of statutory, customary, informal and religious forms of tenure. Disagreements regarding these ‘rules’ as well as uncertainty over resource rights are often at the heart of conflict. The ‘rules’ of resource governance vary from country to country, and even within countries. In many countries in the global South, it is common to find renewable natural resources, including land, regulated under statutory, customary, informal and religious forms of tenure. In many cases, conflicts occur either because specific groups have no rights to the resources on which they depend for their livelihood, or no feasible way to exercise the rights they do have. Similarly, conflict can occur when institutional jurisdictions, mandates or resource management laws are unclear, overlapping or contradictory. A lack of state capacity to extend its presence and authority into rural areas in order to enforce laws and resolve disputes is often a key cause of poor NRM. Likewise, a lack of understanding and insufficient consideration of customary law by the State can exacerbate tensions.

Second, discriminatory policies, rights and laws that marginalize specific groups: When one group controls access to renewable resources to the detriment of others, natural resource-dependent

communities are often marginalized. Violence can occur as individuals and groups seek greater or more fair and equitable access to key resources. The struggle for increased equity can become linked to the recognition of identity, status and political rights, making conflict resolution even more difficult. As discussed above, this can be a key factor causing structural scarcity.

While restricted or unequal access to renewable natural resources by different livelihood groups is a driver of resource scarcity, it can also be a source of conflict when linked to grievances around equity, fairness and justice. In other words, it isn’t only increasing scarcity and competition between groups that can drive conflict, it can also be the sense of injustice, inequity and marginalization when access to resources is unequal or restricted.

When the control of key renewable resources is concentrated in the hands of a single group to the detriment of others, resource-dependent individuals and communities can become marginalized. Violence can occur as marginalized groups seek greater or more equitable access to resources. The struggle for resource access can also become linked to identity, status and political rights, making conflict resolution an even greater challenge. Discriminatory policies are often more important conflict drivers than resource scarcity itself, just as the way that people deal with limited resources may be the cause of confrontation, and not the scarcity per se.¹⁰⁸

Third, unequal distribution of benefits and burdens from development projects: Extractive industries, industrial sites or major infrastructure projects can provide multiple benefits to local communities as well as seriously degrade, exhaust or pollute renewable natural resources and become a major source of grievance. The environmental impacts of development projects can create tensions if communities are not compensated for the damage and do not receive a share of the development benefits, financial or otherwise. In other words, grievances are caused when the burdens of development exceed the benefits. Major grievances can also occur if specific renewable resources that have important cultural, spiritual or religious

CASE STUDY 4: Overlapping resource rights and discriminatory policies as a contributing factor to violent conflict in the highlands of Afghanistan¹¹¹

In the high pastures of the central province of Bamyan, Afghanistan a century-old conflict opposes the settled Hazara (population 4 million) and the nomadic Kuchi (population 2.4 million). In a region unsuitable for most agricultural practices, the Hazara are dependent on high-elevation grazing land to support livestock and to supply the firewood needed to complement the meager profits of farming. At the same time, Kuchi nomads seek access to the grasses of the highlands during the summer months for grazing their animals. Access to the high pastures is essential to the survival of both the Hazara and the Kuchi and has become a source of violent conflict between the two groups.

The conflict can be traced back to the 1890s, when the Kuchi were rewarded for their service in the anticolonial battles that created Afghanistan. The Kuchi were given complete control of the Hazara region. While use of the lowland areas suitable to farming were restored to the settled Hazara in the 1920s, this group remained oppressed through most of the 20th century. From the late 1970s however, war in Afghanistan created a complicated and fluid pattern of control, where the legal claims of the Kuchi and the historical claims of the Hazara mattered less than the ability of each to violently seize a given pasture for a given season. By 2001, after decades of struggle and the fall of the Taliban regime, the Hazara were in complete control of the region, and the Kuchi were shut out of the grazing lands needed for the maintenance of their livelihood.

Starting in 2004, the dispute between the two groups intensified with violent incidents erupting in the Nawur, Jaghuri, Behud I, Besud II and Day Mirdad districts. In 2005, a national survey was conducted among the 124,000 Kuchi households to determine the level of access they had to grazing areas in the central highlands. A total of 41 percent reported that they were unable to do so or at least unable to move to their preferred summer area (51,000 Kuchi households). This was due to frustrated access to pastures in Faryab, Saripul, Ghor, Bamyan, Wardak and Ghazni – all but Faryab being within the central highlands/Hazarajat.

The main reasons cited by Kuchi were: (i) the attitude of local commanders (41 percent); (ii) the attitude of resident populations (17 percent); and (iii) the loss of pasture through conversion of those pastures or parts thereof to farmland (13 percent). Overall 37 percent of Kuchi in the survey stated that they had conflicts of one kind or another with local populations regarding access to summer pastures.

There is little doubt that the Kuchi-Hazara dispute has already reached a dangerous level. Already in 2008 political leaders were voicing concern that civil war could begin in areas which have so far not been directly involved in the fight against Taliban insurgents. Hazara leaders meeting in June, and again in July 2008, condemned Kuchi incursions, reiterated their ownership of the pastures of Hazarajat and urged the Government and the international community to disarm the Kuchi. Accusations that the Kuchi are being directly armed by the Taliban (or even the Pakistan intelligence forces) are rife. On their side, Kuchi accuse Hazara of looking to Iran for assistance, Hazara sharing the Shia faith with Iranians. Hazara acknowledge they need to arm themselves to protect against anticipated new attacks by Kuchi this year, but deny Iran is assisting.

There is increasing concern that the dispute has the potential to develop into a wider conflict, with both sides arming and resorting to violence. Based on these risks, a number of international organizations, including the FAO, USAID, UNEP, the World Bank and the Norwegian Refugee Council, have been working alongside local stakeholders to help prevent and resolve conflicts over these pastures.

Source: UNEP, 'Recommended Strategy for Conflict Resolution of Competing High Pasture Claims of Settled and Nomadic Communities in Afghanistan', UNEP, Kabul, 2009.

CASE STUDY 5: Environmental degradation and violent conflict in Bougainville

The case of copper mining in Bougainville illustrates the role that resource degradation from pollution can play in the destabilization of a community, resulting in conflict. The copper-rich island came under exploitation in the 1960s, by the international company Bougainville Copper Ltd, which operated the Panguna mine. The operation of this mine became central to the violent uprising and civil conflict that took place between 1988-1997, which left 70,000 people displaced and led to the island receiving a degree of political autonomy.¹¹²

Hostilities began soon after operations started as profits from the mining were not adequately shared with the local community and the mine operations impacted the health of the environment. Heavy pollution from mining operations contaminated the Jaba River, as well as the land and sea. Furthermore, the lack of benefit-sharing agreements caused grievances between the residents and the mining company, particularly with respect to landowners who claimed to be receiving minimal royalties from the company.¹¹³

After several decades of discord between the mining company, its supporters in government, and the local population, the Bougainville Revolutionary Army (BRA) emerged, with the ultimate goal of seeking independence from Papua New Guinea. Violence was one of the strategies used by the BRA to express discontent with the mining companies and the Government officials who allowed these practices to go on unregulated. The Panguna mine was shut down in 1989, following a series of violent actions on the mine and its employees, while efforts towards secession continued with violence until a cease-fire was reached in 1997. Although a peace agreement was signed in 2001, the Panguna mine has not re-opened as the parties cannot reach an agreement on addressing the environmental legacy from previous mining operations, preventing new damage and sharing future revenues.

Source: Böge, Volker, 'Bougainville: A Classical Environmental Conflict?' Occasional Paper No. 3, Environment and Conflicts Project (ENCOP), Bern, Switzerland, October 1992; Conciliation Resources, Accord, No. 12/2002, special issue on 'Weaving Consensus: The Papua New Guinea-Bougainville Peace Process'. (<http://www.c-r.org/accord/boug/accord12/index.shtml>).

meaning are damaged. Such grievances can become highly emotive because they impact upon a people's way of life, or their perception of entitlement or lifestyle. They are also often represented as "David" vs. "Goliath" contests whereby communities are exploited and taken advantage of by larger private or public sector interests.¹⁰⁹

Fourth and finally, lack of public participation and transparency in decision-making: Natural resource policies and interventions are often made by the state, in conjunction with private sector actors, without the active participation of affected communities or sufficient transparency and consultation with stakeholders. Where communities and stakeholders are poorly engaged or excluded from the decision-making process over renewable natural resources, they are likely to oppose any related decisions and outcomes. Lost access to key resources, eviction without compensation or sudden price increases for renewable resources such as water, can lead

to significant tensions between the affected communities, the government and the private sector.

There are numerous examples whereby poor governance of natural resources and the environment have triggered grievances that have contributed to the outbreak of violence and to wider political conflicts. For example, overlapping resource rights and discriminatory policies are a major source of inter-ethnic conflict in the central highlands of Afghanistan. A UNEP assessment found that increasing violence between the settled Hazara and the nomadic Kuchi is partially linked to overlapping legal rights held by the Kuchi and historical rights held by the Hazara. Both sides are restricting the access of the other through the use of force, each claiming to be the legitimate rights' holders.¹¹⁰ Case Study 4 provides further information on this on-going conflict, and how it could potentially play into the wider conflict dynamics in the country.

Extensive damage to renewable natural resources combined with inequitable wealth-sharing has been an important driver - alongside other factors - in a number of conflicts that have resulted in violence. Case Study 5 illustrates how environmental degradation coupled with a lack of benefit-sharing contributed to violent conflict in Bougainville, Papua New Guinea. Case Study 6 demonstrates how extensive oil contamination and environmental degradation combined with a lack of benefit-sharing

has caused longstanding tensions and conflicts between local communities, the government and oil operators in Ogoniland, Nigeria. Finally, lack of public participation in decision-making over the allocation or pricing of renewable resources such as water has also been an important factor in social unrest. Case Study 7 describes how water privatization and changes in pricing without community consultation in Cochabamba, Bolivia led to public protests and violence.

CASE STUDY 6: Environmental degradation and conflict in Ogoniland, Nigeria¹¹⁴

The case of oil contamination in the Ogoniland region of the Niger delta is another example whereby extensive and severe environmental pollution from oil extraction and transport is a major source of conflict between local communities, Government authorities and the main oil operator. Covering around 1,000 km² in Rivers State, Ogoniland has been the site of oil industry operations since the late 1950s. The region has a tragic history of pollution from oil spills, oil well fires and oil theft coupled with artisanal refining by residents. As a result, this region has a history of tensions and conflicts between people, government agencies and the oil industry characterized by a lack of trust, paralysis and blame, set against increasing poverty of local communities and increasingly degraded natural resources including land, mangroves, drinking water and fisheries.

After decades of negotiations, recriminations, initiatives and protests, the parties to the conflict have failed to agree on how to address the legacy of oil contamination. In an effort to overcome this impasse, UNEP was requested to act as a third party and “honest broker” in conducting the first independent and scientific assessment of the oil contamination. The assessment aimed to establish a common and objective information base, identify urgent risks and clean-up needs, and inform the conflict resolution process.

UNEP's field observations and scientific investigations found that oil contamination in Ogoniland is widespread and severely impacting many components of the environment and local livelihoods. Even though the oil industry is no longer active in Ogoniland due to the on-going conflict, oil spills continue to occur with alarming regularity. Remote sensing revealed the rapid proliferation in the past two years of artisanal refining, whereby crude oil is distilled in makeshift facilities. The study found that this illegal activity is endangering lives and causing pockets of environmental devastation in Ogoniland and neighboring areas. The assessment also found that overlapping authorities and responsibilities between ministries and a lack of resources within key agencies has serious implications for environmental management on the ground, including enforcement of the legal framework for environmental protection.

The study concluded that the environmental restoration of Ogoniland is possible but may take 25 to 30 years. An Environmental Restoration Fund for Ogoniland should be set up with an initial capital injection of US \$1 billion contributed by the oil industry and the Government. The Fund should be used for activities concerning the environmental restoration of Ogoniland, including capacity-building, skills transfer and conflict resolution. The UNEP report was endorsed by all sides of the dispute, and is serving as an important catalyst towards conflict resolution and clean-up.

UNEP has also been requested to help take forward the clean-up process by continuing to act as a trusted third party in resolving the dispute and establishing a foundation for more sustainable resource management.

Source: UNEP, ‘Environmental Assessment of Ogoniland,’ UNEP, Geneva, 2011.

CASE STUDY 7: Water privatization and pricing without community consultation in Cochabamba, Bolivia¹¹⁵

Cochabamba lies in a semi-desert region of Bolivia, making water a scarce and precious resource. In 1998, the International Monetary Fund (IMF) approved a \$138 million loan for Bolivia to help the country control inflation and bolster economic growth. In compliance with IMF “structural reforms” for the nation, Bolivia agreed to sell off all remaining public enterprises including Cochabamba’s local water agency, Servicio Municipal del Agua Potable y Alcantarillado (SENIAPA).¹¹⁶

In October 1999, the Bolivian Congress passed the Drinking Water and Sanitation Law, allowing privatization and ending Government subsidies to municipal utilities. After closed-door negotiations, the Bolivian Government signed a \$2.5 billion contract to hand over Cochabamba’s municipal water system to Aguas del Tunari, a multinational consortium of private investors, including a subsidiary of the Bechtel Corporation. Aguas del Tunari was the sole bidder for the privatization of Cochabamba’s water system. The contract covered 40-year concession rights to provide water and sanitation services to the residents of Cochabamba.¹¹⁷

Soon after Aguas del Tunari took over the water services in Cochabamba, claims surfaced that water rates in that city went up an average of about 50 percent and that even the collection of rainwater was being made illegal as a result of the privatization contract. Workers living on the local minimum wage of US \$60 per month suddenly had to pay US \$15 for the water bill. These increases forced some of the poorest families to choose between food and water.¹¹⁸

In response to these price increases, an alliance of the citizens of Cochabamba called La Coordinadora de Defensa del Agua y de la Vida (the Coalition in Defense of Water and Life) was established in January 2000. Through mass mobilization, the alliance shut down the city for four days. Within a month of this, millions of Bolivians marched to Cochabamba and held a general strike, stopping all transportation. The protesters then issued the Cochabamba Declaration, which called for the protection of universal water rights for all citizens.¹¹⁹

In response to this public outcry, the Bolivian government promised to reverse the price hike. They never did. As a result, in February 2000, La Coordinadora organized a peaceful march demanding the retraction of the Drinking Water and Sanitation Law, the termination of the water contract, the participation of citizens in creating a water resource law, and the cancellation of ordinances allowing privatization. The following April, the Government declared martial law to try and silence the water protests. Activists were arrested, protesters were killed, and the media was censored. After only a day of martial law, three protesters had been killed. Over 30 people had been injured through conflicts with the military and the leaders had been jailed. After mounting pressure, on April 10, 2000 the Government finally revoked its water privatization legislation. In the summer of 2000, La Coordinadora held public hearings to start democratic planning and management.¹²⁰

Source: Shiva, V., *Water Wars: Privatization, Pollution and Profit*, South End Press, Cambridge, 2002.

3.3 Driver 3: Transboundary natural resource dynamics and pressures

The challenges of managing renewable natural resources often extend beyond national borders. This is particularly the case for water, wildlife, fisheries and air quality. Similarly, risks to renewable resources

from waste management, pollution, climate change and disasters are often transboundary in nature. While states have - in accordance with the UN Charter and the principles of international law - the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, they also have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states. Furthermore,

Principle 2 of the Rio Declaration refers to the issues of sharing in the use and management of resources that move across international borders. Yet, transboundary dynamics are often beyond the capacity of a single sovereign state to manage unilaterally, requiring cooperation and co-management with neighboring countries.

There are four main types of transboundary dynamics and pressures that can cause conflicts over renewable natural resources.

First, when transboundary natural resources such as water or fisheries are shared between countries, conflicts can arise when one country consumes the resource at higher rates than another, violates agreed allocations or demonstrates inflexibility when faced with natural variation. This is often linked to existing power and political economy dynamics, as well as with the bargaining power associated with their geographic location (upstream/downstream). Alternatively, a lack of sound data on resource consumption rates, quantity and quality can cause inaccurate perceptions leading to unfounded accusations.

Second, when the quality or quantity of transboundary natural resources, such as water, fisheries, wildlife and air, is negatively impacted in one country by infrastructure, industrial development or changes in land use in another country. In particular, pollution generated in one country can easily cross national borders, creating health risks in another. Similarly, changes in land use in one country, including high levels of deforestation and soil erosion, can heighten vulnerabilities to natural hazards in another.

Third, while national borders define the sovereign boundary of states, these are often not respected by pastoral livelihood groups that migrate on a seasonal basis along traditional routes, based on the availability of natural resources such as water and grazing land. Similarly, wildlife populations commonly migrate across national boundaries, shifting economic opportunities from one country to another. Both situations can be important sources of conflict as user groups are faced with increasing competition or lost livelihoods. In addition, this may

result in the loss of indigenous communities and their cultural and spiritual heritage.

Finally, one of the emerging threats to the natural resource base of countries comes from illicit activities and criminal groups operating on a global and transboundary basis. Illicit extraction and trade of natural resources deprives local communities of resource benefits and can lead to conflict. At the same time, pressures such as violent conflict, disasters or environmental degradation can be powerful incentives for people to migrate across borders, establishing new resource-dependent livelihoods in neighboring countries that fall outside of government regulation and control.

While the international community has adopted various conventions, declarations and legal statements concerning the management of transboundary natural resources, significant institutional gaps remain. In particular, effective joint management and monitoring structures, coordinated laws and policies, and mechanisms for enforcement and dispute resolution are lacking.

From a conflict risk perspective, transboundary water resources are especially important in this regard. At present, there are 263 rivers that either cross, or demarcate, international boundaries. To date, shared water resources have more often been the stimulus for co-operation than for conflict. Giordano and Wolf (2002) observe that “cooperative interactions between riparian states over the past fifty years have outnumbered conflictive interactions by more than two-to-one. Since 1948, the historical record documents only 37 incidents of acute conflicts (i.e., those involving violence) over water (30 of these events were between Israel and one or another of its neighbors, the last of which occurred in 1970), while during that same period, approximately 295 international water agreements were negotiated and signed.”¹²¹

However, there are important qualifiers to this finding. They go on to observe that “158 of the world’s 263 international basins lack any type of cooperative management framework”, and that “of the 106 basins with water institutions, approximately

CASE STUDY 8: Tensions over transboundary natural resources between Haiti and Dominican Republic¹²³

The degraded state of the environment and the increasing depletion of natural resources along the border zone of Haiti and the Dominican Republic are widely recognized as important factors in increasing disaster vulnerability and fuelling tensions between the two countries. This is being further compounded by illegal resource exploitation primarily by Haitians in the Dominican Republic. In particular, there are three key transboundary issues leading to increased tensions between the two countries and to calls to securitize the border region.

First, there is a thriving trade of charcoal illegally produced by Haitians in the Dominican Republic and sold to vendors in Haiti. This trade stems from the fact that 75 percent of energy demands in Haiti are met through firewood or charcoal, yet less than 3 percent of the country remains forested. This contrasts with the Dominican Republic which has undertaken careful measures to protect nearly 30 percent of its forest cover and to reduce the proportion of households using charcoal to 3.1 percent.

Second, many Haitian farmers also farm land on the Dominican side, either legally-through a *métayage*/tenant farming system or illegally, sometimes in Dominican protected areas or in areas clearly unsuitable for agricultural practices.

Third, in the northern part of the border, the main transboundary tensions and sources of community conflicts relate to depletion of fish stocks, mutual infringement on respective fishing waters and mangrove degradation by Haitians on both sides of the border.

The weak presence of Haitian Government authorities in isolated border areas is a major challenge. Indeed, in most part of the border, the presence of Haitian state structures is non-existent. The lack of a system of guards or surveillance mechanisms on the Haitian side to monitor illegal exploitation and trade of resources is an issue of concern.

To address this situation, UNEP is conducting an assessment of conflict risks and peacebuilding opportunities for transboundary natural resources between the two countries. UNEP aims to provide scientific and objective information on major trends and levels of degradation as an input to a bi-national dialogue and major reforestation programme on the Haitian side.

Source: UNEP, 'Haiti – Dominican Republic: Cooperation and Conflict over Natural Resources,' UNEP, Geneva, *In Press*.

two-thirds have three or more riparian states, yet less than 20 percent of the accompanying agreements are multilateral¹²². Even where trans-boundary management frameworks do exist, cooperation may still take place on an unequal basis, reflecting existing power and political economy dynamics. In addition, there is also the future effect of climate change to consider, which, as already noted, is likely to have particularly significant near-term impacts on water availability and predictability.

While rarely leading to violence, disputes over transboundary resources can sever relationships and undermine cooperative and coordinated

resource management between governments and between border communities. Furthermore, with increasing scarcity of vital resources such as fertile land and water, capturing and securing access to renewable resources is likely to provide an increasing motivation for violent conflict between states.

Since 2005, UNEP has been working to help countries resolve transboundary environmental disputes by providing a range of environmental diplomacy services. This includes: conducting objective and scientific assessments of transboundary natural resources; facilitating state to state discussions and providing a neutral platform for dialogue;

CASE STUDY 9: Unclear rights and transboundary pressures leading to conflict in the Central African Republic

On-going conflicts between farming and herding communities in northern Central African Republic (CAR) provides an example where a combination of poor NRM and transboundary pressures is leading to increase conflicts over pastures.

In this region, shared use of resources has historically been governed by a series of tacit or explicit understandings or tribal-level negotiation processes. However, as the number of herders has grown, traditional systems have broken down and tensions have increased. These tensions have been aggravated by unclear land use and resource access rights, notably in the eastern and northeastern parts of the country. The situation has been further compounded by transboundary livestock movements from Chad and Sudan, driven by conflict and prolonged drought in parts of the range. Foreign herds are reportedly larger and their owners better armed, facing little opposition from CAR security forces.

Conflicts over rights of passage, access to water, crop damage and poaching of local game have become more prevalent, leading to escalating violence. Children of Mbororo pastoralists have been kidnapped and held for ransom, with the result that the pastoralists have acquired more sophisticated arms in an effort to defend themselves. The settled agriculturalists have responded with similar measures. Clashes with the pastoralists have also led to a rise in the price of beef, making bush meat more economically attractive and further increasing the pressure on wild game. Pastoralists have also been accused of setting fires that have destroyed crops and chattels, and of overusing local wildlife resources.

Environmental and social changes have contributed to the growth of this problem. With aridity in the Sahel, including in southern Chad and Sudan, viable areas for dry season grazing have been diminished, pushing grazers into CAR's more temperate rangelands. Instability has also led to changes in seasonal migration patterns, with grazing areas cut off due to increasing banditry.

A UNEP field assessment from 2008 found that the increasing tensions between local and transboundary herding groups and sedentary farmers, and the lack of dispute resolution processes is "a time bomb waiting to explode" and a significant source of instability in the conflict-prone region.¹²⁴

Source: UNEP, 'Risks and Opportunities from Natural Resources and the Environment for Peacebuilding in the Central African Republic – Draft', UNEP Mission Report, Geneva, 2009.

assisting in the design of co-management plans and institutions; and, providing implementation support for resulting agreements.

For example, environmental diplomacy support has been provided to: Iran and Iraq to resolve tensions over the development and conservation of the transboundary Mesopotamian marshlands; to Iran and Afghanistan to address the degradation and co-management of the Sistan basin; to North and South Sudan to facilitate coordinated management; and, to the Palestinian Authority and Israel to address water and waste management issues. Case

Study 8 highlights UNEP's on-going environmental diplomacy support to Haiti and the Dominican Republic to assess the illegal exploitation of transboundary natural resources, including wood, mangroves, fertile land and fisheries, as well as to determine options to prevent conflict and enhance cooperation. Case Study 9 outlines some of the findings from a UNEP assessment in the Central African Republic, highlighting the challenge of transboundary pastoral groups. Finally, Case Study 10 summarizes the challenges associated with managing the transboundary waters of the Nile basin, shared by eleven countries.

CASE STUDY 10: The Nile Basin Initiative¹²⁵

Transboundary water management has evolved into a key diplomatic issue in the relations of the eleven countries that share the Nile Basin. Two international agreements (1929 and 1959) were arranged by Britain, and allocated the near totality of the Nile water shares to Egypt and Sudan. Neither agreement included, nor provided consideration to, the upstream countries. As such, the upstream countries have argued that these agreements do not apply to them and have demanded revision to the allocations. Projected population growth will only add to current pressures: Egypt's population is expected to grow from 83 million to close to 130 million by 2050, while Ethiopia's is projected to grow from 83 million to 174 million, and the combined population of North and South Sudan's from 42 million to 76 million. Climate change could further complicate this picture, particularly in Egypt, where models predict that higher temperatures and rise in sea level could pose a significant threat to the centre of the country's agricultural production, the Nile Delta, with a high potential to further aggravate existing tensions.

The Nile Basin Initiative (NBI) was formally established in 1999 as an effort to coordinate the management of the basin between the ten river basin states (now eleven, with the independence of South Sudan), and promote peace and security among its member states. This effort has had the support of the World Bank and several UN agencies. While several previous attempts had been made to develop cooperation in the basin, including those with foreign involvement, the NBI is the first initiative to include the participation of all basin states. The initiative, along with the transboundary dialogue and information sharing it facilitates, has continued since its inception, despite tensions among member states. It was further strengthened in 2005 with the launch of the Nile Basin Discourse, a network of civil society organizations that support and contribute to the development of the NBI.

The process surrounding the NBI has illustrated the importance of both formal and informal spaces to build trust among states, and the value of involving all levels of stakeholders in the dialogue process. While the efforts of more than ten years have been significant, the most challenging issues remain unaddressed, namely establishing new levels of allocation based on the changing demands, and reaching a shared agreement between all eleven countries. In 2010, five of the upstream states signed the "Nile River Basin Cooperative Framework" to seek a larger share of water from the basin, while Egypt and Sudan strongly opposed the agreement as it threatened the current allocations. The events that took place at this time led to an exchange of accusations between Addis Ababa and Cairo, as Ethiopia accused Egypt of using "delaying tactics" to draw out the negotiation, and Egypt retorted that the waters of the Nile are a question of "life or death".

The diplomatic tensions around the Nile are projected to continue given uncertainties in demographic growth, water availability, and most recently, political changes in Egypt and in the wake of the creation of the Republic of South Sudan in 2011. While these circumstances make definitive solutions difficult to reach, the need for continuous environmental diplomacy that includes the participation of all river basin states is necessary to find adequate and peaceful solutions to sharing the waters of the Nile.

Source: UNEP, 'Confrontation or Cooperation? Environmental Diplomacy for Conflict Prevention, Conflict Management and Peacebuilding,' UNEP, Geneva, *In Press*.

4

INTERVENTION FRAMEWORK FOR RENEWABLE NATURAL RESOURCES

The various ways that renewable natural resources can contribute to conflict are dynamic and synergistic. Unfortunately, practitioners do not usually have the opportunity to adopt a strictly preventative approach because in many cases the conflicts are already well entrenched. A systematic and pragmatic approach that capitalizes on the entry points that present themselves is, therefore, essential.

A basic approach for analyzing conflicts linked to natural resources and designing intervention strategies can be divided into three main components:¹²⁶ analysis of conflict, analysis of current responses, and the design of interventions that respond to the prevailing conflict causes and reflect the particular stage in the broader conflict cycle in which the interventions will be implemented (see Figure 5).

4.1 Analysis of conflict

There are already many assessment processes and development frameworks that are used by the UN and EU systems. Rather than creating an additional one, a more practical alternative is to add an explicit natural resource dimension into pre-existing ones. In fact, this process has already begun and both Post-Conflict Needs Assessments (PCNAs) and the assessments that contribute to the development and evaluation of UN Country Development Assistance Frameworks (UNDAFs) include natural resource and environmental dimensions. Conflict analysis toolkits for natural resources are listed in Annex 1. UNEP's *Conflict Analysis and Peacebuilding Toolkit on Natural Resources and Land* has also been designed by to provide further analytical and programming assistance.

Table 1 can be used to document and structure the outcomes of the conflict analysis on renewable natural resources.

4.2 Analysis of current responses and project risks

The UN and EU can make a significant contribution towards supporting thematic conflict prevention strategies as outlined in Section Five and the sector-specific strategies as outlined in Section Six. However, these efforts may be fruitless if other key parties and international actors are not contributing to a conflict prevention strategy in a coordinated, and constructive manner.

The UN and EU agencies may be in a position to advise and support other actors on the role that they can and should play in helping to prevent conflict over renewable resources from arising. As such, working with other parties to ensure they play their potential roles is a strategic conflict prevention opportunity, and a priority. This can range from coordinating and aligning their on-going work under a broader strategy, to considering how their interventions represent significant conflict risks or contribute to the peacebuilding agenda. At a minimum, any UN and EU programme should take into account the on-going activities being conducted by the following actors:

- Local and national governments;
- Regional initiatives;
- Donors and international financial institutions;
- National and international non-governmental organizations and civil society organizations; and,
- Private sector actors.

Table 2 can be used to document and structure the outcomes of the response analysis.

Table 1: Basic analytical framework for mapping resource conflicts, key actors, scale and interaction with other stress factors

CONFLICT DRIVER	CONTESTED RESOURCE (Water, rangelands, forests, fisheries, protected areas)	ROOT CAUSES (Beliefs, interests, information, relationships, procedures) relationships, procedures)	KEY ACTORS AND INTEREST (Communities, authorities, companies, NGOs, CSOs)	LEVEL OR SCALE OF THE CONFLICT (Local, subnational, national, regional, international)	INTERACTION WITH OTHER STRESS FACTORS (Political, socio-economic, security)
1. Increasing scarcity of renewable natural resources causing more competition between users: <ul style="list-style-type: none"> • Demand-induced scarcity • Supply-induced scarcity • Structural scarcity 					
2. Poor natural resources and environmental governance: <ul style="list-style-type: none"> • Overlapping rights and laws • Discriminatory policies • Unequal burdens and benefits • Lack of public participation 					
3. Transboundary dynamics and pressures: <ul style="list-style-type: none"> • Unequal or inflexible use • Environmental degradation • Migration of people/wildlife • Illegal exploitation of resources 					

Table 2: Mapping the current activities of key actors regarding conflict prevention, conflict mediation and resolution, and peacebuilding

ACTORS	CONFLICT PREVENTION	CONFLICT MEDIATION AND RESOLUTION	PEACEBUILDING	DEVELOPMENT
Local and national governments				
Regional initiatives				
Donors and international financial institutions				
National and international NGOs and CSOs				
Private sector actors				

4.3 Intervention design

Once the various conflict drivers over natural resources have been assessed, together with the on-going response, an intervention strategy needs to be designed and implemented, and the outcomes monitored. The strategies outlined in section five and six provide potential ideas to be considered when developing and fine-tuning a conflict prevention programme so as to increase capacity and the likelihood of success. Five key principles and lessons learned from the field in designing interventions include:

- Use experience and case studies to stimulate thinking rather than as a template for how interventions and results should be structured. Each situation is different and interventions need to be

tuned to the context at hand. Moreover, developing buy-in and ownership amongst the relevant parties is critical to success and their participation in intervention design sets the stage for this.

- Conflict prevention initiatives are frequently initiated by international organizations. Although external support for such interventions is often necessary, it also poses the risk of insufficient or superficial ownership by local stakeholders. External actors can encourage the sustainable management of natural resources, but only people engaged in and affected by a conflict can transform these efforts into sustained peace. Completing design work in isolation of the affected parties should be avoided. It is useful to have ideas on how interventions could be structured to discuss

with the parties and it will be counterproductive if these ideas appear to be inflexible. Many successful interventions are designed and implemented in partnership with some or all of the interested parties that can deliver support and credibility.

- In many communities, there are specific roles prescribed to gender in the management and use of natural resources. Men and boys are typically given roles that lead to large economic payoffs, where women and girls are limited to accessing natural resources for family consumption (and consequently low in profit). Because women and men have different sets of natural resource rights and responsibilities, and occupy different locations in the social and economic structure, they experience increasing resource scarcity differently. It is therefore crucial to consider the various issues that arise from the different roles, responsibilities and relationships of women and men to natural resources, as gender roles within a society affect equity, wealth, power and well-being.¹²⁷
- Expect unexpected events to disrupt work plans and search for ways to identify and capitalize on the opportunities that are created as a result. “Surprises” are the norm, not the exception. If the reaction to them is an inflexible reinforcement of the intervention approach, then the potential for failure will likely increase. The stakeholders involved in the situation usually have no choice but to adapt to constantly involving circumstances, needs and political conditions.
- One of the most useful ways to monitor the success of conflict prevention activities at the local level is by measuring the level of cooperation intensity between the parties. By monitoring a series of specific conflict and cooperation indicators, it is possible to objectively determine positive or negative trajectories in the strength of the relationship and the potential for violence. A listing of these indicators together with associated milestones is provided in Annex 3.

- As growing shares of aid resources, time and energy are devoted to conflict prevention programmes and strategies, more evidence is needed to assess the effectiveness of these endeavors. In this regard, the UN and EU should both promote and adopt the systematic use of evaluation for all conflict prevention work, and ensure the outcomes and lessons learned are considered in the design of new programmes.

4.4 Specific roles of the UN and EU in preventing conflicts over natural resources

While all conflict prevention programmes involving natural resources must be owned by national actors, there seven distinct roles that the UN and EU can be requested to play to support national governments and stakeholders:

- **Provide capacity-building support to governments and civil society on environmental governance, sustainable NRM and conflict resolution:** The UN and EU can provide technical advice and training to governments and civil society in building institutions, leadership, knowledge and accountability to address environmental governance, the sustainable management of natural resources and the prevention of conflicts over their use, allocation and control. The parties must acquire both technical capacities as well as the ability to resolve conflict in a non-violent manner. The UN and EU can build national capacity to ensure effective involvement of civil society is achieved in the development of national policies and laws on environment and natural resources, as well as in the approval of industrial sites, infrastructure projects and concession contracts between national authorities and private sector interests.
- **Act as an impartial actor and trusted third party in dispute resolution processes:** When stakeholders in a conflict over natural resource have lost confidence in government processes, the UN and EU are well placed to perform the function of an impartial actor and trusted

third party. This includes convening meetings of all parties and providing a neutral platform for dialogue, conducting impartial environmental and natural resources assessments aiming to establish a common information base, conducting direct mediation support, identifying mutual benefits, providing scenario analysis on sustainable management options, and helping to monitor the implementation of resulting agreements.

- **Provide early warning alerts when vulnerabilities and risks are detected from global or regional environmental monitoring programmes and assessments:** As an important input to conflict prevention programming, the UN and EU can provide early-warning information to national governments and stakeholders when significant vulnerabilities and risks are detected through global or regional environmental monitoring programmes and assessments. This can include information on rising scarcity of renewable resources, increased global demand for specific resources, threats from transboundary pollution, and risks from climate change and natural hazards. The UN and EU can help to include and elevate these risks on the political agenda and catalyze a national response.

- **Catalyze an international response to emerging resource conflicts and leverage financing:** Where emerging conflict risks over natural resources are identified, the UN and EU can seek to catalyze a common, coordinated and strategic international response together with sufficient financial resources and political will. The UN and EU can establish a coordinating forum for all international actors working on natural resources to share information, conduct strategic planning and agree on a division of responsibilities. At the same time, the UN and EU can ensure a conflict-sensitive approach regarding natural resources is adopted in all common programming instruments as well as infrastructure projects and climate change adaptation plans.
- **Broker transboundary cooperation and related agreements:** The UN and EU are uniquely placed to help countries establish mechanisms and institutions for sharing information on transboundary renewable resources, harmonizing laws and management approaches, resolving transboundary disputes, establishing co-management institutions and monitoring the implementation of agreements.



Photo: UNEP, Sudan

5

CONFLICT PREVENTION STRATEGIES

As described in the previous section of this Guidance Note, multiple factors interact to produce tensions and conflict around renewable natural resources. These include resource scarcity, poor governance of natural resources and the environment, and transboundary dynamics and pressures.^{128 129 130}

Conflict prevention refers to the set of approaches, methods and mechanisms used to avoid, minimize, resolve and contain conflict in order to prevent a further escalation to violence. Where natural resources are a direct source of conflict, or a contributing factor in a larger conflict context, prevention strategies must take into account the complex inter-relationships between causes, potential impacts and possible interventions. The way that conflicts over natural resources become politicized within the broader conflict and political context is also essential to consider.

In all cases, conflicts over renewable resources interact with existing political, socio-economic and security tensions and stress factors, requiring a response on multiple levels, including technical, political and institutional responses. In other words, there is no “quick fix” to the problem. The “technical side” of NRM cannot be addressed in isolation from the institutional and governance aspects, which together are the main determinants of how users relate to each other, and how competing interests are resolved.¹³¹ Appropriate interventions depend on the mix of conflict drivers, underlying vulnerabilities, livelihood responses, political processes, existing governance capacities and the level of conflict intensity.

This section focuses on providing a general framework for designing programs and response strategies for preventing conflicts over renewable natural resources.

While every country will have specific needs, any conflict prevention programme must consider four main objectives and supporting interventions:

Objective 1. Reduce competition between livelihood groups over scarce resources: When resource scarcity is causing increasing competition between livelihood groups, two linked conflict prevention strategies need to be pursued:

- Support sustainable livelihoods and reduce vulnerability to resource scarcity; and,
- Increase the availability of scarce renewable resources and stop degradation.

Objective 2. Improve resource governance, accountability and dispute resolution capacity:

In parallel with measures aimed at securing livelihoods and increasing resource availability, governance, accountability and dispute resolution capacity must also be addressed. Two interventions are required:

- Establish a framework and capacity for good resource governance; and,
- Strengthen capacity of civil society to engage in governance processes

Objective 3. Improve transboundary management institutions and cooperation: As many renewable natural resources do not respect national borders, it is also essential to improve transboundary management institutions and cooperation. This requires one main type of intervention:

- Establish or strengthen transboundary information, resource-sharing agreements, joint institutions, and dispute resolution processes.

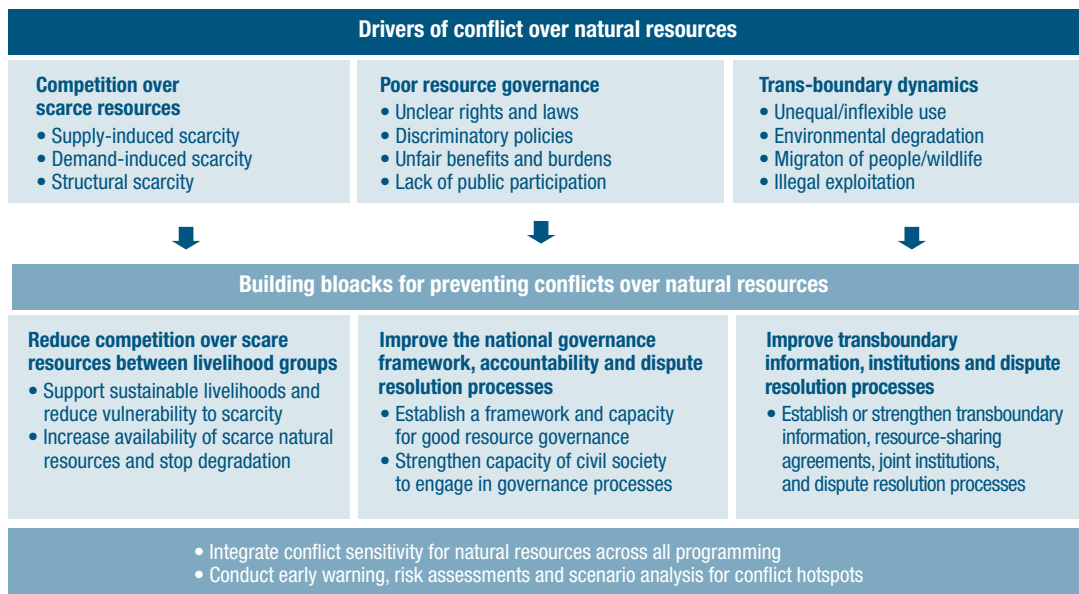
Objective 4. Implement crosscutting measures across all programmes: In addition to the above measures, two crosscutting activities must also be conducted as part of conflict prevention strategies:

- Integrate conflict sensitivity for natural resources across all programming; and,

- Conduct early warning, risk assessments and scenario analysis for conflict hotspots.

Each of the main activities listed above are covered in more detail in the following sections.

Figure 5: Strategies for preventing conflicts over renewable natural resources typically cover a blend of four main objectives and associated interventions

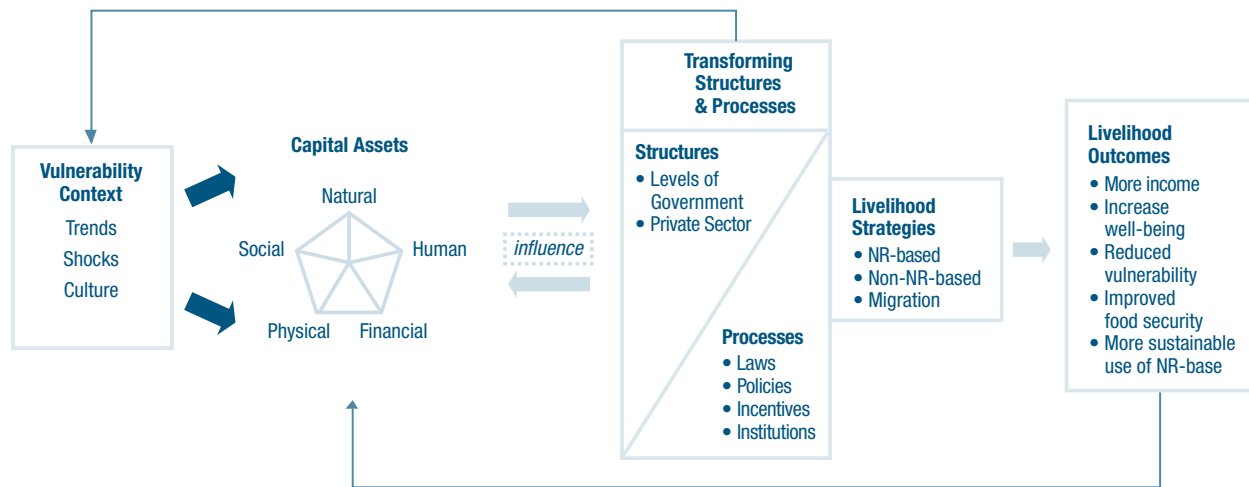


5.1 Support sustainable livelihoods and reduce vulnerability to resource scarcity

The sustainable livelihoods framework (see Figure 6) has been adopted by a number of UN agencies¹³² and donors¹³³ to understand how to reduce poverty at the household level. It is a way of putting people at the centre of development, thereby increasing the effectiveness of development assistance. At the same time, the sustainable livelihoods framework is also a method to understand how livelihood strategies in a specific area compete for the same limited resources, together with the social assets and institutions that are available to prevent conflict.

The sustainable livelihoods framework can be used to inform conflict prevention programmes in three main ways.^{134 135} First, it can help practitioners understand how changes in the availability of specific natural resources, including from the impacts of natural hazards and climate change, can impact livelihoods and lead to competition. Second, it can help identify the social assets, coping mechanisms and institutions that are utilized to respond to shocks and resolve disputes over scarce resources. Third, the livelihoods framework can help to identify specific interventions that can be undertaken to expand livelihood opportunities, reduce vulnerabilities from increasing resource scarcity, and provide access to dispute resolution. A major strength of the approach is that it does not perceive people as vulnerable and helpless, but as dynamic actors able to adapt to trends and cope with shocks.

Figure 6: Sustainable livelihoods framework¹³⁶



Livelihoods are the capabilities, assets and activities required to make a living. In other words, livelihoods are the means by which households access the assets necessary to ensure their immediate and long-term survival. These essential resources can be categorized into six types of assets: physical, natural, human, financial, social, and political. Households use these assets for survival, but also to increase their ability to withstand shocks and to manage risks that threaten their well-being; as such, the level of assets determines how resilient an individual or community is to external stress.¹³⁷

Livelihood strategies may be divided into natural resource-based activities (e.g. collection and gathering, cultivation, livestock-rearing, weaving) and non-natural resource-based activities (e.g. trade, services, remittances). Livelihoods are sustainable when they are resilient in the face of external shocks and stresses; they are not dependent upon external support (or if they are, this support itself is economically and institutionally sustainable); they maintain the long-term productivity of natural resources; and they do not undermine the livelihoods of, or compromise the livelihood options open to, others.¹³⁸

In practical terms, when early-warning programmes or environmental risk assessments detect declining trends in the availability of specific renewable resources such as water or land, a rapid livelihood analysis should be conducted in the area of concern. In particular, the following questions should be answered:

- Which groups are the most at risk from declining resource access?
- How many different groups are competing for the scarce resource?
- What livelihood alternatives do they have?
- What forms of power does each group hold?
- How will each group likely assert this power?
- What social assets, institutions and dispute resolution mechanisms are available?

This analysis should help practitioners gain a deeper understanding of the potential forces that can drive conflict and violence over natural resources at the livelihood level in order to develop more strategic, focused, and effective interventions. Providing support to help stabilize livelihoods and reduce vulnerabilities can help people move away from conflict and/or prevent spillover into wider political struggles.

The sustainable livelihoods approach does not offer a simple solution to the challenge of declining resource access and availability. However, it represents a useful approach to thinking through the problem, by providing a framework that facilitates coherent and structured discussion of differing perspectives. It draws attention to: the assets people have rather than what they do not have; the cross-sectoral nature of livelihood strategies; to the vulnerability context; and to the role of policies, processes and institutions. By encouraging local people to think about a broad range of livelihood outcomes, potential conflicts can be explicitly discussed and prevented.

There are five basic approaches that can be used to increase livelihood opportunities and reduce vulnerability to resource scarcity:

- **First**, livelihood diversification aims for livelihoods to become increasingly: a) multi-sectoral, including agricultural and non-agricultural work; b) multi-locational, including on-farm, at home, and off-farm (including in towns and cities), and c) multi-occupational, including self-employment and working for others. The basic approach with diversification is to make livelihoods less dependent on a single scarce resource in order to reduce vulnerability to reductions in supply.¹³⁹
- **Second**, improving the efficiency of resource-dependent livelihoods and the amount of value-added to raw goods. This involves two main measures: a) improving the level of production of resource-dependent livelihoods (e.g., through agricultural extension, inputs, technologies); and b) adding more value to existing resources and raw goods (e.g., processing and manufacturing) at each stage in the value-chain.¹⁴⁰
- **Third**, livelihood adaptation programmes aim to adapt livelihoods to declines in resource availability from climate change and disasters. In areas where livelihoods are likely to be affected by long-term climate change, adaptation support is essential to prevent livelihood failure. For farming livelihoods, this can include: seasonal changes; using different varieties or species; augmenting water supply and irrigation systems; using

alternative inputs (fertilizer, tillage methods, grain drying, and other field operations); forest fire management; promotion of agro-forestry; adaptive management with suitable species; and, silviculture practices.¹⁴¹

- **Fourth**, in regions where time does not permit livelihood diversification, efficiency improvements or adaptation, the focus should be on protecting livelihoods and preventing the erosion or destruction of livelihood assets, including natural capital. This generally includes: support to food security; income and employment support; market support; and, production support. It tries to prevent coping strategies involving the liquidation of natural capital by providing immediate alternative measures.¹⁴²
- **Finally**, emergency livelihood support can be provided when livelihoods begin failing. This usually comprises standard life-saving interventions, including general food distribution and selective feeding programs, as well as public health interventions such as water provision, sanitation, shelter and health care.¹⁴³

Key roles the UN and EU can play to increase livelihood opportunities and reduce vulnerability to resource scarcity:

- **Adopt a sustainable livelihoods approach for all programming:** A livelihoods approach identifies programmes based on the priorities and goals defined by people themselves that support their own livelihoods strategies. It builds on people's strengths, aims to help people become less vulnerable and more resilient to the impact of shocks. Livelihoods programming recognizes multiple influences on people at different levels, and seeks to understand the relationships between these influences and their joint impact upon livelihoods. It acknowledges the multiple livelihood strategies that people adopt to protect and secure their livelihoods, multiple livelihood outcomes, and the potential for competing livelihood strategies. This is particularly important in situations where competition for access to resources may increase.

- **Livelihood vulnerability assessments:** Livelihood vulnerability assessments analyze the present quantity and quality of resources, resource management institutions, socio-economic conditions, livelihood dependency and their sensitivity to resource scarcity, climatic variations and natural hazards. Vulnerability assessment is a starting point to lay the foundation for more detailed assessment of resources, infrastructure and livelihoods at-risk and is a means to target the most vulnerable populations and regions. Livelihood vulnerability assessments should be used as a critical input to any livelihood support programme as well as conflict prevention strategy.
- **Provide targeted livelihood support measures:** Where livelihoods are vulnerable to resource scarcity, it is possible to design livelihood support programmes that can reduce conflict risks. There are five basic approaches that can be used by the UN and EU to reduce the vulnerability of livelihoods to resource scarcity: a) livelihood diversification; b) livelihood productivity; c) livelihood adaptation to climate change and disaster risk; d) livelihood protection; e) emergency livelihood support.
- **Increase capacity for local level mediation:** A number of activities can be undertaken by the UN and EU at the national and local levels to increase the number and capacity of local level

CASE STUDY 11: Supporting sustainable livelihoods and reducing vulnerability to resource scarcity in Darfur

Based on the causes of conflict in Darfur (see Case Study 1), livelihood recovery and adaptation programmes must place natural resources at the center of their strategies.

Within the framework of its Integrated Environmental Recovery Programme for Sudan, UNEP has developed a number of initiatives aimed at supporting Darfuri communities to cope with environmental degradation, natural resource scarcity and climate change. Examples include:

- Assessing the sustainability of livelihoods and vulnerability to resource scarcity. The programme also seeks to identify and reverse the adoption of “maladaptive” livelihood coping strategies, i.e. livelihood activities generated by the conflict that are unsustainable or have negative impacts on the livelihoods of others.
- Improving monitoring and analysis of trade and markets in Darfur to understand how conflict affects livelihoods. This includes training and mentoring the Darfur Development and Reconstruction Agency in quantitative and qualitative market monitoring, as well as undertaking demand-driven action research on livestock and cash crops to help identify how best to support livelihoods, economic recovery and peacebuilding.
- Integrating support to both urban and rural livelihoods programming into a forestry programme (e.g. processing fruits in towns for export);
- Integrating water harvesting, crop production, range management, animal production, forestry and horticulture into the National Adaptation Plan of Action for Climate Change (NAPA) project for South Darfur;
- Adopting integrated livelihood approaches such as addressing water and forestry together with catchment management programmes;
- Using integrated water resource management to rebuild social relationships and trust between communities, livelihood groups and levels of government;
- Building on traditional dispute resolution mechanisms to address overlapping claims to land and water; and,
- Promoting in-depth understanding of pastoralist livelihoods among decision makers in Sudan, and strengthening the capacity of pastoralist leaders, professionals and other stakeholders to reflect pastoralism in national policies, programmes and peace processes.

Source: <http://www.unep.org/sudan/>

mediators to address natural resource disputes between and among livelihood groups. The overall aim is to increase the number of skilled individuals available to assist communities in resolving disputes over natural resources through mediation.

- **Preventative diplomacy and mediation between livelihood groups:** By understanding livelihood strategies and assessing the impact on minorities and indigenous people in a specific area, particularly where livelihoods compete for the same limited resources, it is possible to identify hotspots and engage in preventative diplomacy measures. These measures include: establishing local-level mediation capacity; providing platforms for dialogue and information-sharing between - and strategically using - shared natural resources as a platform for cooperation and trust building. Where these measures fail, and competition between groups evolves into open conflict, the UN and EU can provide mediation support either directly or through third parties.

Cased Study 11 highlights different activities undertaken by UNEP to support sustainable livelihoods and reduce vulnerability to resource scarcity in Darfur. Key toolkits, policy reports and guidance materials on increasing livelihood opportunities and reducing livelihood vulnerability to environmental shocks and resource scarcity are listed in Annex 1.3.

5.2 Increase the availability and stop degradation of scarce renewable resources

In parallel with increasing livelihood opportunities and decreasing vulnerability, it may also be essential to increase the availability of scarce renewable resources and stop degradation. These measures help to prevent conflict by reducing scarcity and competition. The aim is to focus on addressing the quality, quantity and availability of renewable natural resources in order to better balance supply and demand pressures. If more resources are made available, there is less incentive to compete and less opportunity for violence. In general, there are three basic management measures that can be taken to increase resource availability:

- **First**, supply-side interventions focus on increasing the overall supply of, or access to, renewable resources. This involves four main techniques: a) increasing the supply of resources through improved infrastructure such as desalination plants, irrigation canals, or rainwater harvesting; b) protecting ecosystem services and ensuring sustainable rates of use; c) restoring degraded landscapes and resources to productive capacity; and d) arresting sources of pollution, over use and degradation. Supply-side approaches are often more capital-intensive than other approaches, and often take longer to implement. In addition, one of the key challenges in restoring degraded ecosystems or arresting pollution relates to stopping the degrading behavior long enough for regeneration and increases in supplies to occur.¹⁴⁴
- **Second**, demand-side strategies focus on improving the efficiency of resource use and reducing the per capita rate of consumption. This involves three main techniques: a) changing consumption practices through education and retraining; b) adopting new and more efficient technologies; c) using market-based approaches including subsidies and taxes to incentivize specific investments or changes in behavior. The basic goal of demand-side strategies is to reduce the amount of resources such as water or fossil fuels used to produce each unit of output. If the per capita rate of consumption can be reduced, the availability per capita rises.¹⁴⁵
- **Third**, in some cases it is possible to substitute scarce renewable resources with alternatives. For example, timber used to meet shelter needs can be substituted with alternative building materials such as sun-dried bricks. Changing fuel types for cooking (e.g. using liquefied petroleum gas) can alleviate dependence on wood. Electricity produced from fossil fuels can be replaced with renewable energies, such as micro-hydroelectric, solar, or wind projects. Contaminated drinking water can be replaced on a temporary basis by imported bottle water.¹⁴⁶

Key roles the UN and EU can play in increasing the availability of renewable resources and stopping degradation include:

- **Invest in restoration of natural resources and ecosystems:** Identify environment and natural resource restoration projects that have a direct impact on increasing the supply of natural resources where competitive pressures are mounting. Specific projects could include: reforestation, soil stabilization, river and wetland restoration, fisheries and wildlife restocking, and watershed management. Restoration programmes can also provide short-term employment opportunities and be used as a temporary measure for livelihood support.
 - **Invest in infrastructure:** Build and/or improve infrastructure that can reduce resource loss and degradation or increase resource availability and access. Options include adopting lined irrigation canals for agriculture, desalination, wastewater treatment, pollution control measures, or rural electrification.
 - **Remediate environmental hotspots to protect environmental quality:** Contamination of the environment from pollution, chemicals, and hazardous waste can be a significant threat to life and health. Identifying and remediating environmental hotspots as a component of supply-side strategies should be a priority.
 - **Support demand-side management strategies:** Provide technical expertise to identify appropriate demand-side strategies. This includes investment in best management practices and technologies to increase resource efficiency, as well as re-training, promoting market-based approaches including taxes and subsidies, and identifying options for reuse and recycling.
 - **Promote payments for ecosystem services as a method to regulate demand:** Payment for Ecosystem Services (PES) is an emerging approach that could help improve the management of renewable resources by giving them clear market value, and compensating users for lost economic opportunities from alternative land uses. The UN and EU should help countries explore further opportunities for PES while also ensuring a conflict-sensitive approach is adopted in terms of benefits-sharing, dispute resolution and mitigating potential impacts to resource-dependant livelihoods and communities.
 - **Adopt a green economy framework:** The UN and EU can help countries adopt and promote a green economy which results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.¹⁴⁷ A green economy is one whose growth in income and employment is driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services. These investments need to be catalyzed and supported by targeted public expenditure, policy reforms and regulation changes. This development path should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and source of public benefits, especially for poor people whose livelihoods and security depend strongly on natural resources.
 - **Identify alternatives to scarce resources:** Find low-cost alternatives to traditional resources to help minimize resource stress. Micro-hydroelectric, solar, and wind can serve as renewable sources of energy. Changing fuel types for cooking (e.g. using liquefied petroleum gas) can alleviate dependence on wood. Interventions such as these can be integrated into rural development programmes.
 - **Climate change vulnerability assessments and adaptation programmes:** The potential implications of climate change on the distribution and availability of key renewable resources together with an analysis of livelihood and economic vulnerability should be assessed at the national or regional level. Potential conflict hotspots should be identified and adaptation programmes should include conflict prevention over natural resources.
- Case Study 12 highlights a number of demand and supply-side measures that are being used to address water scarcity in the Middle East and North Africa. Case Study 13 shows how the restoration of the Iraqi marshlands was undertaken as a key element of livelihood support. Key toolkits, policy reports and guidance materials on increasing the availability of renewable resources and stopping degradation include are listed in Annex 1.2

CASE STUDY 12: Demand and supply-side measures for addressing water scarcity in the Middle East and North Africa

The Middle East and North Africa (MENA) is recognized as one of the most water-scarce regions in the world. It is home to 6.3 percent of the global population, but only has 1.4 percent of the world's freshwater.¹⁴⁸ Further adding to the challenge is the rate of population growth, which doubled between 1970 and 2001 and continues to grow at an annual rate of two percent. Meeting demand for water for both domestic and agricultural needs will put further pressure on an already water-stressed region.

To address increasing water scarcity, a number of supply- and demand-side options have been implemented in the region. Demand-side options have included more efficient technologies, such as the adoption of drip irrigation systems. Israel is a world leader in the application of drip irrigation technology, which has helped double food production over the last 20 years with no increase in water consumption.¹⁴⁹ In Jordan, economic tools such as water pricing have created more incentive for water conservation. Educational campaigns to encourage greater conservation in Tunisia and Jordan have drawn on community involvement to disseminate information and promote the adoption of small technologies to improve water efficiency at the household level. Additional demand-side strategies include reallocating water away from agriculture to the domestic sector and shifting to less water-intensive crops.

Supply-side interventions are also prevalent in the region. Rainwater harvesting, which is perhaps the most widely used, is an ancient form of augmenting supply whereby water is collected from roofs and stored in cisterns or dry ponds. This has been heavily relied upon across the region, and in particular in the Gaza Strip and the West Bank, Jordan, and Egypt. Reusing water, both wastewater and grey water, has been used in Israel and Tunisia to irrigate fruit trees and certain crops, as well as for large landscaping projects such as golf courses. Desalination is also being used, particularly in the oil-rich Gulf States. Currently, these countries generate 60 percent of the world's desalination capacity.¹⁵⁰ This high cost of desalination makes this a less feasible option in poorer states in the region. Desalination is, however, being incorporated into the water strategies of Jordan and Yemen, where small household desalination units are encouraged.¹⁵¹

Source: UNDP, 'Water Scarcity Challenges in the Middle East and North Africa', Human Development Report Office, Occasional Paper, Stockholm International Water Institute, 2006, (<http://hdr.undp.org/en/reports/global/hdr2006/papers/siwi2.pdf>).

CASE STUDY 13: Restoration of the Iraqi marshlands to rebuild livelihoods

The Iraqi Marshlands, located at the confluence of the Tigris and Euphrates Rivers, are the largest wetland ecosystem in the Middle East. These wetlands are vital to local residents who depend on them for farming, fishing, raising buffalo and collecting reeds for crafts and construction. However, large infrastructure projects and water diversions upstream resulted in an estimated 90 percent of the Marshlands being destroyed by 2001.¹⁵² The ecological damage to the area resulted in the displacement of most of its residents, and the region was identified in post-conflict assessments as a major environmental and humanitarian disaster. In 2004, UNEP began a project entitled "Support for Environmental Management of the Iraqi Marshlands" to address environmental needs in the Marshlands, which included addressing water quality and management in order to protect human and ecosystem health, improving livelihoods, and providing safe drinking water and sanitation.

UNEP, along with organizations from Italy, Canada and the US, has worked closely with Iraqi authorities, regional governorates and local communities to support wetlands restoration and to support sustainable livelihoods for the remaining residents. Specific projects have included technical support, particularly in water and sanitation, training in integrated resource management, education of women and health, and promotion of best management practices relating to resource use. The restoration of the Marshlands is recognized as playing a critical role in both local and national development, and is closely tied to the improvement of livelihoods in the region.

Source: UNEP, 'The Mesopotamian Marshlands : Demise of an Ecosystem,' UNEP, Geneva, 2001.

5.3 Establish a framework and capacity for good resource governance

Governance is the means by which societies define goals and priorities, and advance cooperation towards their achievement. Environment and natural resource laws, institutions, policies and processes are the principal ways in which societies attempt to balance the need to maintain healthy ecosystems and renewable natural resources with the demands to exploit the goods and services offered by these systems and natural assets.

Good governance – the key aspects of which are accountability, the rule of law, transparency, equity and participation – is an important, if not crucial, aspect of sustainable development and NRM. Furthermore, issues of ‘good governance’ and the political processes and institutions through which people cooperate to solve common environmental and economic problems are critical aspects of conflict prevention. Robust laws, institutions, policies and processes can help reduce the vulnerability of populations to renewable resource scarcity, resolve disputes between competing interests and prevent conflicts over resource access, ownership, control and management.

It is impossible to prescribe ideal forms of institutions, policies and processes that could effectively manage natural resources and systematically resolve disputes. Given that conflicts over renewable natural resources are highly context-dependent, no two governance solutions are ever the same. However, as discussed in section three, four main governance challenges often lie at the root of conflicts over natural resources. These include:

- Unclear, overlapping or poor enforcement of resource rights and laws;
- Discriminatory policies, rights and laws that marginalize specific groups;
- Unequal distribution of benefits and burdens from development projects; and,
- Lack of public participation and transparency in decision-making.

As a result, improving the basic governance of renewable natural resources to prevent conflict generally involves five types of interventions:

- **First**, there must be legal and institutional changes to clarify resource rights, responsibilities, laws and institutional mandates. This includes clearly recognizing and respecting the rights of poor and marginalized people who are directly dependent on natural resources. It is also critically important to addressing overlapping systems of resource tenure including statutory, customary and religious systems, and to provide clarity on when different regimes apply. A major component of such reforms will also include building capacity for implementation and enforcement of the legal framework, extending state presence into rural areas, as well as monitoring the quality and quantity of the natural resource base. This should go hand in hand with resolving conflicting interests over competing land uses for forested areas and wetlands such as agriculture, protected areas, mining or other extraction and human settlements.¹⁵³
- **Second**, at the national level, equitable resource access should be a priority of public policy and one of the outcomes of development programmes. This should include assessing the level of inequitable access to renewable resources and how it relates to socio-economic inequality, poverty and livelihood vulnerability. Based on this analysis, public policies and measures should be adopted to improve equitable resource access linked to sustainable livelihoods and poverty reduction. These may require specific actions to address gender disparities.¹⁵⁴
- **Third**, an important component of any legal framework should include a requirement for conducting environmental and social impact assessments for all major development projects, including infrastructure, industrial sites, and major extractive industries. They should specifically assess the distribution of environmental and social burdens as well as benefits from a specific project on/for an affected community, and consider potential conflict risks. Permits should be tied

to performance, and independent monitoring systems should be established for compliance. Impact assessments should be conducted in a transparent way involving key stakeholders and made publically available.¹⁵⁵

- **Fourth**, another critical component of improved resource governance is to increase opportunities and requirements for public participation in decision-making and resource management. Community-based and collaborative management approaches are often used as a solution. This involves joint decision-making over natural resource access and use by key stakeholders including government, communities, NGOs and the private sector. The parties negotiate, define and guarantee among themselves the sharing of management functions, entitlements and responsibilities for a given territory or set of natural resources. Although individual stakeholders may have different interests, the fundamental assumption is that sharing authority and decision-making will enhance the process of NRM, making it more responsive to users and less conflict prone. The process of decentralization and the underlying concept of subsidiarity offer important opportunities to improve political stability and empower local communities. Improved participation in decision-making is also closely linked to building better linkages and trust between local communities, informal institutions and government authorities.¹⁵⁶
- **Finally**, even where resource rights are clarified, environmental and social impact assessments are conducted, and public participation in decision-making is enhanced, unexpected impacts on renewable resources can emerge as a normal part of the development process. In this regard, any governance framework must include clear access to justice mechanisms and clearly defined processes for addressing local-level grievances and disputes through judicial (e.g. courts) and non-judicial (e.g. dispute resolution) means. In this regard, the legal framework should provide clear guidance on the substantive, procedural, and evidentiary rules for judicial and non-judicial forms of dispute resolution, together

with clarity on the relationship between higher and lower levels of government and their associated dispute resolution processes. Local level grievance mechanisms should also be adopted at the company and project level as an initial resolution mechanism.¹⁵⁷

Project-level grievance mechanisms are a distinct form of non-judicial mechanisms. This refers to a process used by companies to receive, evaluate, and address grievances from affected communities at the level of a specific project.¹⁵⁸ Project-level grievance mechanisms offer an immediate local level mechanism, while recognizing the right of complainants to take their grievances to higher-level dispute resolution processes if needed.¹⁵⁹ The importance of including project-level grievance mechanisms as the first approach to addressing natural resource disputes and preventing their escalation has increasingly been recognized by a number of international organizations and the private sector.¹⁶⁰ However, more efforts are needed in the design of effective grievance mechanism, the sharing of lessons learned, and in building the capacity of communities and stakeholders to use them.

In summary, conflicts over natural resources can be effectively prevented through improving resource governance by: directly addressing inequitable access; establishing and enforcing rights and rules over natural resource use; fostering parliamentary oversight; enhancing the collective participation in the design and acceptance of such rules; ensuring the transparent identification of any potential social and environmental impacts from development projects; and, establishing mechanisms for the continuous resolution of diverging demands, grievances and disputes.

Key roles the UN and EU can play in helping national governments to strengthen governance mechanisms in renewable resource management include:

- **Assess how current resource laws, policies, processes and institutions are contributing to conflict:** The first component of any programme to strengthen governance over natural resources is to help government counterparts conduct an analysis of the existing laws, policies, processes and institutions that shape renewable resource management practices, rights and claims. This

should include a detailed analysis of the various stakeholders involved per resource sector, the formal and informal mechanisms for dispute resolution including grievance mechanisms, and the use of political power to restrict resource access. The main overlaps, gaps and needs for clarification should be identified.

- ▶ **Promote the adoption of good governance principles that are consistent with the Natural Resource Charter:** One mechanism for countries to signal their insistence on good governance is to announce their intention to comply with internationally recognized best practices. The twelve precepts of the Natural Resource Charter¹⁶¹ are a good starting point for the UN and EU to promote in national level policies.
- ▶ **Promote the adoption of the Voluntary Guidelines on Governance of Tenure of Land, Fisheries and Forests in the context of National Food Security:** These Voluntary Guidelines are intended to assist states, civil society and the private sector in improving the governance of tenure, and thus contribute to alleviating hunger and poverty, empowering the poor and vulnerable, enhancing the environment, supporting national and local economic development, and reforming public administration. The Voluntary Guidelines set out principles and internationally accepted standards for responsible practices. They provide a framework that states can use when developing their own strategies, policies, legislation and programmes. They allow government authorities, the private sector, civil society and citizens to judge whether their proposed actions and the actions of others constitute acceptable practices.¹⁶²
- ▶ **Identify existing and potential conflict hotspots over natural resources:** Given the politicization of information, the UN and EU are well placed to conduct impartial environmental and natural resource assessments aiming to identify existing and potential conflict hotspots over natural resources. This information can help to provide a clearer picture of the resource situation, and needs for conflict prevention and resolution assistance.
- ▶ **Clarify resource rights and competing systems of resource tenure:** Help authorities initiate a national public process to clarify resource rights for all users and determine when different tenure regimes apply (statutory, customary and religious). Once stakeholders agree, it is important to reflect these rights in national laws and establish mechanisms for access to justice in case where rights are violated. It is equally important to build public awareness on resource rights and dispute resolution processes.
- ▶ **Clarify and harmonize environment and resource management laws:** Help authorities to initiate a public reform process to clarify and harmonize natural resource policies, legislation and institutional mandates across sectors and levels of government. This process should help to reduce overlap, provide legal certainty, extend state authority, recognize rights and support access to justice.
- ▶ **Provide support to extend state authority, services and rule of law:** In many cases, poor resource governance and illegal exploitation is caused by insufficient presence of the state in rural areas, poor services and the absence of rule of law. Providing assistance to build and staff local level offices, provide minimum services and establish other visible signs of government authority can help reduce illegal activities.
- ▶ **Local and national capacity-building:** Provide best practices and build capacity of local and national authorities together with key stakeholders and civil society in the development, implementation and enforcement of environment and NRM laws.
- ▶ **Facilitate and encourage public participation in decision-making:** Ensure that formal opportunities exist for local stakeholders to participate in major decisions on natural resource allocation, use, and management. Use UN and EU projects and programmes to give stakeholders experience in participating in decision-making processes.

- **Make environmental and social impact assessment a standard requirement of all development projects:** Environmental and social impact assessment refers to the systematic examination of the likely environmental and social consequences of proposed projects. The overall goal is to achieve better developmental interventions through protecting the environment (human, physical and biological components) and preventing adverse social consequences. Environmental and social impact assessments should be a standard legal requirement for all projects supported by the UN and EU, and potential conflict risks should be fully considered.
- **Identify risks and opportunities for decentralization and community-based natural resource management (CBNRM):** CBNRM aims to achieve both sustainable environmental management and community development through the use of participatory processes, decentralized decision-making and local practices. However, it can also reinforce existing power structures, exclude women from decision-making processes, and lead to unsustainable management practices. If governments decide on decentralization and community-based resource management schemes, and UN and EU should support the analysis of potential risks and opportunities.
- **Help design grievance mechanisms based on the latest best practice:** The Special Representative of the UN Secretary-General on Business and Human Rights, Professor John Ruggie, has identified seven effectiveness criteria for grievance mechanisms.¹⁶³ Ideally, the UN and EU should promote these seven mechanisms when project-level grievance mechanisms are established using UN or EU technical support or financing.
- **Understand risks and vulnerabilities to climate change and natural hazards:** The UN and EU can help countries and stakeholders to collectively identify risks and vulnerabilities to climate change and natural hazards together with implications for natural resource availability

and resource competition. This covers climate variability, including short-term (extreme weather) and long-term events (trends in seasonal and annual variations), as well as other natural hazards. Climate and disaster-vulnerable livelihoods should be identified, especially where increasing scarcity of natural resources could trigger competition between livelihood groups.

Case Studies 14 and 15 highlight UNEP's efforts to rebuild the environmental and natural resource governance framework of Afghanistan and Sierra Leone respectively. Key toolkits, policy reports and guidance materials on improving the governance of natural resources from a conflict prevention perspective are listed in Annex 1.4.

5.4 Strengthen capacity of civil society to engage in governance processes

An organized civil society is an imperative condition for, and an expression of, democracy. It is an intermediary between state and society and a key element of good governance. It is not an alternative to the state but it complements its activities.¹⁶⁶

Civil Society Organizations (CSOs) refer to any organization that works in the arena between the household, the private sector, and the state, to negotiate matters of public concern.¹⁶⁷ CSOs include a wide range of institutions and operate at many different levels, including the global, regional, national and local. Civil society includes advocacy groups, NGOs, research institutes, think-tanks, community groups, trade unions, academic institutions, parts of the media, professional associations, and faith-based institutions.¹⁶⁸ The main CSO functions in development are:¹⁶⁹

- Representation (organizations that aggregate citizen voice);
- Advocacy (organizations that lobby on particular issues);
- Technical inputs (organizations that provide information and advice);

CASE STUDY 14: UNEP's capacity and institution-building programme for environment and natural resources in Afghanistan¹⁶⁴

The UNEP post-conflict environmental assessment revealed the severity of Afghanistan's environmental degradation, and warned of a future without water, forests, wildlife or clean air if these issues were not addressed in reconstruction efforts. The assessment report contained 163 recommendations covering environmental legislation and enforcement, capacity-building, job creation, planning, environmental impact assessment procedures, industry and trade, public participation and education, and participation in international environmental agreements.

The report also offered recommendations in relation to water supply, waste, hazardous wastes and chemicals, woodlands and forests, energy, air quality, wildlife and protected areas, desertification, and food and agricultural resources. It also identified concrete actions to rehabilitate specific urban and rural sites.

In 2002, three essential elements for environmental recovery and the management of natural resources were altogether lacking: structure, laws and capacity. As a result, a capacity and institution-building programme was established consisting of three main elements:

- **Structure:** Afghanistan had no governmental structure or institution dedicated to environmental concerns or sustainable resource management. The new government filled this void by creating a specific department to oversee the conservation of the environment and the sustainable development of Afghanistan's natural resources. UNEP agreed to help train new staff and build the new institution from the ground up. The European Union and the Government of Finland offered to fund this ambitious project. UNEP thus helped mould and develop what was to become the National Environmental Protection Agency (NEPA).
- **Law:** Afghanistan almost entirely lacked a modern environmental regulatory framework. There were no modern policies and laws on which to build a solid environmental management system. UNEP set about filling this gap by assisting the government to develop the basic legal instruments for environmental management. The cornerstone is the Environment Law, which was developed with input from IUCN and was promulgated in its final parliament-approved form in early 2007. It provides a foundation on which other laws can be built, and is one of UNEP's most visible and lasting legacies.
- **Capacity:** Afghanistan was left with very little human capacity to create a solid foundation for environmental management or natural resource governance. UNEP and NEPA had to start from the beginning to develop the technical capacity needed. UNEP addressed this challenge in two ways: through specific capacity-building activities, and through a programme of mentoring counterpart staff. Capacity-building soon became the centerpiece of UNEP's work in Afghanistan, underpinning and permeating all other areas of work. It would allow NEPA to become a stand-alone and self-sufficient environmental administration, staffed with individuals capable of developing and implementing the new environmental laws and policies.

UNEP's work in Afghanistan is only possible thanks to the strong support and cooperation of a wide range of donor governments and partner institutions. Foremost among UNEP's partners have been the environment-related agencies of the Government of Afghanistan – primarily NEPA and the Ministry of Agriculture, Irrigation and Livestock (MAIL), and the Ministry of Foreign Affairs.

UNEP also operates within the UNDAF, the development assistance framework which guides all the agencies of the UN family in their work in Afghanistan.

Source: UNEP, 'UNEP in Afghanistan - Laying the Foundations for Sustainable Development,' UNEP, Geneva, 2009.

- Capacity-building (organizations that provide support to other CSOs, including funding);
- Service delivery (organizations that implement development projects or provide services); and,
- Social functions (organizations that foster collective recreational activities).

When governance frameworks for natural resources exist, CSOs often play a critical role in shaping their scope and form, participating in decision-making, monitoring compliance with national laws, promoting accountability and transparency, and accessing justice mechanisms and dispute resolution processes on behalf of their constituents. Where CSOs cannot

CASE STUDY 15: UNEP-UNDP joint programme for environment and natural resources in Sierra Leone¹⁶⁵

In Sierra Leone, the vast majority of people rely on natural resources such as land, water, forests and fish for their livelihoods. These livelihoods face a host of different pressures including illegal fishing, slash and burn agriculture, poor waste management and unregulated mining.

Management of the natural resource sector is closely tied to peace and stability, economic development, rural integration, and improved governance. This is particularly relevant in the context of the country's high vulnerability to climate change and natural disasters. Recognizing their critical value, the Government of Sierra Leone has made better management of its environment and natural resources a peace and development priority. If managed effectively, natural resources and the environment can make a vital contribution to peacebuilding in Sierra Leone, laying a sustainable foundation for jobs and economic growth.

Mineral concessions cover more than 80 percent of the country and roughly 20 percent of the available arable land is under negotiation or contract for industrial agriculture. Forests are threatened by charcoal production, encroachment, logging and slash and burn agriculture. Energy production in the country is one of the lowest in the world with 80 percent of energy used coming from biomass. Waste and water management are very problematic. There is also growing pressure from the continuing rapid growth of Sierra Leone's population in urban areas, particularly in Freetown. Currently Sierra Leone places one of the last in the UNDP's Index of Environmental Performance.

To assist the government of Sierra Leone, UNEP and UNDP are jointly working on helping government authorities and state institutions to strengthen their capacities on environment and natural resource governance in four key sectors: energy provision, the extractives sector, land tenure and adapting to the impacts of climate change and natural hazards.

Key national institutions such as the Environment Protection Agency (EPA-SL) are facing daunting challenges in terms of managing Sierra Leone's resources effectively. There is need to support those institutions across a range of areas, including: rulemaking procedures, license issuances, facility inspections, water/ air/ soil sampling, complaint handling, penalty assessment, Strategic Environmental and Social Assessment, public participation as well as the decentralization of environmental management to the district and chiefdom level.

Source: <http://www.unep.org/sierraleone>

effectively perform these functions, targeted capacity-building measures may be required as such functions are essential components of good governance and can contribute to conflict prevention over natural resources. From a conflict prevention perspective, civil society's capacity to engage in resource governance frameworks should be strengthened in five main areas.

- **First**, effective participation in decision-making processes and policy development on natural resources. Building capacity to perform this function includes: enhancing awareness of the policy-making process together with entry points
- **Second**, monitoring compliance with national laws and institutionalizing transparency. These functions are critically important for enhancing accountability and contributing to

and access to information; providing training in a range of skills needed for engagement, including research, analysis, negotiation, representation and communication; and, reducing barriers to access such as cost, distance, language or gender. Effective participation of civil society in policy processes and decision-making related to natural resources is seen as an essential component of progressive and representative policy-making.¹⁷⁰

anti-corruption of both national governments and the private sector. In many cases, civil society, governments and companies must work together to provide mutually beneficial checks and balances that improve overall resource governance. This requires specific training to CSOs on the relevant legal frameworks, procedural requirements, and responsibilities of the government and private sector in terms of compliance and enforcement. CSOs should understand freedom of information laws and how to access resource-related contracts, licenses and permits that define project obligations, revenue-sharing, environmental performance standards and environmental impact mitigation measures. With this knowledge, CSOs can play an important watchdog function, calling into question companies, processes or contracts which do not comply with national laws.¹⁷¹

- **Third**, when laws and regulations are violated, civil society can play a key role in helping affected communities and stakeholders to access justice mechanisms and dispute resolution processes. This typically involves building capacity in two main tracks. The first track includes understanding how to access to formal judicial processes (adjudication) and courts based on a violation of laws, permits or clearly defined resource rights. These processes are often slow, adversarial, expensive and complex. A second approach is through alternative dispute resolution (ADR) techniques, also known as non-judicial mechanisms. These are designed to provide parties with a way to settle their conflicts without resorting to costly and time-consuming court systems. In most, if not all, societies, non-judicial mechanisms for handling grievances, complaints or disputes provide an essential supplement to the court system.¹⁷² Non-judicial approaches can range from project-level grievance mechanisms and community-based processes to more formal processes at the provincial or national level, or a nested combination of steps. Generally speaking, there are three categories of ADR: negotiation, mediation and arbitration.¹⁷³ Empowering communities to hold officials, state agencies, local institutions and private sector actors

accountable through justice mechanisms can prevent grievances from building and tensions from escalating.

- **Fourth**, in a number of cases, CSOs have played a direct role in early-warning as well as direct conflict mediation. Building their capacity to identify latent conflicts over natural resources, as well as to conduct preventive diplomacy and/or conflict mediation can be critical to long-term conflict prevention. In this regard, local level CSOs can be key actors in helping stakeholders resolve conflicts in non-violent ways.¹⁷⁴
- **Finally**, in many cases it is also essential to connect local CSOs with regional or global networks. Such networks can be effectively leveraged to raise the political profile of a specific issue to the international level and/or help notify the international community of failing governance and corruption in the resource sector.¹⁷⁵

Key roles the UN and EU can play in helping to strengthen capacity of civil society to engage in governance processes and dispute resolution over natural resources include:

- **Capacity-building measures to engage in resource governance:** This includes enhancing the capacity of CSOs to: a) understand the potential peace and conflict implications of NRM policies, laws and concession agreements; b) to take effective action towards compliance monitoring and communicating their concerns to government and the private sector; c) to raise public awareness and debate on the implications of different policy options; d) to link local level CSOs to regional and global level ones in order to maximize their political leverage and access to best practice.
- **Clarify rules and requirements for judicial and non-judicial forms of dispute resolution:** ensure CSOs understand the legal framework on the substantive, procedural, and evidentiary rules for judicial and non-judicial forms of dispute resolution for natural resources, together with the relationship between higher and lower levels of government. An essential component is to

establish standards for credible processes, covering issues such as transparency, representation, participation and fairness. Clarify processes for citizens to appeal governmental decisions to courts or adjudicatory bodies, as well as access to information on decisions taken by government bodies.

- ▶ **Build the capacity of civil society mediators for addressing natural resource disputes:** A number of activities could be undertaken at the national and local levels to increase the number and capacity of civil society mediators to address natural resource disputes. The overall objective is to increase the number of skilled individuals available to assist businesses, authorities and communities in resolving disputes over natural resources through local level mediation.
- ▶ **Disseminate cases of good practice, experiences and analysis in resolving resource disputes:** The UN and EU could play an important role in acting as an international clearinghouse for “case stories of good practice” from the application of various judicial and non-judicial dispute resolution processes involving natural resources. This platform could also promote peer learning, networking of experts and building communities of practice at the global and regional level.

Case Study 16 highlights the importance and outcome of CSO engagements in the development of forest law in Liberia and in monitoring compliance. Key toolkits, policy reports and guidance materials on building dispute resolution capacity and effective grievance mechanisms for renewable resources are listed in Annex 1.5.

5.5 Establish institutions and agreements for managing transboundary resources

While states have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental

and developmental policies, they also have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states. As, transboundary dynamics and pressures are often beyond the capacity of a single sovereign state to manage unilaterally, cooperation and co-management with neighboring countries is required.

Transboundary resource management can be divided into a series of stages running on a continuum from low levels of cooperation to high.¹⁷⁶ As the parties move through these steps, higher levels of cooperation, confidence-building, and joint management are achieved, resulting in less potential for open conflict.

- **The first step** is sharing information. Knowledge and information are indispensable preconditions for informed decision-making and proper transboundary resource management. They are essential instruments to identify the common opportunities and risks of transboundary management, and to structure equitable benefit-sharing arrangements. Sustained collection and sharing of information is critical to enable productive negotiations, reduce uncertainty, and identify priorities.¹⁷⁷ Information-sharing can increase the likelihood that agreed facts, rather than diverging perceptions or emotions, guide decision-making, and provide the basis of the future relationship. It may also help to further de-politicize the problem by focusing on technical issues, aiding the breakdown of seemingly insurmountable challenges into feasible units of focus. Processes to collect and share information range from independently collected data, to impartial assessments conducted by third parties, to joint or coordinated assessments using an agreed methodology. Ideally, the very process of data collection can be structured in a way to already begin to build trust between the parties or at the very least establish cooperation between technical experts and institutions. The outcome of information-sharing is to achieve a common understanding of the transboundary dynamics and pressures for each type of shared resource and possibly to agree on joint priorities and challenges.¹⁷⁸

CASE STUDY 16: Civil society engagement in the development of forest law in Liberia and in monitoring compliance

Following the election of Ellen Johnson-Sirleaf in 2006, her *Executive Order #1 on Forest Sector Reform in Liberia* cancelled all existing forest concessions and established a framework for comprehensive legal reform in the forest sector. The Executive Order specifically called for the involvement of civil society in the reform process.

The Liberia Forest Initiative (LFI) became the main channel for civil society involvement. The LFI was a multi-stakeholder group consisting of donors such as the US and EU, the World Bank, and IMF, UN agencies such as FAO and UNEP, and local CSOs backed by larger international organizations such as Conservation International, the Environmental Law Institute, and the World Conservation Union (IUCN). Based on the multi-stakeholder development process, the National Forestry Reform Law of 2006 included some progressive provisions and established a legal framework for forestry in Liberia. Using the LFI as an entry point, local CSOs, backed by international ones, were instrumental in shaping the content of the new law.

The law and accompanying regulations are particularly progressive in terms of requirements on transparency and public access to information, benefit-sharing and public participation. For example, the regulation on public participation elaborates a comprehensive framework for public consultation and input to policy formulation, rule-making and implementation. The forestry law gave far-reaching rights to the public to access information about forest governance and management in Liberia. Many of these progressive requirements were the outcome of strong and effective civil society engagement. At the same time, there are some shortcomings that were the focus of disagreements between some of the stakeholders. Its weakest point is its treatment of community rights.

In 2008 and 2009, the Liberian Government issued seven Forest Management Contracts, covering more than one million hectares, and six Timber Sale Contracts, covering 30,000 hectares under the new law. This makes a combined total of 1,037,266 hectares of forest or a third of the country's forests (Liberia's forest estate is estimated to be 4.39 million hectares). During this process, a national CSO, the Liberian Sustainable Development Institute (LSDI) played a key role to ensure it complied with the new legislation. LSDI concluded that various processes surrounding the bidding and contract allocation processes contained numerous flaws and illegalities. They claimed that all of these logging contracts were awarded in violation of various Liberian laws and regulations. Many of these contracts were issued to logging companies with unproven technical and financial capacities, and to financial backers that disclosed almost no information.

Based on these legal violations and irregularities, LSDI called for the Government to commission an independent, comprehensive assessment of how the reform process has been implemented to date. They recommended an assessment should set out to establish objectively what went wrong, how the mistakes were made and what the consequences have been, and those found to be responsible should be held to account. This should specifically focus on the validation of contract areas, and the prequalification, bidding and contract award processes.

Source: Sustainable Development Institute (SDI), 'Liberia - The Promise Betrayed,' SDI, Duarzon, 2010.

- **The second step** is to establish an agreement on how the transboundary resource will be shared, managed and/or protected. Agreements can be formal, such as treaties, or informal, such as non-binding joint declarations. A diverse range of issues can be covered by transboundary agreements including the specific rights of each party, responsible institutions, enforcement and compliance mechanisms, procedures for monitoring and validating agreed quantities or qualities, and mechanisms for resolving disputes.¹⁷⁹ Measures to take into account natural

variation in the supply of a specific resource, as well as potential risks from climate change and natural hazards should also be considered. While parties may wish to negotiate their own agreement, they can also join multilateral or regional environmental conventions, which provide a common framework for all signatory states (see Annex 1.6).

- **The third step** is to establish institutions and harmonize national laws to implement transboundary agreements. Institutions can range from independent national bodies that coordinate policies, to joint institutions that formally receive decision-making power from the respective national governments. In many cases, both national and local level institutions will be required, as well as connections between them and sufficient financing. The transfer of decision-making power from national governments to transboundary joint institutions is a complex undertaking that normally takes years to be implemented in a proper manner. Joint institutional structures face the challenge of simultaneously creating integration as well as coordination in a vertical (between stakeholders, end users, governments...etc.) and a horizontal dimension (e.g. between governments, ministries, etc.).¹⁸⁰ Compliance and enforcement mechanisms are an essential component of effective implementation. Countries that are part of a transboundary resource agreement have (in most cases) to adjust national policy and legislation to be compatible with the international one, unless the agreement already takes into account existing national structures. Even in such cases, some level of harmonization is normally necessary.
- **The fourth step** is to establish common standards for monitoring and verification of agreed quantities or qualities of shared natural resources. Any joint agreement should cover the exchange of systematically monitored data, which has been collected/monitored in a harmonized way with standardized and transparent methods and analyses. Ideally, this should include procedures that are conducted by government

authorities, as well as independent validation by CSOs, such as academia.

- **The final step** is to establish dispute resolution processes. Within any agreement, it is inevitable that disputes will arise based either on data discrepancies, facts, and uncertainties, or on negative impacts or inequitable use. A structured dispute resolution process should be developed and tailored to the specific resource. In many cases, a “nested” dispute resolution process can be effective - consisting of joint technical bodies, high-level political processes, impartial mediation by a third party, or an international tribunal. National leaders, diplomats, technical experts, and other concerned stakeholders should be given sufficient training to effectively engage in dispute resolution processes for transboundary resources.

Key roles the UN and EU can play to strengthen transboundary management and cooperation include:

- **Neutral platform for dialogue:** Third parties such as the UN and the EU can provide a neutral space for discussion by hosting and organizing technical meetings and facilitating discussions on transboundary resources. Providing neutral, non-politicized opportunities for direct dialogue can help parties surmount the inertia of non-engagement and mistrust.
- **Information-sharing:** The UN and EU can play an important role in facilitating a shift from dialogue to information-sharing. They can also play a key role in validating the techniques used to collect the information and in helping the parties to identify areas of convergence, divergence and key gaps.
- **Joint or impartial assessments:** Where information is contested or gaps identified, the UN and EU can provide objective and scientific assessments of the issues that are involved and/or support the parties to conduct joint assessments. This function can also be combined with capacity-building to ensure data collection, analysis and presentation skills and capacities are balanced and to international standards.

- **Capacity-building for transboundary negotiations:** When parties have different capacities to discuss or negotiate specific transboundary natural resource or environmental issues, the UN and EU can play an important role in narrowing the differences. This can include training on basic negotiation skills as well as more technical skills such as data collection and analysis.
- **Binding agreements:** UN and EU representatives can play an important role in brokering agreements over natural resources, as well as in providing technical assistance in the design of joint or coordinated management plans.
- **Establishing institutions:** UN and EU can provide financial and technical support in
 - the establishment of joint institutions, in the harmonization of domestic legislation, in the development of enforcement and compliance mechanisms, in procedures for monitoring and validating agreed quantities or qualities, and in mechanisms for resolving disputes.
- **Coordination:** To the extent possible, the UN and EU should ensure that the requirements of any transboundary agreements are taken into account in development plans and policy reform initiatives.
- **Conduct transboundary dispute resolution and environmental diplomacy:** The UN and EU are uniquely placed to help countries establish mechanisms and institutions for resolving transboundary disputes. This applies in particular

CASE STUDY 17: Facilitating dialogue and transboundary information sharing between Afghanistan and Iran on the Sistan Basin

Iran and Afghanistan are parties to a long-running dispute over the allocation of the waters of the Helmand River, which originates in the mountains northwest of Kabul and flows for 1,000 kilometers through Afghanistan before reaching Iran at the Sistan wetland. The Helmand's water is essential for farmers in Afghanistan, but is also important to farmers in Iran's southeastern Sistan wa Baluchestan Province.

Livelihoods in the region are closely tied to the products and services of the wetland. Reed beds provide fodder for livestock and fuel for communities, while fishing and hunting are an important source of income for many households in the region. However, a series of natural disasters and political issues have harmed the wetland and the livelihoods that depend on it. In 1998, following a dispute between Iran and the Taliban Government in Afghanistan, the sluice gates of the Kajaki Dam in Central Afghanistan were closed. In addition, naturally occurring challenges, namely a series of multi-year droughts, combined with poor water management, resulted in the wetland drying up completely between 2001 and 2005, devastating traditional livelihoods and resulting in large-scale population displacement, including the migration of Afghan refugees into Iran. In 2002, the region was classified as a humanitarian disaster zone.

Despite the two countries having signed several treaties on the river's waters over the past century, the dispute continues, as the treaties have never been implemented to the satisfaction of both parties. Furthermore, the socio-economic problems engendered by the collapse of the wetland – emigration, unemployment and the smuggling of oil products and opium – have destabilized this sensitive border region and continue to strain the relations between the two countries.

In 2005, UNEP was requested to facilitate dialogue between the two sides by organizing technical meetings and providing an objective environmental analysis of the situation. UNEP accordingly facilitated meetings between senior inter-ministerial delegations from key government agencies such as ministries of foreign affairs, environment, water and agriculture as well as local government, resulting in a commitment from the two countries to establish national advisory committees, share information on water quantity, and develop joint restoration projects for international funding from the Global Environment Facility (GEF). While both countries agreed to the dialogue and established a joint restoration project, talks between Iran and Afghanistan came to a standstill in 2007 due to Afghanistan's view that it needed to enhance the technical capacity of its water related institutions before entering into negotiations with its neighbors on water-sharing.

Source: UNEP, 'History of Environmental Change in the Sistan Basin,' UNEP, Geneva, 2006.

to transboundary waters, but is also relevant for sources of transboundary air pollution, migration and illegal transboundary theft of natural resources. The UN and EU are well placed to act as an impartial actor and trusted third party to convene meetings, provide a neutral platform for dialogue, and help countries resolve transboundary disputes in a fair, equitable and transparent way.

Case Study 17 highlights how dialogue and transboundary information-sharing between Afghanistan and Iran was supported by the UN. Key toolkits, policy reports and guidance materials on building dispute resolution capacity and effective grievance mechanisms for renewable resources are listed in Annex 1.6.

5.6 Integrate conflict sensitivity for natural resources across all programming

Conflict sensitivity refers to the ability of an organization to: a) understand the context in which it is operating; b) understand the interaction between the intervention and the context; and c) act upon that understanding, in order to maximize positive impacts and avoid negative impacts on the conflict.¹⁸¹ In this regard, one of the critical aspects of preventing conflicts over natural resources is to ensure a conflict-sensitive approach is integrated within all NRM development and adaptation policies and programmes.

Even the most “benign” NRM interventions can disrupt access to natural resources, impact traditional land use practices, impact latent conflicts, and contribute to political, social and economic tensions and stresses. Environmental variability, climate change and risk of natural hazards further contribute to this complexity. Stakeholders and donors need to anticipate the potential sources of conflict that could be generated by a NRM intervention and adopt a conflict-sensitive approach during all phases of project design, implementation and evaluation. Conflict management should be adopted as a key principle of any renewable natural resource intervention.

Similarly, both development and climate change adaptation policies and programmes should be rooted in a sound analysis of how they could exacerbate local conflicts by impacting access to and availability of natural resources for different livelihoods. They should consider whether specific projects might trigger or intensify local resource conflicts as well as consider the equitable distribution of benefits and burdens.

Conflict-sensitive programming must be informed by continuous conflict analysis and be based on the contextual understanding of relationships between stakeholders, and between stakeholders and renewable resources. In particular, a regular conflict analysis and monitoring process should consider how the policy or programme affects the following conflict drivers as previously discussed in this Guidance Note: a) resource scarcity; b) poor governance of natural resources and the environment; c) transboundary dynamics and pressures.

The evaluation process for a specific NRM, climate change adaptation or development intervention should also specifically include the impact of the project on exacerbating or reducing conflict risks over natural resources.

Key roles the UN and EU can play in applying conflict sensitivity to natural resource, adaptation and development policies and programmes include:

- **Mainstream conflict sensitivity in all UN and EU programming:** International assistance for national development programmes is currently driven by a few key approaches and policies. The UN uses the UNDAF to respond to national development needs and priorities, the World Bank uses Poverty Reduction Strategy Papers (PRSPs), while the EU uses Country Strategy Papers (CSPs) and Indicative Programmes. In post-conflict countries, all three organizations use Post-Conflict Needs Assessment (PCNAs). However, these approaches often do not fully account for the links between natural resources, sustainable livelihoods and conflict. They also often fail to address more controversial issues related to access, ownership, control, and the rights of marginalized groups to access and

use natural resources. To address this gap, all UN and EU practitioners should understand how development interventions and related infrastructure impact the availability, distribution or access of specific groups to key natural resources. Conflict sensitivity can be achieved through the systematic application of conflict-sensitive programming techniques together with strategic environmental assessments, or environmental impact assessments.

- ▶ **Support strategic coordination:** The UN and EU can advise other international actors on rising tensions over renewable natural resources and seek to catalyze a common, coordinated and strategic response together with sufficient financial resources and political will. The UN and EU can establish a coordinating forum for all international actors working on natural resources to share information, conduct strategic planning and agree on a division of responsibilities. Ways to ensure an integrated approach to NRM and conflict prevention across all sectors should be promoted. Case Study 18 outlines the findings of a World Bank study on conflict-sensitive development

of renewable natural resources from six case studies: Afghanistan, Nigeria, India, Ecuador, the Democratic Republic of Congo and the West Bank. Key toolkits, policy reports and guidance materials on integrating conflict sensitivity for natural resources across all programming are listed in Annex 1.7.

5.7 Conduct early-warning, risk assessments and scenario analysis to identify hotspots

Early-warning, risk assessments and scenario analysis measures aim to identify threats to natural resources and potential conflict hotspots before they escalate. They consist of data collection, analysis, and forecasting together with the dissemination of risk information to targeted recipients, including both communities and decision-makers. The use of early warning, risk assessments and scenario analysis to identify potential conflict hotspots involving renewable resources should be an important cross-cutting input to any targeted conflict prevention

CASE STUDY 18: Renewable natural resources and conflict-sensitive development¹⁸²

The World Bank analyzed lessons learned on renewable natural resources and conflict-sensitive development from six case studies: Afghanistan, Nigeria, India, Ecuador, Democratic Republic of Congo and the West Bank. Despite the diversity of cases, the main lessons identified by staff overlapped in many ways. In total, seven categories of principles of conflict-sensitive development emerged:

1. Considering “conflict management” as a principle of renewable natural resource interventions
2. Conducting practical and interdisciplinary conflict analysis throughout the project
3. Improving diverse opportunities for development
4. Advancing stakeholder participation for improved renewable natural resource governance
5. Developing skills to fill knowledge and technical gaps
6. Building organizational support
7. Incorporating “transboundary” perspectives

Source: The World Bank, ‘Renewable Natural Resources: Practical Lessons for Conflict-Sensitive Development,’ The World Bank, Washington D.C., 2009.

programmes. In this regard, there are four main activities that should be established and conducted on a regular basis.

Conflict early-warning refers to the set of activities that aim to collect, collate and analyze data on natural resources, livelihoods, governance, and transboundary dynamics in order to detect and identify the signs of emerging grievances before they become violent or entrenched. Early warning can rely on qualitative or quantitative data, or a mix of the two. Warnings are issued to decision-makers and society when negative trends are detected in order to forestall violent conflict or the spreading and intensification of conflict. Practitioners must be able to recognize the warning signs and determine effective preventive measures once potential conflict hotspots are identified. A series of potential indicators to detect increasing potential for conflict over natural resources are included in Annex 4.

Disaster early warning is equally important as it attempts to identify natural hazards that could severely impact resource availability and livelihoods, including drought, storms, earthquakes, floods, fires and tsunamis. The provision of timely early-warning information for environmental shocks and stress caused by natural hazards can help local people take preventative measures, or adapt livelihood strategies accordingly. For example, an early-warning system for drought, in combination with timely market interventions and the establishment of financial support, can increase the ability of herders to exchange livestock that cannot withstand the stress of the drought for other assets such as cash, fodder or food grain.

Detailed and systematic environmental risk assessments are also needed to identify baseline environmental conditions, along with key pressures, trends, levels of degradation and management capacities. Environmental risk assessments can help identify potential conflict hotspots where renewable resources are becoming increasingly scarce, and where conflict prevention measures should be deployed. Environmental risk assessments not only provide important technical information, but also play an increasingly important political role. They provide a common set of baseline data to all parties,

structure the debate over natural resource use, and help establish a common understanding of the limits of the resource base.

Finally, scenario analysis techniques are used as a way to assess the likely future outcomes of different policy options within complex and uncertain systems. In short, different scenarios are identified based on a plausible description of how the future may unfold from a series of 'if-then' propositions. A typical scenario includes a representation of the initial situation and a sequence of events that describe the key driving forces and the changes that lead to an image of the future. The goal of scenario analysis is to anticipate future developments of society, and to evaluate strategies for responding to these developments. Scenario analysis offers a framework for bringing together insights from a range of disciplines to study the complex interactions between socio-economic and environmental developments, including the potential for conflict. An important function of scenario analysis is that it provides an approach to reflect on - and think through - the possible implications of alternative decision pathways in a structured manner, bringing to bear expert knowledge and stakeholder perspectives. Scenario analysis techniques can be used as a platform for all key stakeholders to collectively identify the main drivers of change and sources of conflict risk together with the social, environmental and financial implications of different policy options. Scenario analysis can also be used as an effective tool to improve understanding of the likely impacts of climate change on resource availability, competition, and conflict.

Key roles the UN and EU can play in supporting early warning, risk assessments and scenario analysis to identify hotspots:

- **Integrate natural resource risks within conflict early-warning systems:** Ensure that national and local-level conflict early-warning systems that are used by the UN and EU include key indicators on renewable resource scarcity, livelihoods, resource governance and transboundary dynamics. Early-warning systems for natural resource conflicts should be connected to preventive diplomacy efforts.

- **Support the adoption of a multi hazard early-warning system:** The UN and EU should provide support for a multi hazard early-warning system and help to disseminate information on risks and potential response strategies to vulnerable communities.
- **Environmental risk assessments:** Support the systematic and regular application of environmental risk assessments at national and sub-national levels, and reflect the outcomes of assessments in programming priorities, in particular national development planning instruments, (including PRSPs, UNDAFs, and EU Country Strategy Papers and Indicative Programmes).
- **Scenario analysis:** Encourage and support the systematic and regular application of scenario analysis and forecasting techniques when key national policy decisions are being made that could have potential impacts on the availability of and access to natural resources. The UN and EU can coordinate impartial processes, ensure the involvement of key stakeholders, and use the process itself as an opportunity for dialogue between divided groups.
- **Understand the current profile of climate risks and natural hazards:** Potential risks to natural resources from climate change and natural hazards should be identified, together with potential implications for resource-dependent livelihoods and economic sectors. This should cover climate variability, including short-term (extreme weather) and long-term events (trends in seasonal and annual variations), as well as other natural hazards. Climate and disaster-vulnerable livelihoods should be identified,

CASE STUDY 19: Transboundary environmental risk assessments in the Ferghana Valley

The Ferghana Valley lies in the border area between Kyrgyzstan, Tajikistan and Uzbekistan. Home to over 10 million people, it is the most densely populated and fertile region in Central Asia. Under the control of the Soviet Union, the valley was part of a regional economy based on massive-scale cotton production and heavy industry, including mining, oil and gas, chemicals, and textiles. Following the collapse of the Soviet Union, many new countries were confronted with environmental problems caused by decades of polluting industries and unsustainable agricultural production. Nowhere was this legacy more acute than in the Ferghana Valley.

In 2005, Kyrgyzstan, Tajikistan, and Uzbekistan requested the Environment and Security Initiative (ENVSEC) to facilitate an environmental risk assessment in the Ferghana Valley, involving information sharing, a joint field assessment, and a regional stakeholder consultation workshop. The resulting report identified three main environmental issues threatening the health and livelihoods of the population: access to and quality of water resources; access to and degradation of land; and, pollution from industrial facilities. Based on the information collected, a mapping exercise was also undertaken by the participants, whereby hotspots were identified, mapped, and prioritized. Five radioactive tailing dams were identified as hotspots of particular concern. Due to their vulnerability to natural hazards, a history of accidents, and their position along watercourses and in the vicinity of towns and cities, the parties agreed that these tailing dams represented a severe risk to human security in the entire region.

The assessment was a major breakthrough in terms of linking together environmental authorities and stakeholders who previously had no line of contact or cooperation. It allowed the parties to agree on a work plan to combat the most critical issues, with a focus on toxic waste hotspots. Although unresolved questions relating to border demarcation and water resources remained between the three countries, they agreed on the need to cooperate on assessing transboundary environmental risks and jointly identifying environmental hotspots that threatened human health and livelihoods.

Source: Environment and Security Initiative (ESI), 'Environment and Security: Transforming risks into cooperation - The case of Central Asia and South-Eastern Europe,' ESI, Geneva, 2003.

especially where increasing scarcity of natural resources could trigger conflict between livelihood groups.

- ▶ **Support climate change adaption and disaster risk reduction planning:** Build the capacity of governments at the local and national levels to establish a climate change and disaster risk reduction strategy linked to livelihood vulnerability reduction and conflict prevention.

Case Study 19 provides an example of an environmental risk assessment in the Ferghana Valley. Case Study 20 illustrates an early-warning analysis of potential climate change implications for natural resources across the Sahel region. Key toolkits, policy reports and guidance materials on early warning, risk assessment and scenario analysis are listed in Annex 1.8.

CASE STUDY 20: Climate change, conflict and migration in the Sahel¹⁸³

Dubbed “ground zero” for climate change due to its extreme climatic conditions and highly vulnerable population, the Sahel has faced massive population growth, pervasive poverty, food insecurity, and chronic instability for decades. With a majority of the population directly dependent on natural resources for its livelihood, the predicted impacts of climate change for resource availability and food security in the region could be dramatic.

In December 2011, during the climate change negotiations in Durban, a joint study¹⁸⁴ was launched, that analyzed regional trends in temperature, rainfall, droughts and flooding over the past 40 years, and their implications for the availability of natural resources, livelihoods, migration and conflict in 17 West African countries from the Atlantic coast to Chad. The study addresses climate change as a “threat multiplier” that exacerbates existing vulnerabilities, and looks at how climate change, migration and conflict are interlinked through complex influencing factors that include economic, social and political issues.

The study had two complementary objectives: (i) to analyze the historical climate trends in the region, identify hotspots, and determine the potential implications for natural resource-dependent livelihoods; and (ii) to provide recommendations for improving conflict and migration sensitivity in adaptation planning, investments and policies across the region. It uses an innovative mapping process to identify “climate hotspots” where climatic changes have been the most severe and which warrant focused adaptation planning and other follow-up activities.

The analysis detected significant changes in regional climatic conditions, including an overall rise in mean seasonal temperature from 1970 to 2006 of approximately 1°C, with a greater increase of between 1.5°C to 2°C observed in far eastern Chad and northern Mali and Mauritania. The study also shows that the frequency of floods and the area covered by flooding have increased in parts of the region over the past 24 years, for example with large areas of southern Burkina Faso, western Niger and northern Nigeria experiencing up to 10 floods during this period.

The study has found that the impacts of such changing climatic conditions on the availability of natural resources, combined with factors such as population growth and weak governance, have led to greater competition over scarce resources and to changing migration patterns in the region. It highlights the importance of including conflict and migration sensitivities in adaptation planning and programming, promoting regional cooperation and the need to invest in early-warning, conflict prevention and conflict resolution mechanism on the local, national and regional levels.

Source: UNEP, ‘Livelihood Security: Climate Change, Migration and Conflict in the Sahel,’ UNEP, Geneva, 2011.

6

CONFLICT PREVENTION STRATEGIES FOR SPECIFIC RESOURCE SECTORS

Increasing scarcity of renewable resources, coupled with aggravating factors such as natural hazards, climate change and socio-economic change, have a major impact on human livelihoods, particularly in the absence of good governance. How these factors and governance structures link to conflict, however, is very much dependent on the socio-economic, political and spatial contexts in which they appear, making it very difficult to provide a one-to-one mapping of prevention strategies to specific conflict situations. In other words, it is almost impossible to accurately say which prevention strategies are appropriate to any given cause, aggravating factor or institutional setting. Practitioners must be able to draw from the ‘toolbox’ of prevention strategies outlined above as the context demands. However, conflicts involving specific resources often have common characteristics and similar elements of prevention strategies can apply.

This section of the Guidance Note outlines a range of conflict prevention strategies that are generally applicable to specific resource sectors, specifically those relating to water, rangelands, forestry, and fisheries. Conflicts relating to land tenure or extractive resources are addressed in the other Guidance Notes in this series.

6.1 Water conflicts

Freshwater resources are crucial to human and ecosystem health, as well as economic development. Nearly every sector of human activity depends on water, be it for drinking, agriculture, industrial production or power generation. Sustainable water management must not only take into account the ecological and socio-economic dimensions but also the cultural and spiritual meanings of water. Unlike many other resources, there is no direct substitute for water.

The fact that water availability is highly variable and uncertain, depending on meteorology, geography, and seasonality, and often crosses national boundaries, only compounds the challenges around its sustainable management. At the same time, these characteristics mean that issues involving water can also bring parties together for discussion and cooperation.

Water scarcity is a product of both availability and access. It is important to distinguish absolute scarcity (i.e. physical limitations), economic scarcity which is a product of investment choices (e.g. technology and infrastructure); and induced scarcity, which is a question of distribution and hence a political issue. Managing water issues, thus, requires a multi-disciplinary approach that calls on environmental, technical, economic and political expertise. This requires institutions to promote integrated approaches to optimizing water-related outcomes in different sectors, including for irrigation, industry, fisheries, domestic consumption, and biodiversity. This is becoming increasingly challenging as values come into competition, and a multitude of actors with competing interests hold major stakes in water quality, quantity and access.

While there appears to be potential for violent conflict over water, water tends to exacerbate existing tensions rather than act as a direct driver of violence. At the transboundary level, while conflicts over water resources are common, there is effectively no known case where these have constituted the primary motivation for full-scale war. Rather, the very centrality of water makes cooperation a more likely response, evidenced in the much stronger record of cooperation. Violent conflicts are more likely to occur at the local level between competing user groups that are also divided along ethnic, religious or other lines.

In the coming decades, tensions among different users may intensify, both at the local and transboundary level, as water scarcity increases due to increased demand and climate change. In many cases, freshwater management agreements are not adequately designed for social and ecological changes in the face of extreme events and climate change. The omission of mechanisms for dealing with natural variation together with the implications of climate changes, in terms of droughts, flooding and increased variability of rainfall, have serious implications for current and future management in transboundary river basins.

Specific issues that UN and EU partners can support in terms of helping countries to improve the management water resource and prevent conflicts include:

- **Acquire and share impartial, scientific and uncontested data on water quantity, quality and access where increasing scarcity is a source of tension between groups, sectors or states:** Preventing or resolving conflicts over water must begin by acquiring and sharing impartial and scientifically sound water data. The UN and EU are well placed to conduct independent water assessments, coordinate joint data collection by the parties or facilitate and validate the exchange of water data held by the parties. This can help the parties develop a common understanding of the existing hydrological situation and create a legitimate base for further negotiation. Ideally, the process of establishing a common understanding of the resource can be designed in a way to begin initial trust building between participating parties. In this regard, the UN and EU can play a key role in acting as a trusted third party to facilitate and support the process.
- **Support Integrated Water Resource Management (IWRM):** IWRM is a process which promotes the coordinated development and management of water, land and related resources in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. IWRM is emerging as an accepted alternative to the sector-by-sector, top-down management style that has dominated in the past. IWRM can be an effective way to reduce conflicts over water resources, as it addresses many of the conflict drivers. This should include greater

cooperation horizontally between government departments and state-supported institutions (such as water management authorities), as well as vertically between all spheres of government (national, provincial and local) and CSOs, such as water user groups, including mechanisms for dispute resolution. At the same time, potential climate change impacts need to be taken into account when planning and implementing a water resources management system.

- **Promote a shift in focus from sharing water to sharing the wider suite of benefits derived from its use:** ‘Benefit-sharing’ has been proposed as one approach to bypass the contentious issue of division of water quantity between states, economic sectors or user groups. The idea is that if the focus is switched from sharing the physical volumes of water to the various values derived from water use – in multiple spheres, including economic, social, political, and environmental – contesting parties will correctly view the problem as one of positive-sum outcomes associated with optimizing benefits rather than the zero-sum outcomes associated with dividing water. The benefits may include reduced effects of hydrologic variability, flood and drought mitigation, increased system-wide yields of water, improved environmental management, and hydropower generation.
- **Clarify water rights at the local level and work towards flexible institutions based on local conditions:** As water becomes scarcer and access more often contested, countries and citizens need to pursue better rules for coordinating water use and settling conflicts. Lack of well-defined and secure water rights increases the vulnerability of poor, as well as politically and economically weaker water users. Improved recognition of water rights can raise water productivity, increase benefits from existing and new investments in water use, and enhance rural livelihoods. Secure water rights for the poor, and governance structures to ensure that their rights are protected, are needed for both equitable and sustainable water use as well as for conflict prevention. One of the critical needs is for appropriate flexibility in adapting rights and institutional designs to dynamic local conditions, including the changing availability of water and the expected impacts of climate change.

- **Promote full cost accounting in water pricing:** Water pricing policies should be combined with other measures in order to solve water resource management problems. At a minimum, water pricing policies should reflect the following three types of costs: a) financial costs: direct costs embracing the costs of supply and administration, operation and maintenance, and also capital costs; b) environmental costs: cost of the waste caused by water use on the ecosystem, for example: salination or degradation of productive soils; c) resource costs: cost of resource depletion leading to the disappearance of certain options for other users. For reasons of cost and political acceptability, the introduction of any new pricing system would need to be gradual and done in a conflict-sensitive way. Social considerations must be taken into account in water pricing, but must not take precedence where sustainable water resource management is under threat.
- **Strengthen the capacity of stakeholders, including excluded, marginalized and weaker groups, to engage in decision-making and access information on water policies, services and infrastructure:** Broad public participation in decision-making and access to information are important elements in the sustainable management of water and in preventing conflicts around its use and allocation. If all stakeholders are informed about water management policies, services or infrastructure projects and receive the legitimate opportunity to express their opinion during decision-making processes, ownership can be increased and the likelihood of conflicts can be reduced. The UN and EU can provide legitimacy to public participation processes by helping them follow international best practices, promoting full information transparency, ensuring public inputs are taken into account, and monitoring compliance with agreements undertaken.
- **Transfer appropriate technologies to manage water scarcity and support broad-scale adoption:** The UN and EU can play a critical role in identifying water technologies that could be used to increase efficiency, thereby reducing demand and overall scarcity. In this regard, water technology can be identified and transferred as well as adapted or redesigned to suit differing conditions. Training will also be required on use, repair and broad dissemination. Potential technologies that could be transferred to reduce water demand and protect water quality include efficient irrigation, rainwater harvesting, pollution control and waste management.
- **Protect and restore forested water catchments and associated riparian areas:** Forests help to maintain constant supplies of good quality water and assist in flood control depending on factors such as age and species composition. As a result, natural forests are increasingly being protected to maintain high-quality water supplies to cities as well as to mitigate flood risks. Protection also provides benefits in terms of biodiversity conservation, recreational, social, and economic values. Any long-term plan to improve the quality, quantity and predictability of fresh water delivered by streams, should consider the quality of the forested water catchment and the possible need for large-scale restoration and protection works.
- **Apply the guidelines of the World Commission on Dams (WCD):** The WCD established the most comprehensive guidelines for dam building. The WCD's final report describes an innovative framework for planning water and energy projects that is intended to protect dam-affected people and the environment, and ensure that the benefits from dams are more equitably distributed. These guidelines should be considered in terms of dam construction and conflict prevention.
- **Ensure Environmental Impact Assessments (EIAs) are conducted for all water development, irrigation and infrastructure works:** An EIA is an essential tool for the sustainable management of water resources. All development, irrigation or infrastructure projects financed or supported by the UN or EU should be subjected to an EIA to determine the potential impact on water resources and identify mitigation measures. This should also include how the project could potentially spark conflict between groups or amplify existing tensions. The EIA should be conducted in the earliest stages of decision-making, when crucial decisions are still being deliberated.

- **Develop a code of conduct and strengthen national capacity to help govern public-private partnerships in water management:** As many governments are turning to public-private partnerships (PPPs) to provide water and sanitation services, care is needed to ensure agreements are negotiated in an open and transparent way, including full public participation and information disclosure, and that fair pricing is established. The UN and EU can assist in the development of guidelines and codes of conduct for establishing PPPs, and for pricing services. At the same time, the capacity of local and national authorities should also be increased to ensure fair and informed participation in negotiating water agreements with the private sector.
- **Support river basin commissions and joint riparian agreements:** The UN and EU can play a critical role in catalyzing transboundary water management instruments and institutions. Measures should aim to: understand the water dynamics across borders; identify and implement joint monitoring programmes; establish a normative framework for evaluating competing principles for water-sharing; and, devise an allocation scheme to share water benefits, and include mechanisms for dispute resolution. There may also be a need to re-examine existing water-sharing agreements and determine if they meet current and future needs, including consideration of climate change risks. Initiatives to achieve water security in transboundary river basins require a long and repetitive process of continuing to seek consensual management approaches to resolving water supply and demand problems.
- **Support national or international monitoring of selected indicators that can help identify emerging water conflicts:** All countries should have water monitoring programmes in place that can detect changes in the following parameters:
 - o The degree of water scarcity or changes in availability per capita;
 - o The extent to which water access by two or more social or livelihood groups, regions, or states is changing;
 - o Changes in the relative power relationships between water-sharing parties (transboundary and sectoral);
 - o Impact of new infrastructure projects, such as dams and major irrigation works on water availability and access;
 - o Minimum ecosystems requirements (wetlands, riparian areas, groundwater);
 - o The ability of water sharing-parties to adapt or cope with water scarcity and natural variation;
 - o The willingness of water-sharing parties to cooperatively manage the resource;
 - o The appearance of livelihood coping mechanisms to deal with scarcity, including migration.

Key toolkits, policy reports and guidance materials that directly or indirectly address water management and conflict prevention are listed in Annex 2.1.

6.2 Rangeland conflicts

Pastoralism is the symbiotic relationship between people, domesticated livestock and local rangelands in fragile and highly variable ecosystems. Pastoral groups generally inhabit arid and semi-arid areas where soil, rainfall and temperature conditions constrain land use options. This means that groups must move seasonally between regions with their herds in search of grazing opportunities and freshwater sources. To reduce risks and maximize the productivity of variable and widely dispersed resources, such communities depend on flexibility (through seasonal mobility, temporary rangeland exploitation and herd diversification), and social capital (within and between pastoralists and other groups) to ensure access to resources. The specific interactions between the natural resource system, resource users and the larger geo-political system define pastoral livelihood strategies, vulnerability and capacity to adapt to change.

Mobile pastoral communities have been coping with changing environmental conditions for centuries, and as a result they have a long established capacity for

adaptation. However, changes in their environments in recent years - including the increasing frequency of drought, land fragmentation and natural resource degradation - have undermined their adaptive strategies, which is now increasing their vulnerability.

Given the high reliance of pastoralists upon a limited natural resource base, building capacity at the local and national levels to address risks and prevent tensions from escalating are critical. A sustainable livelihoods perspective offers useful insight into the emergence of violent conflict as a consequence of interactions within and between pastoral communities, other land users and economic interests.

Historically, there have always been tensions along pastoral corridors over land and grazing rights between nomads and farmers. Disputes flare up between farmers and pastoralists as migrating livestock herders, in search of water and pasture for their animals during the dry season, sometimes graze on farmers' lands and use their water points. Disputes over lost crops, and access to water and pastoralists' routes are sometimes settled through local mechanisms and tribal leaders. However, severe droughts, and increased farming have served to increase tensions between many farming and pastoral communities. Combined with a lack of institutionalized mechanisms for land and water rights and usage, all these factors lead to widespread seasonal tensions between pastoralists and farmers.

Pastoralists' inherent adaptive capacity, which has enabled them to cope with climatic variability for centuries, is increasingly being compromised by policies that aim to sedentarise and modernize their livelihood system, ignoring the vital need for mobility and resource access. As climate change exacerbates stresses on the system, the rate of destitution among pastoralists is likely to increase unless policies are implemented which enable adaptation and a choice of livelihoods that allows people to maintain or improve their conditions independently of livestock keeping.

Specific actions that UN and EU partners can support in terms of preventing conflicts over pastures include:

- **Acknowledge pastoralism as a viable livelihood and appropriate system of land use in semi-arid climates:** Some governments view pastoralism as archaic, unproductive and an

environmentally damaging relic of the past that needs to be brought into line with 'progressive' and 'modern' development. In contrast to this perspective, the UN and EU can help to generate a broader understanding and acceptance of the rationale behind pastoralism as the appropriate system of land use in semi-arid climate. Due to the advantage of mobility, pastoralism is less susceptible to changes in climate than more sedentary land uses, such as crop agriculture, livestock ranching and tourism. It therefore presents a less risky and more robust investment opportunity because it has the potential to perform well where other livelihoods are likely to fail. However, common property resources are vital for the development of pastoral communities, who need assured rights to access pasture and water. This acceptance should be acknowledged at the national policy level and reflected within development plans and policies.

- **Assess the condition of contested pastures, main pressures and carrying capacity:** Preventing or resolving conflicts over contested pastures must begin by acquiring and sharing impartial and scientifically sound data on pasture quality, use and carrying capacity. The UN and EU are well placed to conduct independent assessments, coordinate joint data collection by the parties, or facilitate and validate the exchange of data held by the parties. This can help the parties develop a common understanding of the existing situation and create a legitimate base for further negotiation. Ideally, the process of establishing a common understanding of the resource base can be designed to begin initial trust-building between participating parties. In this regard, the UN and EU can play a key role in becoming a trusted third party to facilitate and support the process.
- **Pastoral vulnerability assessments and support measures:** The UN and EU can support studies to identify the most vulnerable and conflict-prone communities and pastoral livelihoods. These should also assess the potential impacts of climate change and implications for pastoral livelihoods and community conflict. A support programme should be designed and financed in order to reduce pastoral vulnerability to

resource scarcity and environmental shocks. These include: a) livelihood diversification; b) livelihood productivity; c) livelihood adaptation to climate change; d) livelihood protection; e) emergency livelihood support.

- **Restore or ensure access to renewable resources for pastoral communities:** Resource access rights – to pastures, migratory corridors and water – are often interlinked and vital to pastoral survival. Access rights to some resources may involve competing users and change from one season to another. Clarifying resource rights and land tenure is a prerequisite for effective national and local-level pasture governance and conflict prevention. It is difficult to define boundaries of pastureland in nomadic livestock husbandry as range areas depend on natural variation. Mobile pastoralists are subject to potentially conflicting needs for secure resource tenure on the one hand, and socially and spatially flexible patterns of resource use on the other. In this regard, national or regional authorities need to consider potential conflicts between national and local/traditional governance structures and, where possible, build on existing and accepted dispute resolution mechanisms. In poor rural areas, customary laws are often more important than statutory law and are relied on when developing access to natural resources and resolving conflicts arising from their use. One way to minimize conflicts with pastoralists is to provide rights of passage for animals along agreed pathways to access pasture and water resources and to compensate for crop damage. Routes can be commonly demarcated in an open and transparent process. Uncontrolled privatization of the commons and demarcated routes should also be avoided.
- **Build capacity of CSOs to represent and defend the interests of pastoral communities:** Pastoral communities often lack the political voice required to influence policy decisions on access to land and water resources. There are often no vibrant and effective pastoral CSOs to engage with policymakers to represent and defend their interests. Many pastoral civil society groups are not representative and accountable, have difficulty
- establishing a common front with each other or strong links with other groups, and have limited financial resources and poor management skills. The UN and EU can provide focused assistance to CSOs dedicated to defining the interests of pastoral communities.
- **Rebuild social capital and local capacity for alternative dispute resolution between livelihood groups:** Social capital represents a community's potential for ingenuity, innovation and cooperative action to address local problems. The social capital of a society includes the institutions, the relationships and the attitudes and values that govern interactions between people and that contribute to economic and social development. Most international actors recognize the importance of rebuilding social capital, in particular traditional conflict resolution mechanisms and approaches. Where they exist and hold legitimacy, they should be further strengthened. Traditional conflict mediation practices should also be adapted to the new realities on the ground as a result of changes taking place in the climate and local environment. Ideally, dispute resolution processes should be nested in an integrated bottom-up community-based pasture management approach, telescoping its steps as necessary to higher levels.
- **Reinforce synergistic relationships, trust-building and economic inter-dependence among different land users:** Where possible, support should be given to enhance crop-livestock interactions between herder and farmer communities, including increased trade, animal exchanges, and shared public services. Opportunities for establishing dialogues between the various livelihood groups should also be explored, such as during the development of environmental management policies and projects, and EIAs.
- **Foster regional approaches and harmonized treatment across borders:** The migratory nature of pastoralism is contrary to the idea of national borders, as rangelands are often frontier lands, and pastoral movements often cross-geopolitical

demarcations. Legal harmonization and special rights of passage need to be negotiated across national borders, and monitoring mechanisms need to be put into place to ensure equitable treatment. This will help avoid inconsistencies or discrepancies between neighboring countries that could lead to increased pressure on natural resources in areas with weaker legislation and/or conflict.

- **Strengthen the capacity of pastoral communities to cope with ecological shocks, insecurity and environmental stresses:** This could include mapping coping strategies deployed by communities in times of crisis, scarcity or disaster, and enhancing access to “common resource pools” (i.e. forests, pastures, wells) that communities can draw upon during such times. National and international agencies supporting the drafting of appropriate strategies to deal with specific crises and shocks should also safeguard mobility as a coping mechanism and must ensure the participation of the target population in designing crisis response plans.
- **Help communities manage pastures to cope with the implications of climate change:** With increasingly uncertain climatic conditions, and different impacts across the region, pastures will need to be managed in a way that supports and promotes land uses that are more resilient to climatic variability. The UN and EU have an important role to play in facilitating what can be called ‘climate foresight’. This refers to the ability to utilize climate projections – estimates of most likely climate changes – in the planning of activities and investments related to and affected by climate. In addition, local communities need to be equipped with information on climate change and its implications on a localized scale, as different communities will face different climatic effects in different places. All climate change adaptation plans need to be conflict- and migration-sensitive in areas of high vulnerability.
- **Establish community-based pasture management programmes:** The basic idea behind community-based pasture management is that access and management of pastures is to be as localized as possible at the community level

with the national government only retaining oversight. Deciding which local community manages which pasture is to be in accordance with intra-community agreements and delineation of registered boundaries to empower management and increase accountability. Community rights to regulate access and use of the pasture resources are sustained for as long as the community succeeds in sustainable utilization and/or rehabilitation where needed.

- **Build capacity of pastoral communities to conduct livestock and disaster early warning and disseminate information:** The UN and EU should help strengthen the use of the livestock and disaster early-warning information by key organizations and broaden the coverage and dissemination among pastoral communities. Equipping agencies and communities with appropriate tools and information will help them plan for, and respond to, emerging situations. To the extent possible, the capacity of local communities to conduct early warning for drought, water scarcity, animal disease, and land degradation, should be enhanced. This information can then be used to adjust decisions on herd size and herd movement.
- **Support national or international monitoring of selected indicators that can help identify emerging pressures on livelihoods and the potential for pasture conflicts:**
 - Herd management: movement of herds, herd splitting, herd composition and size, sales and slaughters;
 - Employment and migration patterns: changes in number or demographic composition of migrants, changes in timing and destination, changes in wages and unemployment levels;
 - Market patterns: livestock and grain prices, changes in supply and demand for livestock, and market access and demand for other household assets;
 - Income-generating activities, in particular: the collection of firewood, production of charcoal, gathering of grass and crop residues, fishing,

hunting, work in urban areas, and production of jewelry, cookware, or other traditional goods and products.

Key toolkits, policy reports and guidance materials that directly or indirectly address pasture management and conflict prevention are listed in Annex 2.2.

6.3 Forest conflicts

Forest-based conflicts are widespread, but generally fairly localized, non-violent, and site specific events. In many cases, they engage not only local actors but also international businesses, conservation organizations, and state authorities. Conflict can almost be considered an inherent aspect of forest management, because the ownership and use of resources by one party usually implies a measure of exclusion of other parties. Most localized forest-related conflicts are mediated by efficiently by customary legal institutions and authorities.

In situations where livelihoods are threatened, inequality is severe, and rights are not clearly articulated; however, forest conflict situations may evolve into long-lasting struggles over access and legal rights between stakeholder groups. These struggles are often induced by the pressures of global economic forces, and usually occur against the backdrop of incompatibility between state and traditional laws, and the failures of state laws to accommodate and respond to local realities.

The manifestations, sources, and intensities of forest-related conflicts are very diverse. Effective responses need to be tailored to the dynamics of the conflict and require coordination and integration at multiple levels.

Specific actions that UN and EU partners can support in terms of preventing conflicts over forests include:

- **Promote sustainable forest management (SFM) to prevent conflict:** In general, large-scale clear-cutting degrades the natural assets and ecological services that local communities depend on and can increase competition for remaining resources. Economic incentives that promote large scale clear-cutting should be eliminated, and incentives should be employed to persuade large companies

holding forest concessions to practice SFM. At the same time, SFM should be oriented to provide economic diversity and help secure rural livelihoods. SFM is defined as the stewardship and use of forests and forest lands in a way that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfill relevant ecological, economic and social functions at local, national, and global levels, without causing damage to other ecosystems.¹⁸⁵ Ideally, SFM and IWRM can be used as companion approaches to address sustainable water and forest management. These also need to go hand in hand with resolving conflicting interests over competing land uses for forested areas such as agriculture, protected areas, mining or other extraction and human settlements.

- **Improve the sustainable management of timber concessions:** Timber concessions are tracts of land that governments grant to industrial firms or other groups for a stated purpose and a limited period of time. Concessions on forestlands are often granted to industry for logging, harvesting non-timber forest products, mining, exploration for and exploitation of oil and gas, and agricultural production. In some cases, concessions for community forestry or for conservation provide legal protection to forest resources and the livelihoods dependent on them. However, what is clear is that most forestlands allocated to large-scale concessionaires are not managed as legally mandated, or in a sustainable manner. As such, formal forestry concessions may be as great a contributor to degradation and deforestation as completely unallocated, open access forests.
- **Support international forest certification schemes and related mechanisms to promote good governance and reduce illegal logging and corruption:** Illegal logging, one of the most important sources of conflict in tropical countries, is currently not addressed in any integrated form through international rules or agreements. However, individual approaches can address aspects of the problem and, collectively, contribute to tackling illegal logging and its associated

conflicts. For example, the Forest Stewardship Council (FSC) label, which is a globally acknowledged timber certification label, requires certified companies to guarantee their products' legality, as well as to establish clear tenure, limit environmental impacts, and provide social and economic support for local communities. Similarly, the EU's Forest Law Enforcement, Governance and Trade (FLEGT) initiative focuses on governance reforms and capacity development, to ensure timber exported to the EU comes from legal sources only. One mechanism for countries to signal their insistence on good governance is to announce their intention to comply with internationally recognized best practices; this means agreeing to manage resources, including forestry, according to the 12 precepts of the Natural Resource Charter. In some cases, however, it is important to recognize that local livelihoods tend to be enmeshed in illegal operations, making anti-corruption and transparency measures a new source of conflict.

- **Support the expansion of state presence and enforcement authority in rural forested areas:** A positive state presence is vital for preventing conflict and for severing or limiting the links among organized criminal organizations and illicit commodity traffickers. This requires the physical presence of positive state elements (police, schools, jobs, health care, markets for products). When that state presence exists, even in somewhat limited form, organized criminal groups may operate but lack the space and infrastructure to challenge the state as an entity or to become the de facto state in subnational areas. At the same time, enforcement should have a conflict-sensitive focus. That is, enforcing forest regulations should not just be a crackdown on all offenders regardless of the severity of the violation, but a proportional analysis of who is in violation and why, with the focus on those who benefit the most and who are most responsible.
- **Eliminate legal and policy inconsistencies and clarify forest rights:** Clearly defined and widely recognized ownership, use, and access rights to land and forest resources are preconditions for peaceful coexistence in forested areas.

Addressing the inconsistencies between formal and local customary law is a necessary step in conflict prevention. Many forest-rich countries struggle with individual rights as well as rights to collective land, or "community forests. The UN and EU should encourage national governments to recognize and secure indigenous people's traditional rights to land and forest resources. While this could be a long process, stakeholders at the local level could agree to recognize local rights and share benefits from logging. Efforts to legally recognize customary rights over forests can include many approaches including negotiated access arrangements, which do not transfer ownership but legalize and secure existing livelihood activities.

- **Improve the participation of marginalized groups and forest-dependent communities in policy development, decision-making and compliance monitoring:** Addressing this issue requires reforms and measures to promote more equal access in decision-making processes and meaningful spaces for marginalized forest stakeholders to represent their interests. This requires targeted support to develop the capacity of disenfranchised stakeholders – particularly indigenous peoples, impoverished forest-dependent communities, and women – to participate in these forums and negotiate on their own behalf. These measures should also include empowering communities to monitor and report on compliance of logging and other forest-based enterprises with forestry laws and operating permits. This may include working toward broad security sector reforms and systems of independent monitoring of human rights violations.
- **Support corruption control, transparency and oversight mechanisms for forest management, concessions and associated revenues:** Forestry (and indeed all resource sectors) should be explicitly incorporated into anti-corruption frameworks. This includes regulations on and transparency in concession allocation, involving competitive bidding to avoid concessions used as patronage. It also requires robust reporting and transparency mechanisms, including timber chain-of-custody and revenue-tracking systems.

The Extractive Industries Transparency Initiative (EITI) is an attempt to improve transparency in terms of payments made by private sector companies to governments for natural resource concessions. While it was not initially designed to include commercial forestry, some countries such as Liberia have included forestry within the EITI framework. The UN and EU can explore further options to utilize the EITI framework in countries with large commercial forest sectors.

- **Support a review of forest concessions lacking legitimacy:** In some situations, forest concessions are issued on a non-transparent basis by a government authority lacking legitimacy. These can be a major source of conflict, especially when benefit-sharing with communities is not included or inequitable. In such situations, the UN and EU can support a formal concession review process to assess the legality of prior allocations, and recommend the cancellation of problematic agreements.
 - **Use targeted commodity sanctions to stop the illegal trade of timber:** In some situations, the UN Security Council or EU can use targeted commodity sanctions to restrict financing to individuals or groups that profit from the illegal exploitation of timber. Where sanctions are used, the UN and EU needs to ensure that their design takes into account: potential shifts in resource financing by armed groups; the potential unintended consequences and economic impact on local livelihoods and trading partners; and national capacity compliance challenges. The existence or threat of commodity sanctions can be used as an effective incentive to conduct resource management reforms.
 - **Consider strengths and weaknesses of formalizing informal forestry:** The EU and UN can support in-depth analysis on whether and how to formalize informal forestry sectors such as small-scale logging, fuel-wood, and charcoal production. While these sectors can provide revenue and employment, and help satisfy market demand, informal activities are also not subject to sustainable forest management and can be a source of conflict if benefits are not
- shared. Careful analysis of the potential impacts of formalization and of institutions needed for good management is critical, together with an incremental approach.
- **Reduce information asymmetry among stakeholder groups:** Filling information gaps relating to government forest policies – particularly regarding their implications and provisions relating to rights, entitlements, and responsibilities as well as the actual status and health of the resource base – is a critically important step towards equalizing the information base among stakeholder groups.
 - **Consider investing in reforestation programmes and restoring forestland use:** Forestlands that have been previously logged have a poor track record of sustainable regrowth and management. Other powerful interests often claim these areas for mining, commercial agriculture or infrastructure expansion, or agricultural settlers or pastoralists may come to occupy them. This can be a major grievance for local forest-dependent communities and a source of conflict if left unaddressed. In designing conflict prevention programmes for forest management, the UN and EU should assess the overall level of regrowth in harvested areas and determine the need for reforestation. In general, programmes should be community-led and maximize job creation.
 - **Support the development of alternative dispute resolution processes:** Alternative dispute resolution processes for forest conflicts are generally preferred to judicial means as building good, long-term relationships among the parties is important. The goal is to use approaches that lead to mutual gain agreements that are more likely to be fair, are in more parties' perceived self-interest, and are more capable of being implemented. The process should enhance communications and trust between the parties, support good faith negotiations, seek mutually beneficial agreements (“win-win” rather than “win-lose”), and agree upon frameworks for implementation. Training for mediators and process facilitators will also be required.

- **Encourage company and project-level grievance mechanisms:** company and project-level grievance mechanisms provide forest stakeholders and communities with appropriate channels of communication to make their concerns known to the company as they arise. Perhaps more importantly, they offer a formalized internal process within the company for addressing grievances. This area of corporate conflict management practice is still emerging among transnational corporations. Increasingly grievance mechanisms are required by certification initiatives and project finance standards. However, in practice, companies are still in the process of testing out such mechanisms, and implementation can be patchy. The oil, gas and mining sectors appear to be leading this evolution in corporate practice, and lessons can be learned from their experience for sustainable forest management.
- **Ensure conflict-sensitivity in payments for ecosystem services (PES):** The emergence of the concept of payments for ecosystem services has raised expectations among many stakeholders that forested ecosystems can be conserved through popular payments to ecosystem service providers rather than through unpopular measures of command and control. The basic logic is simple: those that provide ecosystem services by foregoing alternative uses of the land should be compensated by the beneficiaries of that service. Currently, the most important opportunity is for 'forest carbon' payments. These payments can occur either for carbon sequestration (deriving from the net absorption of carbon dioxide in planted trees) or by protecting carbon stocks – which would otherwise be emitted – in natural forests (see REDD+). The UN and EU should help countries explore further opportunities for PES while also ensuring a conflict-sensitive approach is adopted in terms of benefits-sharing, dispute resolution and mitigating potential impacts to forest livelihoods and communities.
- **Brokering transboundary cooperation over forest resources:** Cooperation is especially important in border regions because they are vulnerable to cross-border traffic of commodities, labor, displaced people, capital, weapons and wildlife. A regional approach is therefore essential, covering trade of forests and related products, harmonizing and enforcing laws and preventing illegal trade as well as cross-border theft. Peace parks have been used as one mechanism to improve forest management through cross-border cooperation while also creating jobs in building park infrastructure and monitoring.
- **Support national or international monitoring of selected indicators that can help identify emerging pressures on forests and the potential for conflicts:**
 - o The amount of agricultural or urban expansion into forest areas;
 - o The appearance of coping mechanisms or survival strategies to address scarcity in forest-dependent livelihoods;
 - o Declining harvests of non-timber forest products;
 - o Increases in the number of boundary disputes over forest areas between communities or between communities and private companies;
 - o Steep increases in domestic processing capacity for forest resources or in production and transport costs;
 - o Increases in illegal trade and export earnings of key forest resources;
 - o The degree of displacement and relocation cases due to lost access to forest resources; and,
 - o The total amount and annual rate of deforestation.

Key toolkits, policy reports and guidance materials that directly or indirectly address forest management and conflict prevention are listed in Annex 2.3.

6.4 Fisheries conflicts

Coastal and inland fisheries play an essential role in the livelihoods of millions of people around the world. However, fisheries today face severe challenges, including pollution, over-fishing, depleted fish stocks and degraded ecosystems. Fisheries are also increasingly impacted by climate change due to rising sea-levels, higher water temperatures, and storm damage. Unsustainable fishing practices, aquaculture and increased sedimentation loads from rivers due to erosion also degrade mangroves and coral reefs, which are vital fish breeding grounds and protect coastlines from erosion. In coastal regions with major lagoons or lake systems, climate-induced changes can also alter freshwater flows and cause greater intrusion of salt water into lagoons. Such changes adversely affect the species that are the basis of inland fisheries. The construction of dams also has major impacts on the movement of fish in inland waterways.

To prevent conflicts over dwindling fish stocks, effective responses need to be tailored to the dynamics of the conflict and require coordination and integration at multiple levels.

Specific actions that UN and EU partners can support in terms of preventing conflicts over fisheries include:

- **Integrated coastal zone management (ICZM):** ICZM provides a way of balancing our social and economic demands on the coast with the protection of coastal ecosystems. The objective of ICZM is to establish sustainable levels of economic and social activity in our coastal areas while protecting the coastal environment. ICZM seeks to reconcile the different policies that have an effect on the coast whilst bringing together stakeholders to inform, support and implement these policies. One central purpose of ICZM is to maximize the benefits provided by the coastal zone and to minimize the conflicts and harmful effects of activities upon the environment. The UN and EU should support the adoption of ICZMs for coastal countries, and/or facilitate processes to update existing plans in order to take
- **Adopt a sustainable approach to fisheries management:** Data on existing fisheries stock and population dynamics, in terms of rate of growth and reproduction, should be systematically gathered in order to determine sustainable fishing yields, establish sound limits, and inform the volume of monthly and annual permitting. The various users of fisheries, including commercial and subsistence fishers, and others whose livelihoods may depend on healthy fisheries should also be systematically identified. The daily and annual catch capacity of the different sectors should be determined in order to fully understand the average annual take against the carrying capacity of the resource. Establishing a sustainable fisheries management plan within the context of an ICZM can help to address the rights of various users, set levels for sustainable yield, outline methods for permitting and enforcing regulations, and provide mechanisms for dispute resolution.
- **Identify and stop sources of pollution and degradation of fish stocks:** Pollution of inland and coastal waters often leads to a decline in fish stocks. Identifying and addressing both point and non-point source pollution can increase the availability of fish stocks over time. Coastal and freshwater aquaculture projects should be monitored to ensure that waste is appropriately disposed of and does not contribute to the pollution of water bodies or the destruction of important natural fish habitats.
- **Rehabilitating fish habitat and restocking fish populations:** A combination of deforestation, altered drainage patterns, increasing erosion with greater sediment delivery to fish bearing streams and sources of land-based pollution often lead to the significant degradation of fish habitat. This causes further reductions in fish populations and compounds the scarcity of the fisheries resource.

into account risks from climate change, including sea-level rise, changes in storm frequency, strength and patterns and increased coastal erosion and flooding, and impacts on fish stocks.

The UN and EU can conduct feasibility studies on the restoration of fisheries habitat and on partial restocking of fish populations as part of ICZM processes. However, for restoration and restocking to be successful, the main sources of habitat degradation need to be curtailed.

- **Clarify fishing rights:** Rights concerning fisheries aid sustainable management by specifying and clarifying who the stakeholders are in a certain fishery, while also aiding stakeholders - whether fishers, fishers' organizations, fishing companies or fishing communities - by providing some security over access to fishing areas, use of an allowable set of inputs, or harvest of a quantity of fish. If rights are well established, fishers know who can or cannot access the fishery resources, how much fishing each is allowed to do, and how long these rights are applicable. Fisheries with clearly defined use rights may be contrasted with open access fisheries, where there are no restrictions on access or catch limits. Disputes over fishing rights can occur due to ambiguities in the rights of various users. This can be an issue at both local and transboundary levels. In many cases, fisheries rights will need to take into account Customary Marine Tenure (CMT) and Territorial Use Rights in Fishing (TURFs) that have long been applied by indigenous communities in determining for each member of the community (whether a fisher or household) the location where that member can access fishery resources. Involving local fishery communities, whose livelihoods depend on this resource, in the establishment of new regulations is an essential measure for broader adoption and acceptance. Similarly, raising public awareness about new regulations is important to ensure regulations and limits are followed.
- **Ensure transparency and EIA in large infrastructure projects:** Large infrastructure projects, such as dams and hydropower installations, can prevent or alter fish migration patterns, potentially affecting livelihoods both

upstream and downstream. Ensuring that the livelihood needs of communities dependent on these resources are included in assessments, and that project development is transparent, including a full EIA with public review, can help prevent potential conflicts. Furthermore, the design of such projects should take into account the need for fish passages, such as ladders and steps.

- **Broker transboundary cooperation over sustainable fisheries management and IUU fishing:** With few exceptions, transboundary cooperative management of shared fish stocks is required if these resources are to be exploited on a sustainable basis. The need for a strong legal framework is critically important in the case of straddling and highly migratory stocks, where the issue of IUU fishing must be dealt with effectively. The harmonization of terms and conditions of access for fishing vessels requires close coordination and cooperation amongst countries with contiguous Exclusive Economic Zone (EEZ) so that fishing vessels can operate under uniform regulations. Procedures for information sharing and monitoring fishing vessels operating in the region are also essential. Any cooperative resource management arrangement must also have the flexibility and robustness to withstand the shocks of unexpected and unpredictable changes. Ideally, cooperation should include a cooperative management authority; a detailed joint management plan; a set of agreed upon common objectives; agreed upon tools for managers, including indicators and reference points to monitor performance; and, a joint scientific body to provide advice. Where illegal fishing occurs, it is important to ensure that local and national capacity is built to monitor, regulate, and prevent such activities.

Key toolkits, policy reports and guidance materials that directly or indirectly address fisheries management and conflict prevention are listed in Annex 2.4.

7

ADDITIONAL RESOURCES AND ORGANIZATIONS

7.1 UN capacities and programmes

The EU-UN partnership on natural resources and conflict can marshal expertise and resources from across the UN and EU. The following capacities can be harnessed to address one or more of the strategies for preventing conflicts over renewable natural resources listed in sections five and six of this guidance note.

United Nations Environment Programme (UNEP): Through its Disasters and Conflicts programme, UNEP conducts field-based assessments to assess and address the environmental causes and consequences of conflicts and disasters, and works to strengthen national environment and NRM capacity in crisis affected countries. Programmes involve institutional and legal development, community-based NRM, clean-up and restoration of environmental hotspots, and environmental diplomacy/mediation support for conflict resolution. At the global level, UNEP provides dedicated training on a variety of topics associated with natural resources, conflict and peacebuilding as well as sustainable NRM and approaches to adopting a “green economy”. UNEP also manages the GEO data portal, containing more than 500 different variables as national, sub-regional, regional and global statistics or as geospatial data sets (maps), covering themes such as freshwater, population, forests, pollution emissions, climate, disasters, health and GDP. UNEP also manages an Expert Group on Conflict and Peacebuilding, focusing on natural resources.

UNDP Bureau for Crisis Prevention and Recovery (UNDP-BCPR): BCPR provides dedicated assistance to countries on conflict

management and high-value natural resources. On a case-by-case basis, it also includes capacity building for natural resource governance within its overall state-building programmes.

Department for Political Affairs (DPA): DPA has established a Mediation Support Unit (MSU) and a stand-by team of mediation experts. Thematic topics include high-value resources, land and water. The MSU provides technical support to UN agencies and missions in conflict prevention and mediation process design and implementation. DPA also maintains a framework for political analysis that incorporates a natural resource dimension. Finally, DPA offers an annual expert training programme on “coping with non-traditional security threats,” which is organized in conjunction with the Geneva Centre for Security Policy (GCSP). Relevant aspects of the programme include “war economies and the illegal exploitation of natural resources.”

United Nations Educational, Scientific and Cultural Organization (UNESCO): The UNESCO programme ‘From Potential Conflict to Cooperation Potential’ (PCCP) provides specific training and policy guidance on water and conflict resolution, as well as case studies and lessons learned. Training covers dispute resolution and negotiation, professional skills development and regional courses for southeast Europe, Latin American countries, and southern African developing countries. UNESCO also runs a dedicated programme on Sustainable Development in Coastal Regions and Small Islands, where it addresses conflict prevention and natural resources.

UN-Water: UN-Water is an inter-agency mechanism formally established in 2003 by the United Nations High Level Committee on Programmes. UN-Water strengthens coordination

and coherence among UN entities and non-UN partners dealing with issues related to all aspects of freshwater and sanitation. This includes surface and groundwater resources, the interface between freshwater and seawater and water-related disasters. UN-Water provides a platform for system-wide discussions to identify challenges in global water management, analyze options for meeting these challenges and ensuring that reliable information and sound analysis informs the global policy debate on water.

UN Industrial Development Organization (UNIDO): UNIDO's Water Management Unit provides services for transfer of best available environmentally sound technologies and environmental practices to improve water productivity in industry and prevent discharge of industrial effluents into international waters (rivers, lakes, wetlands and coastal areas) thereby protecting water resources for future generations.

UNDP Drylands Development Centre: The Centre is working to reduce poverty using sustainable land management of drylands. The Centre carries out research and analysis of policies that affect communities in the drylands and helps to ensure that national policy and planning frameworks address the social and environmental concerns of dryland populations. It also promotes the strengthening of the capacities of individuals and institutions at the local level while working to ensure that national policy and legislation support local development.

World Food Programme (WFP): WFP conducts a Vulnerability Analysis and Mapping (VAM) exercise that identifies areas of food insecurity and emerging vulnerability. These in-depth studies specifically identify the populations at risk from food insecurity, provide information on their numbers and location, explain the reasons for food insecurity and explore opportunities for assistance.

Food and Agricultural Organization (FAO): FAO offers various online statistical databases related to land, natural resources and agriculture on a country by country basis. Most prominently, FAOSTAT provides time-series and cross-sectional data relating to food security and land for around 200 countries.

Data on scarcity, agricultural production and resource distribution may be useful for identifying and addressing conflict risk. FAO has also developed a detailed series of publications and training on negotiation and mediation techniques for natural resources, and on the sustainable management of fisheries, forests and drylands, including a focus on sustainable livelihoods.

Human Settlements Programme (UN-HABITAT): UN-HABITAT's global division runs two major world-wide campaigns, the Global Campaign for Secure Tenure and the Global Campaign on Urban Governance. Land and conflict are dealt with in particular in the Disaster Management Programme. They provide support to other UN agencies, governments and local authorities regarding post-conflict land problems.

UN-Women: UN-Women recently partnered with UNEP and PBSO to address the nexus of women, NRM, and peacebuilding. The agencies will work in partnership in the coming year to produce a policy report, which will make the case and identify entry points for promoting gender equality and sound NRM within peacebuilding settings.

United Nations Framework Convention on Climate Change (UNFCCC): The Nairobi work programme of the UNFCCC is a five-year programme (2005–2010) implemented by member parties, intergovernmental and non-governmental organizations, the private sector, communities and other stakeholders. Its objective is to assist all developing countries in particular to improve their understanding and assessment of impacts, vulnerability and adaptation to climate change; the aim is to help them make informed decisions on practical adaptation actions and measures to respond to climate change on a sound scientific, technical and socio-economic basis, taking into account current and future climate change and variability. The potential security implications of climate change are considered within the programme.

World Bank: The World Bank acknowledges poor NRM as a potential source of conflict and addresses this issue from an alternative conflict management (ACM) or alternative dispute resolution (ADR) perspective. The Bank has used the ACM/ADR

perspective in disputes over management of forests and pastures and other natural resources. In an attempt to develop practical approaches and policies for the international community on natural resources and conflict, the World Bank's Conflict Prevention and Reconstruction Unit and Development Research Group established the Governance of Natural Resources project in 2002. The Sustainable Energy, Oil, Gas, and Mining unit (SEGOM) of the Bank also focuses on building capacity in the management of extractive industries working on issues of governance and sustainable NRM across the main regions of the world.

Environment and Security Initiative (ENVSEC): Within the wider European region, ENVSEC works to assess and address environmental problems that threaten or are perceived to threaten security, societal stability and peace, human health and/or sustainable livelihoods, within and across national borders in conflict-prone areas. The Initiative collaborates closely with governments (particularly ministries of foreign affairs, defense and environment), national experts and NGOs. Based on detailed environment and security assessments, the Initiative develops and implements work programmes aimed at reducing tensions and solving identified problems in the wider European region. ENVSEC was established in 2003 by the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP), and the Organization for Security and Cooperation in Europe (OSCE). The North Atlantic Treaty Organization (NATO), the United Nations Economic Commission for Europe (UNECE) and the Regional Environment Center for Central and Eastern Europe (REC) are also members of ENVSEC.

7.2 EU capacities and programmes

Programme for the Prevention of Violent Conflicts: This programme identifies conflict prevention as a priority for all of the EU's external actions. Social and environmental policies are expressly mentioned among the means at the disposal of the EU to support conflict prevention efforts. The EU also has an extensive set of instruments for structural long-term and direct short-term preventive actions. The long-term instruments include development cooperation, trade, arms control, human rights and environment policies as well as political dialogue.

Forest Law Enforcement, Governance and Trade (FLEGT), the EU Action plan: The FLEGT plan sets out a programme of actions that forms the European Union's response to the problem of illegal logging and the trade in associated timber products. FLEGT addresses illegal logging and links good governance in developing countries with the legal trade instruments and influence offered by the EU's internal market.

Global Atlas and Information Center on Natural Resources and Conflict: The Center coordinates an international network of organizations to collect and maintain relevant information related to the exploitation and degradation of natural resources and conflicts, analyze the collected data in order to develop a better understanding and discovery of the links between natural resources and conflicts, harmonize existing data, and carry out a series of detailed assessments of critical indicators (e.g. critical resources, illegal activities, exploitable resources in conflict prone areas) using remote sensing.

Global Monitoring for Environment and Security (GMES): GMES is a joint initiative of the European Union and European Space Agency that focuses on developing an autonomous and operational earth observation capacity. The objective is to rationalize the use of multiple-source data to acquire timely and quality information, services and knowledge, and to provide autonomous and independent access to information in relation to environment and security.

7.3 CSO, NGO and academic institutions

There are a number of NGOs, CSOs and academic institutions working on topics covered in this Guidance Note. These groups – including environmental, civil and human rights, and women’s organizations, can provide a wealth of knowledge and expertise in this area, and often have greater familiarity with local organizations or the context of a particular problem.

Peace Research Institute Oslo (PRIO): The Center for the Study of Civil War has conducted extensive quantitative research and analysis on links between natural resources and civil war. They have also extended this work to include climate change and security.

<http://www.prio.no/CSCW>

International Peace Institute: The Security-Development Program aims to contribute to a better understanding of the linkages between security and development strategies in conflict management. Through its research projects, conferences and publications, the program seeks to make concrete recommendations to the UN system and the broader international community for more effective strategies, policies and programs in achieving sustainable peace and development. This has included research on resource scarcity and conflict prevention, managing the resource dimensions of civil war and transforming war economies.

<http://www.ipinst.org/>

United States Institute of Peace (USIP): USIP is the independent, nonpartisan conflict management center created by the US Congress to prevent and mitigate international conflict without resorting to violence. USIP works to save lives, increase the government’s ability to deal with conflicts before they escalate, reduce government costs, and enhance our national security. The USIP has issue Guiding Principles for Stabilization and Reconstruction which includes a detailed chapter on Sustainable Economy and natural resources.

<http://www.usip.org/>

University of Oxford: The Centre for the Study of African Economies (CSAE) within the Department of Economics carries out economic research with a particular focus on Africa. Its aim is to improve economic and social conditions in the poorest societies. The resulting policy recommendations address questions in the economic and political spheres as well as in civil society in developing countries. One of the themes addressed by the center is the role of natural resource governance in conflict and peacebuilding. It has conducted a series of quantitative studies on how greed and grievances over natural resources contribute to conflict and also published case studies on good resource governance. The work of the center catalyzed the Natural Resource Charter Initiative.

<http://www.csae.ox.ac.uk/>

University for Peace: UPEACE offers a Masters of Arts Programme in Environmental Security and Governance (ESG). The programme is designed for those wishing to participate in environmental policy design at regional, national, and/or international levels. It pursues a comprehensive understanding of the complex interconnections among global environmental change, peace, and conflict, and how these interconnections are addressed by policy-makers in a variety of arenas.

<http://www.upeace.org/academic/masters/esp.cfm>

Tufts University: The Feinstein International Center develops and promotes operational and policy responses to protect and strengthen the lives and livelihoods of people living in crisis-affected and marginalized communities. This has included research on natural resources, livelihoods, vulnerability and resilience, as well as pastoralism, migration, and food security.

<http://sites.tufts.edu/feinstein/>

Woodrow Wilson International Center for Scholars:

The Environmental Change and Security Programme explores the connections among environmental, health, and population dynamics and their links to conflict, human insecurity, and foreign policy. They have conducted detailed research on environmental peacemaking, environmental cooperation, resource scarcity, conflict resolution and peacebuilding.

<http://www.wilsoncenter.org/program/environmental-change-and-security-program>

United Nations University (UNU): Projects conducted by the Institute for Environment and Human Security (IEHS) reflect the overall mission of UNU: “Advancing Knowledge for Human Security and Development”. UNU-EHS spearheads research and capacity-building activities in the broad interdisciplinary field of ‘risk and vulnerability’. This includes research tracts on natural resources, livelihoods, migration, climate change and disasters.

<http://www.ehs.unu.edu/>

World Agroforestry Centre (ICRAF): The Centre is part of the alliance of the Consultative Group on International Agricultural Research (CGIAR), dedicated to generating and applying the best available knowledge to stimulate agricultural growth, raise farmers’ incomes, and protect the environment. The Centre’s vision is a rural transformation in the developing world as smallholder households strategically increase their use of trees in agricultural landscapes to improve their food security, nutrition, income, health, shelter, energy resources and environmental sustainability. The Centre’s mission is to generate science-based knowledge about the diverse roles that trees play in agricultural landscapes, and use its research to advance policies and practices that benefit the poor and the environment.

<http://www.worldagroforestry.org/>

Geneva Peacebuilding Platform (GPP): The Platform is an inter-agency network that connects the critical mass of peacebuilding actors, resources, and expertise in Geneva and worldwide. The Platform has a mandate to facilitate interaction on peacebuilding between different institutions and sectors, and to advance new knowledge and understanding of peacebuilding issues and contexts. It also plays a creative role in building bridges between international peacebuilding actors located in Geneva, the United Nations peacebuilding architecture in New York, and peacebuilding activities in the field. The Platform’s network comprises more than 700 peacebuilding professionals and over 60 institutions working on peacebuilding directly or indirectly. As part of its 2012-2014 Programme, the Platform provides policy-relevant advice and services, ensures the continuous exchange of information through seminars, consultations, and conferences, and facilitates outcome-oriented peacebuilding dialogues in five focus areas, including a dedicated track on natural resources.

<http://www.gpplatform.ch/>

Initiative for Peacebuilding (IFP): A consortium led by International Alert and funded by the European Commission. IfP draws together the complementary geographic and thematic expertise of 10 civil society organizations (and their networks) with offices across the EU and in conflict-affected countries. Its aim is to develop and harness international knowledge and expertise in the field of conflict prevention and peacebuilding to ensure that all stakeholders, including EU institutions, can access strong independent analysis in order to facilitate better informed and more evidence-based policy decisions. IfP focuses on multiple themes, across multiple regions and organized under the framework of six interconnecting clusters. Thematically, the action includes: security; gender; democratization and transitional justice; mediation and dialogue; regional cooperation on environment, economy and natural resource management; and capacity-building and training.

<http://www.initiativeforpeacebuilding.eu/>

International Land Coalition: A global alliance of civil society and intergovernmental organizations working together to promote secure and equitable access to and control over land for poor women and men through advocacy, dialogue, knowledge-sharing and capacity-building. The mission of the coalition is to secure and equitable access to and control over land reduces poverty and contributes to identity, dignity and inclusion.

<http://www.landcoalition.org/>

Global Water Partnership (GWP): GWP's vision is for a water secure world. Its mission is to support the sustainable development and management of water resources at all levels. GWP focuses on advancing Integrated Water Resource Management (IWRM) - the coordinated development and management of water, land and related resources in order to maximize economic and social welfare without compromising the sustainability of ecosystems and the environment.

<http://www.gwp.org/>

Environmental Law Institute (ELI): ELI is a non-profit, non-advocacy environmental group, which specializes in producing publications and research that target legal practitioners, business leaders, land managers, land use planners, environmentalists, journalists, and lawmakers. ELI also convenes conferences to promote the exchange of ideas; holds seminars to educate legal practitioners and business leaders; and publishes original research, both as monographs and in its periodicals, the Environmental Law Reporter, The Environmental Forum, and the National Wetlands Newsletter. Together with UNEP and the Universities of Tokyo and McGill, ELI is co-managing a global research programme 'Strengthening post-conflict peacebuilding through natural resource management'. This four-year research and publication project has yielded more than 150 peer-reviewed case studies and analyses by over 230

scholars, practitioners, and decision makers from 50 countries. These case studies and analyses have been assembled into a set of six edited books - all published by Earthscan - each focusing on: (1) high-value natural resources; (2) land; (3) assessment and restoration of natural resources; (4) water; (5) resources for livelihoods; and (6) governance.

http://www.eli.org/Program_Areas/PCNRM/

International Institute for Sustainable Development (IISD): IISD manages a dedicated programme on environment, conflict and peacebuilding. The programme aims to catalyze a better understanding of the links between environmental change and human security in order to inform effective conflict prevention, peacebuilding and post-conflict reconstruction efforts. The programme also considers how climate change could affect political and economic stability, and develops effective ways to address those problems.

<http://www.iisd.org/ecp/>

Initiative on Quiet Diplomacy (IQD): IQD provides practical tools and techniques for mediating conflicts. It assists inter-governmental organizations, governments and conflict parties to identify, understand and effectively address the causes of conflict with just solutions. IQD promotes proactive, early and quiet preventive diplomacy by stimulating institutional development at inter-governmental level, providing multidisciplinary analysis and discreet advice, and supporting and facilitating dialogue and mediation processes. The IQD is in the process of developing technical guidance on natural resources and conflict prevention as well as land and conflict prevention.

<http://www.iqdiplomacy.org/>

International Crisis Group (ICG): One of the world's leading independent, non-partisan, sources of analysis and advice to governments, and intergovernmental bodies such as the United Nations, European Union and World Bank, on the prevention and resolution of deadly conflict. ICG's reports, and the advocacy associated with them, provide early warning, conflict analysis, and recommendations for conflict resolution. A number of country-specific reports have focused on the role of natural resources and the environment in driving conflict and impeding peacebuilding. ICG is also conducting new analysis on the climate change and conflict nexus.

<http://www.crisisgroup.org/>

Global Witness: Global Witness operates at the nexus of development, the environment and trade. Global Witness seeks to raise awareness on the underlying causes of conflict and poverty and to end the impunity of individuals, companies and governments that exploit natural resources for their own benefit at the expense of their people and the environment. Global Witness activities range from targeted global advocacy, to undercover investigations, to high-level lobby meetings, to country level technical support.

<http://www.globalwitness.org/>

International Alert (IA): IA is an independent peacebuilding organization that works to establish the foundations for lasting peace and security in communities affected by violent conflict. International Alert works in over 20 countries and territories around the world, both directly with people affected by violent conflict as well as at government, EU and UN levels to shape policy and practice in building sustainable peace. IA has conducted focused work on managing conflicts from natural resources as well as on climate change and security.

<http://www.international-alert.org/>

Interpeace: Interpeace is an international peacebuilding organization that helps divided and conflicted societies build sustainable peace. The organization works with local peacebuilding teams, made up of nationals from affected countries, to facilitate dialogue with all sectors of society. These dialogue processes enable populations directly affected by conflict to rebuild trust, define priorities for social, economic and political rehabilitation, find consensus-based solutions to conflict, and assist with their implementation.

<http://www.interpeace.org/>

Saferworld: Saferworld is an independent organization that works directly with local people as well as through governments and international bodies to prevent violent conflict and encourage cooperative approaches to security. Saferworld has conducted focused work on managing conflicts from natural resources as well as on climate change and security.

<http://www.saferworld.org.uk/>

Conciliation Resources (CR): CR is an independent charity working internationally to prevent violent conflict, promote justice and build lasting peace in war-torn societies. The CR Accord publication series informs and strengthens peace processes worldwide by documenting and analyzing the lessons of peacemaking. Natural resources in conflict, peace agreements and peacebuilding are one of the key topics covered by Accord.

<http://www.c-r.org/>

7.4 Private sector and non-profit initiatives

Global Forest Trade Network: the GFTN - a WWF-led partnership - links more than 300 companies, communities, NGOs, and entrepreneurs in more than 30 countries around the world. The goal is to create a new market for environmentally responsible forest products. The GFTN exists to support and facilitate greater coordination of national and regional efforts to expand responsible and credibly certified forest management, including technical assistance throughout the certification process and enhanced marketing opportunities. The network represents 18 percent of global trade in forest products at a combined annual rate of US \$68 billion.

http://gftn.panda.org/about_gftn/

Forest Stewardship Council (FSC): FSC is an independent, non-governmental, not-for-profit organization established to promote the responsible management of the world's forests. As a multi-stakeholder organization, FSC applies the directive of its membership to develop forest management and chain of custody standards, deliver trademark assurance and provide accreditation services to a global network of committed businesses, organizations and communities. FSC certification provides a credible link between responsible production and consumption of forest products, enabling consumers and businesses to make purchasing decisions that benefit people and the environment as well as providing ongoing business value.

<http://www.fsc.org/>

Natural Resource Charter Initiative: is a set of principles to guide governments and societies in their use of natural resources so that these economic opportunities result in maximum and sustained returns for citizens. The Charter provides the tools and knowledge necessary for governments and civil society groups to avoid the mismanagement of diminishing natural riches and ensure the realization of their benefits now and in the future. The Charter is not a list of prescriptions or conditions designed to provide a checklist of conditions. It does not provide a blueprint for the institutions countries need to build to effectively harness their natural resource wealth. Instead it provides 12 general precepts around which such institutions can be designed and measured against.

<http://www.naturalresourcecharter.org/>

Extractive Industries Transparency Initiative (EITI): EITI is a coalition of governments, companies, civil society groups, investors and international organizations. The EITI supports improved governance in resource rich countries through the full publication and verification of company payments and government revenues from oil, gas, mining and in some cases forestry. EITI Reports are produced by an independent accountant, who reconciles figures from government agencies and companies operating in sectors included in the EITI process and subject to standard reporting procedures. The EITI aims to defeat the resource curse by improving transparency and accountability.

<http://eiti.org/>

ANNEX 1: Thematic Guidance Notes and toolkits

TOPIC	TITLE
1. Conflict analysis methods and programming	
Conflict analysis and programming	<ul style="list-style-type: none"> • UNDG Guidance Note on Managing Natural Resources in Transition Settings. (UNDG 2012). • Conflict Analysis and Peacebuilding Toolkit on Natural Resources and Land. (UNEP, 2012). • Post-Conflict Needs Assessment: Note on Addressing Environmental Issues. (UNEP, 2009). http://www.undg.org/docs/9926/Final Draft Toolkit Note Environment 9 March 2009.doc • Conflict-related Development Analysis. (UNDP BCPR, 2003). • Sustainable Economic Development in Conflict-Affected Environments: A Guidebook. (GTZ 2009) http://www.enterprise-development.org/download.aspx?id=1282
2. Increasing availability of natural resources	
Supply management	<ul style="list-style-type: none"> • SER Guidelines for Developing and Managing Ecological Restoration Projects describes. (IUCN, 2004). http://www.ser.org/content/ecological_restoration_primer.asp
Demand management	<ul style="list-style-type: none"> • Tracking Progress: Implementing sustainable consumption policies - 2nd Edition. (UNEP, 2004). http://www.unep.fr/shared/publications/pdf/DTIx0570xPA-TrackingProgress2.pdf
Payments for ecosystem services	<ul style="list-style-type: none"> • The Economics of Ecosystems and Biodiversity: for National and International Policymakers. (UNEP, 2009). • The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A synthesis of the approach, conclusions and recommendations of TEEB. (UNEP, 2010). http://www.teebweb.org/LinkClick.aspx?fileticket=bYhDohL_TuM percent3d&tabid=1278&mid=2357
Green economy	<ul style="list-style-type: none"> • Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication. (UNEP, 2011) http://www.unep.org/greeneconomy/Portals/88/documents/ger/ger_final_dec_2011/Green percent20EconomyReport_Final_Dec2011.pdf
Resource efficiency and decoupling	<ul style="list-style-type: none"> • Decoupling Natural Resource Use and Environmental Impacts from Economic Growth. (UNEP, 2011). http://www.unep.org/resourcepanel/decoupling/files/pdf/decoupling_report_english.pdf

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TOPIC	TITLE
3. Sustainable livelihoods	
Livelihoods and conflict	<ul style="list-style-type: none"> • Power, Livelihoods and Conflict: Case Studies in Political Economy Analysis for Humanitarian Action. (ODI 2003). http://www.odi.org.uk/resources/download/241.pdf • Livelihood Conflicts: Linking Poverty and Environment as Causes of Conflict (Sida, 2000). http://waterwiki.net/images/6/68/Livelihood_conflicts_linking_poverty_and_environment_as_causes_of_conflict.pdf • Livelihoods and Conflict: A Toolkit for Intervention. (USAID, December 2005). http://www.usaid.gov/our_work/cross-cutting_programs/conflict/publications/docs/CMM_Livelihoods_and_Conflict_Dec_2005.pdf • A Critical Review of Approaches to Assessing and Monitoring Livelihoods in Situations of Chronic Conflict and Political Instability. (ODI, 2002). http://www.odi.org.uk/resources/download/1986.pdf • Livelihood Assessment Toolkit: Analyzing and Responding to the Impacts of Disasters on the Livelihoods of People. (FAO and ILO, 2009). http://www.fao.org/fileadmin/templates/tc/tce/pdf/LAT_Brochure_LoRes.pdf • Sustainable Livelihoods, Environmental Security and Conflict Mitigation in South Asia (IUCN 2006). http://www.sdpi.org/whats_new/recent_publications/061221-LS-final.pdf
Livelihood diversification and recovery	<ul style="list-style-type: none"> • Livelihood Diversification and Natural Resource Access. (FAO, 2005). ftp://ftp.fao.org/docrep/fao/006/AD689E/AD689E00.pdf • Livelihoods Analysis and Identifying Appropriate Interventions: Special Supplement. (Field Exchange, Issue 103, 2006). http://fex.enonline.net/103/chapter3.aspx • Planning Sustainable Livelihood Recovery. (International Recovery Platform, 2007). http://irp.onlinesolutionsltd.net/assets/tools_guidelines/Planning percent20Sustainable percent20Livelihood percent20Recovery.pdf
Value-chain development	<ul style="list-style-type: none"> • Conflict Sensitive Approaches to Value Chain Development. (USAID, 2008). http://www.international-alert.org/pdf/mR_101_C-S_Approaches_to_Value_Chain.pdf • A Synthesis of Practical Lessons from Value Chain Projects in Conflict-Affected Environments (USAID, 2008). http://microlinks.kdid.org/sites/microlinks/files/resource/files/mR-1.pdf
Vulnerability to climate change and disasters	<ul style="list-style-type: none"> • CRiSTAL: Community-based Risk Screening Tool – Adaptation and Livelihoods. (IISD, 2010). http://www.cristaltool.org/ • Tools for Mainstreaming Disaster Risk Reduction (including Climate Change) into Sustainable Livelihood Approaches. (Prevention Consortium 2007). http://www.proventionconsortium.org/themes/default/pdfs/tools_for_mainstreaming_GN10.pdf • Combining Disaster Risk Reduction, Natural Resource Management and Climate Change Adaptation in a new Approach to the Reduction of Vulnerability and Poverty. (IISD, 2003). http://www.iisd.org/pdf/2003/natres_livelihoods_cc.pdf

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TOPIC	TITLE
4. Natural resource governance	
Natural resources and conflict	<ul style="list-style-type: none"> • Resource Scarcity: Responding to the Security Challenge. (International Peace Institute, 2008). http://www.ipinst.org/media/pdf/publications/rscar0408.pdf • Dealing with Scarcity and Violent Conflict. (Netherlands Institute of International Relations, 2003). http://www.clingendael.nl/publications/2003/20031000_cru_working_paper_24.pdf • Conflict and Natural Resource Management. (FAO, 2000). http://www.fao.org/forestry/21572-1-0.pdf • Natural resource Governance in Conflict-Affected Contexts. (International Alert, 2010). http://www.international-alert.org/sites/default/files/publications/201010PracticeNote6NatResourceGovernance.pdf
Capacity building for natural resource management	<ul style="list-style-type: none"> • Capacity Development for Managing Land and Natural Resources from a Conflict Prevention Perspective. (EU-UN Partnership on Natural Resources and Conflict Prevention, 2012). http://www.unep.org/disastersandconflicts/portals/155/dnc/docs/ecp/GN_Capacity_Consultation.pdf
Co-management of natural resources	<ul style="list-style-type: none"> • Co-management of Resources: Organizing, Negotiating and Learning by Doing. (IUCN, 2007). http://www.conservation-development.net/rsFiles/Datei/CoManagement_English_Auflage2.pdf
Community-based natural resource management	<ul style="list-style-type: none"> • Community-based Natural Resource Management: How Knowledge is Managed, Disseminated and Used. (IFAD, 2006). http://www.ifad.org/pub/other/cbnrm.pdf • Decentralized Governance of Natural Resources. (UNDP, 2006). http://www.preventionweb.net/files/1836_VL102103.pdf
Environmental impact assessment	<ul style="list-style-type: none"> • Resource Manual for Environmental Impact Assessment. (UNEP, 2005). http://www.iaia.org/training/download-unesp-manual.aspx • Strategic Environmental Assessment and Post-Conflict Development. (OECD, 2010). http://content.undp.org/go/cms-service/download/publication/?version=live&id=2078176
Natural resource management policy development	<ul style="list-style-type: none"> • Green Breakthroughs: Solving Environmental Problems Through Innovative Policies and Law. (UNEP, 2008). http://www.unep.org/DEC/PDF/Green_Breakthroughs.pdf • Natural Resource Charter Initiative. http://www.naturalresourcecharter.org/
Environmental compliance and enforcement	<ul style="list-style-type: none"> • Principles of Environmental Compliance and Enforcement Handbook. Second Edition. (International Network for Environmental Compliance and Enforcement, 2009). http://inece.org/resource/principles.

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TOPIC	TITLE
Natural Resource Access	<ul style="list-style-type: none"> Improving Access to Natural Resources for the Rural Poor: A Critical Analysis of Central Concepts and Emerging Trends from a Sustainable Livelihoods Perspective. Pari Baumann. (FAO, 2002). ftp://ftp.fao.org/docrep/fao/006/ad683E/ad683E00.pdf Improving Access to Natural Resources for the Rural Poor: The Experience of FAO and of other key Organizations from a Sustainable Livelihoods perspective. (FAO, 2004). ftp://ftp.fao.org/docrep/fao/006/AD684E/AD684E00.pdf The Right to Food and Access to Natural Resources: Using Human Rights Arguments and Mechanisms to Improve Resource Access for the Rural Poor. http://www.fao.org/righttofood/publi09/natural_resources_en.pdf
Land and resource tenure	<ul style="list-style-type: none"> Land and Conflict Prevention. (EU-UN Partnership on Natural Resources and Conflict Prevention, 2012). http://www.unep.org/disastersandconflicts/portals/155/dnc/docs/ecp/GN_Land_Consultation.pdf Voluntary Guidelines on Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security. (2012). http://www.fao.org/nr/tenure/voluntary-guidelines/en/
Climate change	<ul style="list-style-type: none"> Climate Change, Conflict and Fragility: Understanding the Linkages and Shaping and Effective Response. (International Alert, 2009). http://www.international-alert.org/sites/default/files/publications/Climate_change_conflict_and_fragility_Nov09.pdf The Climate Vulnerability and Capacity Analysis (CVCA) handbook (CARE, 2009). http://www.careclimatechange.org/cvca/CARE_CVCAHandbook.pdf Adaption to Climate Change in Agriculture, Forestry and Fisheries (FAO, 2007). ftp://ftp.fao.org/docrep/fao/009/j9271e/j9271e.pdf Adapting to Climate Variability and Change (USAID, 2007). http://www.usaid.gov/our_work/environment/climate/docs/reports/cc_vamannual.pdf
5. Civil society engagement and access to justice	
Civil society engagement in policy development	<ul style="list-style-type: none"> Enhancing Civil Society Engagement in Public Policy Processes. (ESCWA, 2009). http://pdwa.escwa.org.lb/uploads/nv2253789.pdf Policy Engagement: How Civil Society can be more Effective. (ODI, 2009). http://www.odi.org.uk/resources/docs/200.pdf
Civil society monitoring of compliance	<ul style="list-style-type: none"> Government and Citizen Oversight of Mining: Enforcing the Rules. (Revenue Watch, 2011). http://www.revenuewatch.org/sites/default/files/RWI_Enforcing_Rules_full.pdf
Negotiation and mediation	<ul style="list-style-type: none"> Conflict Resolution and Negotiation Skills for Integrated Water Resource Management. (CAP-NET UNDP 2008). http://www.cap-net.org/sites/cap-net.org/files/Conflict percent20Manual percent20Final percent20170908.pdf Negotiation and Mediation Techniques for Natural Resource Management. (FAO, 2005). http://www.fao.org/docrep/008/a0032e/a0032e00.htm#Contents

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TOPIC	TITLE
Stakeholder identification	<ul style="list-style-type: none"> • Collective Action for Managing Natural Resources – A Manual for Identifying Stakeholders (Danish International Development Agency, 2004). http://www.ciat.cgiar.org/downloads/pdf/collective_action.pdf
Grievance mechanisms	<ul style="list-style-type: none"> • A Guide to Designing and Implementing Grievance Mechanisms for Development Projects. (World Bank Group, 2008). http://www.cao-ombudsman.org/howwework/advisor/documents/implemgrieveng.pdf
Dispute resolution	<ul style="list-style-type: none"> • International Support for Effective Dispute Resolution Between Companies and Their Stakeholders: Assessing Needs, Interests, and Models. (Corporate Social Responsibility Initiative Working Paper No. 63, 2011). http://www.hks.harvard.edu/m-rcbg/CSRI/publications/workingpaper_63_rees_percent20kovick_june_percent202011.pdf
Adjudication	<ul style="list-style-type: none"> • Judicial Training Modules on Environmental Law: Application of Environmental Law By National Courts and Tribunals (UNEP, 2010). http://www.unep.org/DEC/Information_Resources/globaljudgesprog.asp • Judicial Handbook on Environmental Law. (UNEP, 2006). http://www.unep.org/law/PDF/JUDICIAL_HBOOK_ENV_LAW.pdf
6. Transboundary information, institutions and processes	
Water	<ul style="list-style-type: none"> • Management of Transboundary Water Resources: Lessons from International Cooperation for Conflict Prevention. (Uitto and Duda, 2002). http://dusk.geo.orst.edu/prosem/PDFs/estemmerman_transbound.pdf • International Waters: Review of Legal and Institutional Frameworks. (UNDP and GEF, 2011). http://content.undp.org/go/cms-service/download/publication/?version=live&id=3247154 • International Waters: Indicators for Identifying Basins at Risk. (UNESCO, 2003). http://unesdoc.unesco.org/images/0013/001333/133306e.pdf • Transboundary Fresh Water Disputes and Conflict Resolution: Planning an Integrated Approach. (1997). Internationally Shared (Transboundary) Aquifer Resources Management: Their significance and Sustainable Management. (UNESCO, 2001). http://unesdoc.unesco.org/images/0012/001243/124386e.pdf • Transboundary Water Management as an International Public Good. (Swedish Ministry of Foreign Affairs, 2000). http://www.odi.org.uk/resources/docs/3870.pdf • Transboundary Water Cooperation: Reader. (UNW-DPAC, 2010). http://www.un.org/waterforlifedecade/pdf/05_2010_reader_transboundary_waters_eng.pdf • Atlas of Transboundary Aquifers. Global Maps, Regional Cooperation and Local Inventories. (UNESCO, 2009). http://www.isarm.net/publications/324 • Transboundary Waters: Sharing-Benefits, Sharing Responsibilities. (UN-Water, 2008). http://www.unwater.org/downloads/UNW_TRANSBOUNDARY.pdf • IWRM Guidelines at River Basin Level. (UNESCO, 2009). http://www.gwptoolbox.org/index2.php?option=com_reference&reference_id=198&pop=1

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TOPIC	TITLE
Dams	<ul style="list-style-type: none"> Dams and Development: A new Framework for Decision-Making. (World Commission on Dams, 2000). http://www.internationalrivers.org/files/world_commission_on_dams_final_report.pdf
Fisheries	<ul style="list-style-type: none"> The Conservation and Management of Shared Fish Stocks: Legal and Economic Aspects. (FAO, 2004). http://www.fao.org/docrep/007/y5438e/y5438e00.htm#Contents
Oceans	<ul style="list-style-type: none"> United Nations Convention on the Law of the Sea (1982).
Air	<ul style="list-style-type: none"> Convention on Long-range Transboundary Air Pollution (1979). http://www.unece.org/env/lrtap
EIA	<ul style="list-style-type: none"> Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991). http://www.unece.org/env/eia/
Hazardous Waste	<ul style="list-style-type: none"> Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989). http://www.basel.int/
Protected Areas	<ul style="list-style-type: none"> Transboundary Protected Areas for Peace and Cooperation. (IUCN, 2001). http://data.iucn.org/dbtw-wpd/edocs/PAG-007.pdf
7. Conflict-sensitive programming	
Development	<ul style="list-style-type: none"> Conflict-Sensitive Approaches to Development. (Safer World, International Alert, International Development Research Center, 2001). http://web.idrc.ca/uploads/user-S/10596649641conflict-sensitive-develop.pdf
Private sector	<ul style="list-style-type: none"> Private Sector Development in Conflict-Affected Environments. (International Alert, 2010). http://www.international-alert.org/sites/default/files/publications/1010PSDCAE.pdf Foreign Direct Investment in Conflict-Affected Contexts. (International Alert, 2010). http://www.international-alert.org/sites/default/files/publications/practice_note3_march2010.pdf Conflict-sensitive Approaches to Value-chain Development. (USAID, 2008). http://pdf.usaid.gov/pdf_docs/PNADY232.pdf Conflict-Sensitive Business Practice: Engineering Contractors and their Clients. (International Alert, 2006). http://www.international-alert.org/sites/default/files/publications/CSBP_Engineering_contr_smal.pdf
Land	<ul style="list-style-type: none"> Practice note 7: Conflict-sensitive Land Policy and Land Governance in Africa. (International Alert, 2011). http://www.international-alert.org/sites/default/files/publications/PracticeNote7.pdf

... Continued

TOPIC	TITLE
Environment	<ul style="list-style-type: none"> • Fragile Environment, Fragile State: What Role for Conflict-Sensitivity and Peace-Building? (CCIC, 2009). http://www.ccic.ca/_files/en/what_we_do/002_environmental_justice_2009-01-14_brief_3_adaptation_peacebldg.pdf
Renewable natural resources	<ul style="list-style-type: none"> • Renewable Natural Resources: Practical Lessons for Conflict-Sensitive Development. (World Bank, 2009). http://siteresources.worldbank.org/EXTSOCIALDEVELOPMENT/Resources/244362-1164107274725/RNR_PRS.pdf
Conservation projects	<ul style="list-style-type: none"> • Conflict-sensitive Conservation: A Practitioners Manual. (IISD, 2009). http://www.iisd.org/pdf/2009/csc_manual.pdf
Climate change	<ul style="list-style-type: none"> • Climate Change and Conflict: Conflict-sensitive Climate Change Adaptation in Africa. (ACCORD, 2011). http://www.accord.org.za/downloads/brief/policy_practice14.pdf
8. Early warning, risks assessments and scenario analysis	
Conflict Early Warning	<ul style="list-style-type: none"> • Preventing Violence, War, and State Collapse: The Future of Conflict Early Warning and Response. (OECD, 2009). http://www.operationspaix.net/IMG/pdf/OECD_PreventingViolenceWarStateCollapse.pdf • CrisisWatch Database. http://www.crisisgroup.org/en/publication-type/crisiswatch/crisiswatch-database.aspx • Global Monitoring for Environment and Security (GMES). http://www.gmes.info/
Disaster early warning services	<ul style="list-style-type: none"> • Humanitarian Early Warning Service. http://www.hewsweb.org/hp/ • Global Disaster Alert and Coordination System. http://www.gdacs.org/ • Famine Early Warning System (FEWS): http://www.fews.net/Pages/default.aspx
Disaster Vulnerability and Risk Reduction	<ul style="list-style-type: none"> • Global Assessment Report on Disaster Risk Reduction: Revealing Risk and Redefining Development. (UN, 2011). http://www.preventionweb.net/english/hyogo/gar/2011/en/home/index.html • Project of Risk Evaluation, Vulnerability, Information and Early Warning (PreView). http://preview.grid.unep.ch/index3.php?preview=map&lang=fr • Global Risk Identification Programme (GRIP). http://www.gripweb.org/gripweb/

... Continued

TOPIC	TITLE
Environmental risk assessment	<ul style="list-style-type: none"> • Environmental Data Explorer. (UNEP). http://geodata.grid.unep.ch/ • Post-Conflict Environmental Assessments. (UNEP). http://www.unep.org/disastersandconflicts/Introduction/PostCrisisEnvironmentalAssessment/tabid/54351/Default.aspx • Environmental Risk Assessments: Approaches, Experiences and Information sources. (EEA, 1998). http://www.eea.europa.eu/publications/GH-07-97-595-EN-C2
Food security	<ul style="list-style-type: none"> • Understanding Vulnerability Food Security Analysis. (WFP, 2010). http://documents.wfp.org/stellent/groups/public/documents/communications/wfp225364.pdf
Climate change vulnerability	<ul style="list-style-type: none"> • Vulnerability and Climate Change Impact Assessments for Adaptation: Training Manual. (IISD, UNITAR and UNEP 2009). http://www.unep.org/ieacp/files/pdf/ClimateChange_Manual_Final.pdf • Vulnerability and Impact Assessments for adaptation to Climate Change: Training Manual Volume 2. (IISD, UNITAR and UNEP 2009). http://www.iisd.org/pdf/2010/iea_training_vol_2_via.pdf • Climate change: Impacts, Vulnerabilities and Adaptation in Developing Countries. (UNFCCC, 2007). http://unfccc.int/resource/docs/publications/impacts.pdf
Scenario analysis	<ul style="list-style-type: none"> • Environmental Futures: The Practice of Environmental Scenario Analysis. (2008). Edited by Joe Alcamo, UNEP Chief Scientist.

ANNEX 2: Sector-specific Guidance Notes and Toolkits

TOPIC	TITLE
1. Water	
Integrated water resource management	<ul style="list-style-type: none"> • Integrated Water Resource Management Information Portal. UN-Water. http://www.un.org/waterforlifedecade/iwrm.shtml • Integrated Water Resources Management - Reader. (UNW-DPAC, 2010). http://www.un.org/waterforlifedecade/pdf/05_2010_reader_iwrm_eng.pdf • Integrated Water Resources Management in Action. (WWAP, DHI Water Policy, UNEP-DHI Centre for Water and Environment, 2009). http://unesdoc.unesco.org/images/0018/001818/181891E.pdf • Conflict Resolution and Negotiation Skills for IWRM. (CAP-NET UNDP 2008). http://www.cap-net.org/sites/cap-net.org/files/Conflict percent20Manual percent20Final percent20170908.pdf
Benefit sharing	<ul style="list-style-type: none"> • Practical Approaches to Transboundary Water Benefit-Sharing: http://www.odi.org.uk/resources/docs/2576.pdf
Public-private partnerships	<ul style="list-style-type: none"> • Public-Private Partnerships for Water Supply and Sanitation. (2011). http://www.partnershipsforwater.net/web/d/doc_29.pdf • Information Portal: Improving Partnership Governance in Water Services through PPPs. http://www.partnershipsforwater.net/
Rights	<ul style="list-style-type: none"> • Water Rights Reform: Lessons for Institutional Design. (International Food Policy Research Institute, 2005). http://www.ifpri.org/sites/default/files/pubs/pubs/books/oc49/oc49.pdf
Public participation	<ul style="list-style-type: none"> • Water Management: Guidance on Public Participation and Compliance with Agreements: Convention on Protection and Use of Transboundary Watercourses and International Lakes (ECE/UNEP Network of Expert on Public Participation and Compliance, 2000). http://www.iwacportal.org/File/downloads/guidance_pp.pdf
Dams and development	<ul style="list-style-type: none"> • Dams and Development: A new Framework for Decision-Making. (World Commission on Dams, 2000). http://www.internationalrivers.org/files/world_commission_on_dams_final_report.pdf
EIA and SEA	<ul style="list-style-type: none"> • Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach. (UNEP, 2004). http://www.unep.ch/etu/publications/textONUbr.pdf

... Continued

TOPIC	TITLE
Conflict	<ul style="list-style-type: none"> • Water and Conflict: Incorporating Peacebuilding into Water Development (CRS, 2009). http://crsprogramquality.org/pubs/peacebuilding/waterconflict.pdf • Water and Conflict: Toolkit for Practitioners (Adelphi Research, USAID, Woodrow Wilson International Center for Scholars, May 2004). • http://www.rmportal.net/library/content/tools/water-and-fresh-water-resource-management-tools/toolkit-water-and-conflict-04-04-02.pdf/at_download/file • Water Resource Scarcity and Conflict: Review of Applicable Indicators and Systems of Reference (UNESCO PCCP, 2003). http://unesdoc.unesco.org/images/0013/001333/133307e.pdf • Coping with Water Scarcity: A Strategic Issues and Priority for System-wide Action (UN Water 2006). http://www.unwater.org/downloads/waterscarcity.pdf • Water Conflicts: An Annotated Bibliography for 1996-2001. (Olga Baeva, PRIO). http://www.prio.no/files/manual-import/bibliographies/water_conflict/water_bibliography.pdf
2. Pastures	
Community-based pasture management	<ul style="list-style-type: none"> • A Step-by-Step Provisional Guidelines Towards Community-based Pasture Management and Integrated Tenure Development. (USAID, 2005). http://pdf.usaid.gov/pdf_docs/PNADH141.pdf
Case studies	<ul style="list-style-type: none"> • Regional Livestock Study in the Greater Horn of Africa. (ICRC, 2005). http://www.livestock-emergency.net/userfiles/file/general/Simpkin-2005.pdf • Recommended Strategy for Conflict Resolution of Competing High Pasture Claims of Settled and Nomadic Communities in Afghanistan. (UNEP, 2009). http://postconflict.unep.ch/publications/afg_tech/theme_01/afg_rangeland_EN.pdf
Drought	<ul style="list-style-type: none"> • Drought-related Livestock Interventions. (FAO, 2001). http://www.fao.org/ag/againfo/programmes/en/lead/alive_toolkit/doc/s1_04_livestock_interv_rep.pdf
Conflict resolution	<ul style="list-style-type: none"> • Mainstreaming Conflict Prevention in Development Cooperation: Tip Sheet on the Links between Pastoral Livelihoods and Conflict Prevention (SDC and IISD, 2005). http://www.iisd.org/pdf/2005/security_pastoral_tipsheet.pdf • Land and Conflict: A Toolkit for Intervention (USAID, April 2005). http://www.usaid.gov/our_work/crosscutting_programs/conflict/publications/docs/CMM_Land_and_Conflict_Toolkit_April_2005.pdf • Land and Conflict (EU-UN Partnership on Natural Resources and Conflict Prevention, 2012). http://www.unep.org/disastersandconflicts/portals/155/dnc/docs/ecp/GN_Land_Consultation.pdf

... Continued

TOPIC	TITLE
3. Forests	
Concessions	<ul style="list-style-type: none"> • Large Acquisition of Rights on Forest Lands for Tropical Timber Concessions and Commercial Wood Plantations: (International Land Coalition, 2011). http://www.ibcperu.org/doc/isis/13580.pdf
Grievance mechanisms	<ul style="list-style-type: none"> • Company-Led Approaches to Conflict Resolution in the Forest Sector. (The Forest Dialogue, 2009). http://pubs.iied.org/pdfs/G02510.pdf
REDD	<ul style="list-style-type: none"> • Benefits Sharing in REDD+: Policy Note. (World Bank, 2010). http://redd-net.org/files/BenefitSharingPN.pdf • Monitoring Governance Safeguards in REDD+ Expert Workshop. (2010). http://www.fao.org/climatechange/21145-091981d43d2eb7409b8a710e700c6571.pdf • Incentives to Sustain Forest Ecosystems: A Review and Lessons for REDD. (IIED 2009). http://pubs.iied.org/pdfs/13555IIED.pdf
Stakeholder participation	<ul style="list-style-type: none"> • Enhancing Stakeholder Participation in National Forest Programmes. (FAO, 2009). ftp://ftp.fao.org/docrep/fao/012/i1044e/i1044e00.pdf
Protected areas and conservation	<ul style="list-style-type: none"> • Transboundary Protected Areas for Peace and Cooperation. (IUCN, 2001). http://data.iucn.org/dbtw-wpd/edocs/PAG-007.pdf • Conflict-sensitive Conservation: A Practitioners Manual. (IISD, 2009). http://www.iisd.org/pdf/2009/csc_manual.pdf
Conflict	<ul style="list-style-type: none"> • Forests and Conflict: A Toolkit for Intervention (USAID, July 2005). http://www.usaid.gov/our_work/cross-cutting_programs/conflict/publications/docs/CMM_Forests_and_Conflict_2005.pdf • Forests and Conflict. (FAO, 2009). ftp://ftp.fao.org/docrep/fao/012/i0692t/i0692t00.pdf • Forests, Trees and People Programme: Conflict Management Series (FAO). http://www.fao.org/DOCREP/005/X9610E/X9610E00.HTM • Community-based Forest Resource Conflict Management: Training Package Volume 1 (FAO). http://www.fao.org/DOCREP/005/Y4300E/Y4300E00.HTM • Community-based forest Resource Conflict Management: Training Package Volume 2 (FAO). http://www.fao.org/DOCREP/005/Y4301E/Y4301E00.HTM • Forest-Related Conflict: Impacts, Links, and Measures to Mitigate (Rights and Resources, 2008). http://www.recoftc.org/site/fileadmin/docs/publications/The_Grey_Zone/2008/Forest_related_report.pdf • Forests, Fragility and Conflict: Overview and Case Studies (World Bank, 2011). http://www.profor.info/profor/sites/profor.info/files/FRAGILE_percent20FOREST_Final_WebRes.pdf • The Role of Alternative Conflict Management in Community Forestry. (FAO, 1994). http://www.fao.org/docrep/005/x2102e/x2102e00.htm

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TOPIC	TITLE
4. Fisheries	
ICZM	<ul style="list-style-type: none"> • Good Practice Guidelines for Integrated Coastal Zone Management in the Mediterranean. (UNEP, 2001). http://www.pap-thecoastcentre.org/pdfs/Good percent20Practices percent20Guidelines.pdf
Conflict	<ul style="list-style-type: none"> • Managing Conflicts over Resources and Values: Continental Coasts. (UNESCO, 2002). http://www.unesco.org/csi/pub/papers2/map.pdf • Management of Fishing Capacity and Resource Use Conflicts in Southeast Asia: A Policy Brief. 2006. http://www.rsis-ntsasia.org/resources/publications/policy-briefs/inaugural-meeting/worldfish.pdf
Fisheries management	<ul style="list-style-type: none"> • A Fishery Manager's Guidebook - Management Measures and Their Application. (FAO, 2002). http://www.fao.org/docrep/005/y3427e/y3427e00.htm#Contents
IUU	<ul style="list-style-type: none"> • Illegal, Unreported and Unregulated Fishing: Considerations for Developing Countries. (FAO, 2000). http://www.fao.org/DOCREP/005/Y3274E/y3274e0k.htm

ANNEX 3: Relationship Indicators

Indicators of increasing conflict intensity between parties

TOPIC	INTENSITY LEVEL I	INTENSITY LEVEL II	INTENSITY LEVEL III	INTENSITY LEVEL IV
Conflict analysis and programming	Mild verbal and written disagreements or protests	Strong verbal or written threats of a hostile nature or ultimatums	Unilateral hostile actions of a diplomatic or economic nature	Unilateral military acts or violent conflict
Level of politicization	Shift from non-politicized to politicized	Use of coercive instruments or display of symbolic acts	Securitization of the issue with increasing military involvement or small arms	Violence
Applied power	Manipulation or restriction of information	Direct and indirect coercion	Uni-lateral decision making and resource use	Resource capture and exclusion

Indicators of increasing cooperation intensity between parties

TOPIC	INTENSITY LEVEL I	INTENSITY LEVEL II	INTENSITY LEVEL III	INTENSITY LEVEL IV
Commonality and shared purpose	Shared understanding and priorities	Shared vision and plan	Joint commitments or agreements	Adoption of domestic policy and legislation
Institutional change	Increased technical expertise	Increased monitoring capacity	Increased enforcement capacity	Increased legal compliance
Multiplexity and scope	Short-term technical cooperation on one issue	Increase in timeframe of technical cooperation	Increase in number of cooperation topics	Expansion from technical to political cooperation
Continuity of engagement	Irregular engagement occurs only with third party support	Regular engagement occurs with direct third party support	Regular engagement occurs with indirect third party support	Regular engagement occurs after third party support is withdrawn
Information transparency	Agreement to share technical information	Selective sharing of information	Institutionalized sharing of information	Joint collection of information
Benefit achievement	One benefit achieved (T) *	Two benefits achieved (T/S) *	Three benefits achieved (T/S/E) *	Four benefits achieved (T/S/E/P) *

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TOPIC	INTENSITY LEVEL I	INTENSITY LEVEL II	INTENSITY LEVEL III	INTENSITY LEVEL IV
Cooperation intensity	Confrontation of issue	Ad hoc and inconsistent	Consistent reactive / risk-averting	Consistent proactive / risk taking
Dispute resolution capacity	Process clarified and accepted by parties	Resolution process initiated	Resolution process continues	Successful resolution of dispute
Stakeholder involvement	Identification of stakeholders	Dialogue with stakeholders	Meaningful involvement of stakeholders	Ownership of outcome by stakeholders

* Technical, social, economic, political

ANNEX 4: Natural Resource and Conflict Indicators for Early Warning

ISSUE	INDICATOR
Changes in resource availability	<ul style="list-style-type: none"> • Arable/fertile land availability (hectares per person). • Renewable water available per capita (cubic meters per person per year). • Annual percentage change in forest area. • Consumption of biomass energy (kg per person per year).
Changes in livelihood strategies and land use	<ul style="list-style-type: none"> • Distress sales of assets, such as consumer goods, livestock and land. • Apparent unsustainable use of renewable resources, such as clearing of forests (or of particularly valued species), overgrazing of pastures, or overharvesting of forest products or fisheries. • Trends in land use, such as the rapid conversion of forests into farms or pasture, the extension of cultivation on to grazing grounds, a shift from single to multiple cropping of fields, the expansion of urban or peri-urban centres at the expense of agricultural lands, the establishment of irrigation works, or the fencing of formerly communal lands. • Differences between rich and poor people in a community become more pronounced, and are manifested by such developments as ownership of productive or consumer assets, changing livelihood strategies, or changing occupational structure. • Pursuit of “coping mechanisms” to support livelihood strategies, such as increased wood sales, the seeking of less desirable “famine foods” from the wild, increased begging, and migration to other areas in search of relief.
Changes in local markets and technologies	<ul style="list-style-type: none"> • The sudden appearance of new technology, such as chemical fertilizer, hybrid seeds, exotic crops, irrigation pumps, chainsaws, tractors, new fishing technology, which allow people to intensify their use of agricultural land, forests, water, fisheries, etc. • Spikes in the prices of key commodities, such as staple grains, indicating the emergence (or fear of) widespread or prolonged food shortages.
Changes in relationships between competing user groups	<ul style="list-style-type: none"> • Denial of access to resources by other parties. • Reduced levels of contact and communication between competing user groups. • Increasing verbal accusations or explicit threats of physical force. • Multiple failures in the application of local dispute resolution processes. • The arrival or influx of outsiders or new groups, such as members of neighboring communities, nomadic herders, migrant farmers, unemployed laborers or refugees, seeking to make use of local resources.
Changes in institutions	<ul style="list-style-type: none"> • Reports that natural resource management institutions or other key local bodies are suffering from political factions, weak leadership, corruption or lack of capacity. • Release of new natural resource management laws and policies that change the access rights of specific user groups. • Specific user groups claim they are not represented by local institutions and that their grievances cannot be heard.

ANNEX 5: Additional Recommended Reading

THEME	TITLE
Natural resources and conflict prevention	<ul style="list-style-type: none"> • Understanding Environment, Conflict and Cooperation (UNEP 2004) http://www.unep.org/PDF/ECC.pdf • Linking Environment and Conflict Prevention: The Role of the United Nations (Center for Security Studies 2008) http://www.css.ethz.ch/publications/FUNstudy_Long-June-2008.pdf • Mainstreaming Conflict Prevention: An Overview of the Links Between Environment, Conflict and Peace (OECD DAC 2005) http://www.ceipaz.org/images/contenido/Overviewofthe%20links%20between%20the%20environment%20and%20peace_ENG.pdf • Conserving the Peace: Resources, Livelihoods and Security (IISD, 2002) http://www.iisd.org/pdf/2002/envsec_conserving_peace.pdf • Underdevelopment, Resource Scarcity, and Environmental Degradation: Task Forces on Strengthening Multilateral Security Capacity (IPI 2009) http://www.humansecuritygateway.com/documents/IPI_Underdevelopment_ResourceScarcity_EnvironmentalDegradation.pdf • Resource Scarcity and the Prevention of Violent Conflict. (2009). http://www.review.upeace.org/pdf.cfm?articulo=90&ejemplar=18 • Cultivating Peace: Conflict and Collaboration in Natural Resource Management. (World Bank, 1999). http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2000/02/03/000094946_00011505355644/Rendered/PDF/multi0page.pdf • Resolving Environmental Disputes: From Conflict to Consensus. (2005) http://constitutionmaking.org/files/resources_peace.pdf
Natural resources, armed conflict and international law	<ul style="list-style-type: none"> • Protecting the Environment During Armed Conflict: An Inventory and Analysis of International Law (UNEP 2009) http://postconflict.unep.ch/publications/int_law.pdf
Natural resources and peace mediation	<ul style="list-style-type: none"> • Negotiating Natural Resources for Peace: Ownership, Control and Wealth-sharing. (Center for Humanitarian Dialogue, 2009).
Natural resources and peacekeeping	<ul style="list-style-type: none"> • Greening the Blue Helmets: Environment, Natural Resources and UN Peacekeeping Operations. (UNEP, 2012).

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THEME	TITLE
<p>Peacebuilding</p>	<ul style="list-style-type: none"> • From Conflict to Peacebuilding: The Role of Natural Resources and the Environment (UNEP 2009) http://www.unep.org/pdf/pcdmb_policy_01.pdf • Six-volume Series of Case Studies on Peacebuilding and Natural Resources (UNEP and ELI): High-Value Natural Resources and Post-Conflict Peacebuilding. Edited by Päivi Lujala and Siri Aas Rustad (Earthscan, 2012) • Land and Post-Conflict Peacebuilding. Edited by Jon Unruh and Rhodri Williams (Earthscan, 2012) • Water and Post-Conflict Peacebuilding. Edited by Jessica Troell, Mikiyasu Nakayama, and Erika Weinthal (Earthscan, 2012) • Livelihoods and Natural Resources in Post-Conflict Peacebuilding. Edited by Helen Young and Lisa Goldman (Earthscan, 2012) • Assessing and Restoring Natural Resources in Post-Conflict Peacebuilding. Edited by David Jensen and Steve Lonergan (Earthscan, 2012) • Governance, Natural Resources, and Post-Conflict Peacebuilding Edited by Carl Bruch, Carroll Muffett, and Sandy Nichols (Earthscan, 2012) • Post-conflict peacebuilding and natural resources: The promise and the peril. By Carl Bruch, David Jensen, Mikiyasu Nakayama, and Jon Unruh (Cambridge University Press, 2012). • Managing Natural Resource Wealth. Stabilization and Reconstruction Series. (United States Institute of Peace, 2006) http://www.usip.org/files/resources/srs4.pdf • Natural Resource Governance in Conflict-affected Contexts. (International Alert, 2010). http://www.international-alert.org/sites/default/files/publications/201010PracticeNote6NatResourceGovernance.pdf
<p>Climate change and conflict</p>	<ul style="list-style-type: none"> • A Climate of Conflict: The Links Between Climate Change, Peace and War (International Alert, 2007). http://www.international-alert.org/pdf/A_Climate_Of_Conflict.pdf • Climate Change and Natural Resource Conflicts in Africa (ISS 2010) http://www.reliefweb.int/rw/lib.nsf/db900sid/EGUA-86HQKR/\$file/ISS_ClimateChangeandNaturalResourcesConflictsinAfrica_jun2010.pdf?openelement • Rising Temperatures, Rising Tensions: Climate Change and the Risk of Violent Conflict in the Middle East (IISD 2009) http://www.iisd.org/pdf/2009/rising_temps_middle_east.pdf • Climate Change and Security in Africa (IISD 2009) http://www.iisd.org/pdf/2009/climate_change_security_africa.pdf

References

- ¹ UN Secretary General, 'Preventive Diplomacy: Delivering Results', United Nations, New York, 2010.
- ² World Bank, 'World Development Report: Conflict, Security and Development', World Bank, Washington, DC, 2011a.
- ³ Ibid.
- ⁴ UN Population Division, 'World Population Prospects: The 2008 Revision Population Database', 2009. Accessed March 2012: www.un.org/esa/population/publications/wpp2008/wpp2008_text_tables.pdf.
- ⁵ Millennium Ecosystem Assessment, *Ecosystems and Human Wellbeing: Synthesis*, Island Press, Washington, 2005.
- ⁶ World Wide Fund for Nature, 'Living Planet Report', World Wide Fund for Nature, Gland, 2010.
- ⁷ UNEP, 'Decoupling Natural Resource use and Environmental Impacts from Economic Growth', UNEP, Paris, 2011.
- ⁸ Evans, A., 'Resource Scarcity, Climate Change and the Risk of Violent Conflict', World Development Report Background Paper, World Bank, Washington, DC, 2010.
- ⁹ Smith, D. and Vivekananda, J., *A Climate of Conflict: The Links Between Climate Change, Peace and War*, International Alert, London, 2007.
- ¹⁰ International Union for Conservation of Nature, 'About Ecosystems and Human Wellbeing', 2010. Accessed 26 August 2010 from <http://www.iucn.org/what/tpas/livelihoods/about/>.
- ¹¹ Pimbert, M., 'Towards Food Sovereignty: Reclaiming Autonomous Food Systems', International Institute for Environment and Development, London, 2009.
- ¹² Mayers, J. and Vermeulen, S., 'How Good Forest Governance can Reduce Poverty', WSSD Opinion Paper, IIED, London, 2002.
- ¹³ Livestock and Wildlife Advisory Group, 'Wildlife and Poverty Study', Department for International Development, London, 2002.
- ¹⁴ International Union for Conservation of Nature, 'Sustainable Livelihoods', Media Brief for the World Parks Congress, International Union for Conservation of Nature, Gland, 2003.
- ¹⁵ FAO, 'Code of Conduct for Responsible Fisheries', FAO, Rome, 2011.
- ¹⁶ Livestock and Wildlife Advisory Group (2002).
- ¹⁷ Maxwell, J.W.; and Reuveny, R., 'Resource Scarcity and Conflict in Developing Countries', *Journal of Peace Research*. 37(3), 2000, pp. 301-322.
- ¹⁸ T.F. Homer-Dixon, *Environment, Scarcity, and Violence*, Princeton University Press, USA, 2001.
- ¹⁹ UNESCO, 'Water in a Changing World', Paris, UNESCO, 2009.
- ²⁰ UNEP, 'Vital Water Graphics', UNEP GRID, Arendal, 2008.
- ²¹ World Business Council for Sustainable Development, 'Water Facts and Trends', World Business Council for Sustainable Development, Geneva, 2005.
- ²² Worldometers, 'Real Time World Statistics: Water Consumed This Year', 2011. Accessed March 2012 from <http://www.worldometers.info/water/>.
- ²³ UNESCO (2009).
- ²⁴ UNESCO (2009).
- ²⁵ UNEP, 'Vital Water Graphics', UNEP GRID, Arendal, 2008.
- ²⁶ OECD, 'OECD Environmental Outlook to 2030', OECD, 2011.
- ²⁷ World Business Council for Sustainable Development (2005).

- ²⁸ Thenkabail, P.S.; Hanjra, M.A.; Dheeravath, V., and Gumma, M., 'A Holistic View of Global Croplands and Their Water use for Ensuring Global Food Security in the 21st Century Through Advanced Remote Sensing and Non-remote Sensing Approaches', *Remote Sensing*. 2 (1), 2010, pp. 211-261.
- ²⁹ Global Footprint Network, 'Glossary', 2012. Accessed March 2012 from <http://www.footprintnetwork.org/fr/index.php/gfn/page/glossary/>.
- ³⁰ World Bank, 'Rising Global Interest in Farmland: Can it Yield Equitable and Sustainable Benefits?', World Bank, Washington DC, 2011b.
- ³¹ UNEP, 'Decoupling Natural Resource Use and Environmental Impacts from Economic Growth', UNEP, Paris, 2011a.
- ³² FAO, 'Integrated Soil Management for Sustainable Agriculture and Food Security in Southern and East Africa', FAO, Rome, 1999.
- ³³ World Bank (2011b).
- ³⁴ European Union, 'Assessment of Global Megatrends', European Union, Brussels, 2010.
- ³⁵ UNEP, 'Keeping Track of our Changing Environment: From Rio to Rio+20 (1992 to 2012)', UNEP, Paris, 2011b.
- ³⁶ World Bank (2011b).
- ³⁷ Ibid.
- ³⁸ Ibid.
- ³⁹ Cincotta, R.; Engelman, R.; and Anastasion, D., 'The Security Demographic: Population and Civil Conflict After the Cold War', Population Action International, Washington, DC, 2003.
- ⁴⁰ Ibid.
- ⁴¹ Thenkabail, P.S.; Hanjra, M.A.; Dheeravath, V., and Gumma, M. (2010).
- ⁴² FAO, 'Pastoralists: Playing a Critical Role in Managing Grasslands for Climate Change Adaptation', FAO, Rome, 2009.
- ⁴³ FAO, 'Challenges and Opportunities for Carbon Sequestration in Grassland Systems: A Technical Report on Grassland Management and Climate Change Mitigation', FAO, Rome, 2010.
- ⁴⁴ UN Environmental Management Group, 'Global Drylands: A UN Systemwide Approach', UN EMG, Geneva, 2011.
- ⁴⁵ UNEP (2011b).
- ⁴⁶ FAO, 'Global Forest Resources Assessment 2005: Progress Towards Sustainable Forest Management', FAO, Rome, 2006.
- ⁴⁷ CBD, 'Forest Biological Diversity - Report on the Expert Meeting on Harmonization of Forest-related Definitions for Use by Various Stakeholders', CBD, Montreal, 2002.
- ⁴⁸ UNEP (2011b).
- ⁴⁹ UNEP, 'Reporting Forests: A Journalist's Guide to the Role of Forests in Sustainable Development and Human Well-Being', UNEP, Nairobi, 2011c.
- ⁵⁰ Ibid.
- ⁵¹ Ibid.
- ⁵² Ibid.
- ⁵³ UNEP (2011b).
- ⁵⁴ Ibid.
- ⁵⁵ FAO (2006).
- ⁵⁶ Harwell, E.; Farah, D.; and Blundell, A.G., 'Forests, Fragility and Conflict: Overview and Case Studies', World Bank, Washington, DC, 2011.
- ⁵⁷ Ibid.
- ⁵⁸ ScienceDaily, 'Sustainable Fisheries Needed for Global Food Security', 2010, Accessed April 2012 from <http://www.sciencedaily.com/releases/2010/02/100211141134.htm>.
- ⁵⁹ Millennium Ecosystem Assessment, *Ecosystems and Human Wellbeing: Current State and Trends (vol. 1)*, Island Press, Washington, 2005.
- ⁶⁰ UNEP (2011b).

- ⁶¹ Gaffikin, L., 'Population Growth, Ecosystem Services and Human Well-Being', in Mazur, L. (ed.), *A Pivotal Moment - Population Justice and the Environmental Challenge*, Island Press, Washington, DC, 2009.
- ⁶² World Resources Institute, 'Decline in Fish Stocks', 1999. Accessed April 2012 from <http://www.wri.org/publication/content/8385>.
- ⁶³ Agnew, J.L.; Pearce, J.; Pramod, G.; Peatman, T.; Watson, R.; Beddington, J.R.; and Pitcher, T.J., 'Estimating the Worldwide Extent of Illegal Fishing', *PLoS ONE*, 4(2), 2009, pp. 1-8.
- ⁶⁴ Ibid.
- ⁶⁵ FAO, 'The State of World Fisheries and Aquaculture', FAO, Rome, 2010.
- ⁶⁶ International Union for Conservation of Nature, 'Biodiversity and Protected Areas', 2011, Accessed April 2012 from http://www.iucn.org/about/union/commissions/wcpa/wcpa_what/wcpa_science/biodiversity_and_protected_areas/
- ⁶⁷ CBD, 'A New Era of Living in Harmony With Nature is Born at the Nagoya Biodiversity Summit', UNEP, Montreal, 2010.
- ⁶⁸ Dudley, N.; and Stolton, S., 'The Role of Forest Protected Areas in Supplying Drinking Water to the World's Biggest Cities', in Trzyna, T. (ed.), *The Urban Imperative*, California Institute of Public Affairs, Sacramento, 2005.
- ⁶⁹ UNEP, 'Protected Areas in Today's World: Their Values and Benefits for the Welfare of the Planet', UNEP, Nairobi, 2008.
- ⁷⁰ Hanson, T.; Brooks, T.M.; da Fonseca, G.A.B.; M. Hoffman, M.; Lamoreaux, J.F.; Machlis, G.E.; Mittermeier, C.G.; Mittermeier, R.A.; and Pilgrim, J.D., 'Warfare in Biodiversity Hotspots', *Conservation Biology*, 23(3), 2009, pp. 578-587.
- ⁷¹ UNEP, 'Global Environment Outlook 3', Earthscan, London, 2002.
- ⁷² UNDP, 'Disaster-Conflict Interface: Comparative Experiences', UNDP, New York, 2011.
- ⁷³ UN Secretary General, 'Climate Change and its Possible Security Implications: Report of the Secretary-General', United Nations General Assembly, A/64/350, 2011, Accessed March 2012 from <http://www.unhcr.org/refworld/docid/4ad5e6380.html>.
- ⁷⁴ World Bank (2011a).
- ⁷⁵ Ibid.
- ⁷⁶ Department for International Development, 'Preventing Violent Conflict', Department for International Development, London, 2005.
- ⁷⁷ Adapted from World Bank (2011a).
- ⁷⁸ Evans, A. (2010).
- ⁷⁹ Ibid.
- ⁸⁰ Sidaway, R., *Resolving Environmental Disputes. From Conflict to Consensus*, Taylor and Francis, London, 2005.
- ⁸¹ Ibid.
- ⁸² Galtung, J., 'Cultural Violence', *Journal of Peace Research*, 27 (3), 1990, pp. 291-305.
- ⁸³ Ramsbotham, O.; and Woodhouse, T. *Contemporary Conflict Resolution*, Polity Press, Malden, 2011.
- ⁸⁴ Ibid.
- ⁸⁵ Kistin, E. J., 'Trans-boundary Cooperation in SADC: From Concept to Implementation', Working Paper prepared for the 8th WaterNet Symposium, 2007, Accessed March 2012 from <http://www.bscw.ihe.nl/pub/bscw.cgi/d2607255/Kistin.pdf>.
- ⁸⁶ Kriesberg, L., *Constructive Conflicts: From Escalation to Resolution*, Rowman and Littlefield, Oxford, 2003.
- ⁸⁷ Francis, D., *People, Peace and Power: Conflict Transformation in Action*, Pluto Press, London, 2002.
- ⁸⁸ Harwell, E.; Farah, D.; and Blundell, A.G. 'Forests, Fragility and Conflict: Overview and Case Studies', World Bank, Washington, DC, 2011.
- ⁸⁹ Homer-Dixon, T. 'Environmental Scarcities and Violent Conflict: Evidence from Cases', *International Security*, 19(1), 1994, pp. 5-40.
- ⁹⁰ Malthus, T.R., *An Essay on the Principle of Population*, Cambridge University Press, Cambridge, 1798.

- ⁹¹ FAO, 'Negotiation and Mediation Techniques for Natural Resource Management', FAO, Rome, 2005.
- ⁹² Homer-Dixon, T. (1994).
- ⁹³ UNEP, 'Sudan Post-Conflict Environmental Assessment', UNEP, Geneva, 2005.
- ⁹⁴ Ibid.
- ⁹⁵ UN University for Peace, 'Environmental Degradation as a Cause of Conflict in Darfur', Conference Proceedings, Accessed January 2012 from https://upeace.org/library/documents/darfur_cp.pdf.
- ⁹⁶ Wati, A.I., 'Perspectives on Tribal Conflicts in Sudan', Institute of African and Asian Studies, Khartoum.
- ⁹⁷ Bashar, Z.M., 'Mechanisms for Peaceful Co-Existence Among Tribal Groups in Darfur'. MA Thesis, University of Khartoum, Khartoum, 2003.
- ⁹⁸ UNEP (2005).
- ⁹⁹ Feinstein International Famine Centre, 'Darfur: Livelihoods Under Siege', Tufts University, Cambridge, 2005.
- ¹⁰⁰ Fadul, A.A., 'Natural Resources Management for Sustainable Peace in Darfur' in University for Peace, Conference Proceedings: Environmental Degradation as a Cause of Conflict in Darfur, 2004, Accessed January 2012 from https://upeace.org/library/documents/darfur_cp.pdf.
- ¹⁰¹ UNEP, 'Rwanda - From Post-Conflict to Environmentally Sustainable Development', UNEP, Nairobi, 2011.
- ¹⁰² Ibid.
- ¹⁰³ United Nations Relief and Works Agency for Palestine Refugees in the Near East, 'West Bank and Gaza Strip: Population Census of 2007', Briefing paper, UNRWA, Amman, 2010.
- ¹⁰⁴ UNEP, 'Environmental Assessment of the Gaza Strip', UNEP, Geneva, 2010.
- ¹⁰⁵ Ibid.
- ¹⁰⁶ Ibid.
- ¹⁰⁷ EU-UN Partnership on Natural Resources and Conflict, 'Guidance Note on Land and Conflict, United Nations', New York, 2012.
- ¹⁰⁸ Clover, J. 'Framing Issues of Environmental Security in Angola and Mozambique – the Nexus of Land, Conflicts and Sustainable Livelihoods in Post-Conflict Situations', Unpublished PhD thesis, University of the Witwatersrand, Johannesburg, 2007.
- ¹⁰⁹ Center for Social Responsibility in Mining, Mining Industry Perspectives on Handling Community Grievances: Summary and Analysis of Industry Interviews, University of Queensland, Queensland.
- ¹¹⁰ UNEP, 'Recommended Strategy for Conflict Resolution of Competing High Pasture Claims of Settled and Nomadic Communities in Afghanistan', UNEP, Kabul, 2009.
- ¹¹¹ Ibid.
- ¹¹² U.S. Committee for Refugees and Immigrants, 'U.S. Committee for Refugees World Refugee Survey 1998 - Papua New Guinea', 1998, Accessed March 2012 from www.unhcr.org/refworld/publisher,USCRI,,PNG,3ae6a8be14,0.html.
- ¹¹³ Regan, A.J., 'Causes and Course of the Bougainville Conflict', *The Journal of Pacific History*, 33(3), 1998, pp. 269-285.
- ¹¹⁴ UNEP, 'Environmental Assessment Ogoniland', UNEP, Nairobi, 2011.
- ¹¹⁵ Shiva, V., *Water Wars: Privatization, Pollution and Profit*, South End Press, Cambridge, 2002.
- ¹¹⁶ PBS, 'Timeline: Cochabamba Water Revolt', 2012, Accessed April 2012 from www.pbs.org/frontlineworld/stories/bolivia/timeline.html.
- ¹¹⁷ UNESCO, 'Water, a Shared Responsibility - The United Nations World Water Development Report 2', UNESCO, Paris, 2006.
- ¹¹⁸ Shultz, J., 'The Water is Ours, Damn it!', in Shultz, J., *We Are Everywhere: The Irresistible Rise of Global Anticapitalism*, Verso Press, United Kingdom.
- ¹¹⁹ Shiva, V. (2002).
- ¹²⁰ Ibid.

- ¹²¹ Giordano, M.; and Wolf, A., 'The World's International Freshwater Agreements' in UNEP, 'Atlas of International Freshwater Agreements', UNEP, Nairobi, 2002.
- ¹²² Ibid
- ¹²³ UNEP, 'Haiti – Dominican Republic: Cooperation and Conflict over Natural Resources', UNEP, Geneva, (in press).
- ¹²⁴ UNEP, 'Risks and Opportunities from Natural Resources and the Environment for Peacebuilding in the Central African Republic', Mission Report (draft), 2009. Accessed April 2012 from http://www.unep.org/disastersandconflicts/Portals/155/dnc/docs/UNEP_car_mission_Report_August_2009_draft_rev_1.pdf.
- ¹²⁵ UNEP, 'Confrontation or Cooperation? Environmental Diplomacy for Conflict Prevention, Conflict Management and Peacebuilding', UNEP, Geneva, (in press).
- ¹²⁶ UNDP, 'Conflict-Related Development Analysis', UNDP, New-York, 2003.
- ¹²⁷ UNEP, 'Mainstreaming Gender in Environmental Assessment and Early Warning', UNEP, Nairobi, 2003.
- ¹²⁸ Khagram, S.; Clark, W.C.; and Firas Raad, D., 'From the Environment and Human Security to Sustainable Security and Development', *Journal of Human Development*, 4(2), 2003, pp. 289-313.
- ¹²⁹ Homer-Dixon, T. (1994).
- ¹³⁰ Ruckstuhl, S., 'Renewable Natural Resources: Practical Lessons for Conflict-Sensitive Development', World Bank, Washington, 2009.
- ¹³¹ Pavanello, S.; and Levine, S., 'Rules of the Range: Natural Resources Management in Kenya–Ethiopia Border Areas', HPG Working Paper, Overseas Development Institute, London, 2011.
- ¹³² For example, UNEP, FAO, UNDP, ILO, UN-HABITAT all reference sustainable livelihoods in country-level programming documents.
- ¹³³ For example, DFID, SIDA, GTZ, USAID, AUSAID, CIDA all reference sustainable livelihoods in country-level programming documents.
- ¹³⁴ Overseas Development Institute, 'Humanitarian Policy Group Report: Power, Livelihoods and Conflict: Case Studies in Political Economy Analysis for Humanitarian Action', Overseas Development Institute, London, 2003.
- ¹³⁵ Swedish International Development Cooperation Agency, 'Livelihood Conflicts: Linking Poverty and Environment as Causes of Conflict', Swedish International Development Cooperation Agency, Stockholm, 2000.
- ¹³⁶ International Fund for Agricultural Development, 'The Sustainable Livelihoods Approach', 2012, Accessed April 2012 from <http://www.ifad.org/sla/index.htm>.
- ¹³⁷ U.S. Agency for International Development, 'Livelihoods and Conflict', U.S. Agency for International Development, Washington, DC, 2005.
- ¹³⁸ Chambers, R.; and Conway, G.R., 'Sustainable Rural Livelihoods: Practical Concepts for the 21st Century', Discussion Paper 296, Institute of Development Studies, Brighton, 1992.
- ¹³⁹ FAO, 'Livelihood Diversification and Natural Resource Access', FAO, Rome, 2005.
- ¹⁴⁰ FAO, 'Agro-Industries for Development', FAO, Rome, 2009.
- ¹⁴¹ FAO, 'Adaptation to Climate Change in Agriculture, Forestry and Fisheries: Perspective, Framework and Priorities', FAO, Rome, 2007.
- ¹⁴² FAO, 'Implications of Economic Policy for Food Security: A Training Manual', FAO, Rome, 1998.
- ¹⁴³ Field Exchange, 'Livelihoods Analysis and Identifying Appropriate Interventions: Special Supplement 3', 2006, Accessed April 2012 from <http://fex.ennonline.net/103/chapter3.aspx>.
- ¹⁴⁴ UN Interagency Framework Team for Preventive Action, 'Environmental Scarcity and Conflict - Guidance Note for Practitioners (draft)', 2010, Accessed April 2012 from www.unep.org/conflictsanddisasters/Portals/6/ECP/GN_Scarcity_Consultation.pdf.
- ¹⁴⁵ UNEP (2011a).

- ¹⁴⁶ Ibid.
- ¹⁴⁷ UNEP, 'Towards a Green Economy', UNEP, Geneva, 2011.
- ¹⁴⁸ Medovarzki, T., 'Cooperation through Water Management', In Focus: Revue des Affaires Internationales, 1(1), 2010, pp.25-28.
- ¹⁴⁹ Roudi-Fahimi, F., Creel, L. and De Souza, R.M., 'Finding the Balance: Population and Water Scarcity in the Middle East and North Africa', Population Reference Bureau, Washington, DC, 2002.
- ¹⁵⁰ World Bank, 'Making the Most of Scarcity - Accountability for Better Water Management Results in the Middle East and North Africa', World Bank, Washington, DC, 2007.
- ¹⁵¹ Ibid.
- ¹⁵² UNEP, 'Iraqi Marshlands Observation System - Technical Report', UNEP, Nairobi, 2001.
- ¹⁵³ FAO, 'The Strategic Framework for FAO 2000-2015 - A Summary', FAO, Rome, 2000.
- ¹⁵⁴ Ibid.
- ¹⁵⁵ Environmental Protection Agency 'Toolkit for Assessing Potential Allegations of Environmental Injustice', Environmental Protection Agency, Washington, DC, 2004.
- ¹⁵⁶ FAO (2005).
- ¹⁵⁷ Ibid.
- ¹⁵⁸ REDD, 'Grievance Redress Mechanism', 2011, Accessed April 2012 from [www.forestcarbonpartnership.org/fcp/sites/forestcarbonpartnership.org/files/Documents/PDF/Jun2011/Guidelines for grievance redress mechanism_05232011.pdf](http://www.forestcarbonpartnership.org/fcp/sites/forestcarbonpartnership.org/files/Documents/PDF/Jun2011/Guidelines%20for%20grievance%20redress%20mechanism_05232011.pdf)
- ¹⁵⁹ Ibid.
- ¹⁶⁰ Office of the Compliance Advisor/Ombudsman, 'A Guide to Designing and Implementing Grievance Mechanisms for Development Projects', Office of the Compliance Advisor/Ombudsman, Washington, DC, 2008.
- ¹⁶¹ For more information visit: <http://www.naturalresourcecharter.org/fr/precepts>.
- ¹⁶² FAO, 'Voluntary Guidelines on Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security', 2012, Accessed April 2012 from http://www.fao.org/fileadmin/user_upload/nr/land_tenure/pdf/VG_en_Final_March_2012.pdf
- ¹⁶³ UN Secretary General, 'Report of the Special Representative of the Secretary-General on the Issue of Human Rights and Transnational Corporations and Other Business Enterprises, John Ruggie. Addendum: Piloting Principles for Effective Company/Stakeholder Grievance Mechanisms: A Report of Lessons Learned', United Nations General Assembly, A/HRC/17/31/Add.1, Accessed March 2012 from <http://www.unhcr.org/refworld/docid/4ad5e6380.htmlwww.ohchr.org/Documents/Issues/Business/A-HRC-17-31-Add1.pdf>.
- ¹⁶⁴ UNEP, 'UNEP in Afghanistan: Laying the Foundation for Sustainable Development', UNEP, Kabul, 2009.
- ¹⁶⁵ For more information, visit: <http://www.unep.org/sierraleone>
- ¹⁶⁶ UN Economic and Social Commission for Western Asia, 'Enhancing Civil Society Participation in Public Policy Processes', Working Paper, 2009. Accessed April 2012 from <http://pdwa.escwa.org.lb/uploads/nv2253789.pdf>
- ¹⁶⁷ Court, J.; Mendizabal, E.; Osborne, D.; and Young, J., 'Policy Engagement How Civil Society Can be More Effective', Overseas Development Institute, London, 2006.
- ¹⁶⁸ Ibid.
- ¹⁶⁹ Ibid.
- ¹⁷⁰ Ibid.
- ¹⁷¹ Ibid.
- ¹⁷² Kovic, D.; and Rees, C., 'International Support for Effective Dispute Resolution Between Companies and Their Stakeholders: Assessing Needs, Interests, and Models', Corporate Social Responsibility Initiative Working Paper No. 63, Harvard University, Cambridge, 2011.
- ¹⁷³ FAO (2005).

- ¹⁷⁴ Court, J.; Mendizabal, E.; Osborne, D.; and Young, J. (2006).
- ¹⁷⁵ Ibid.
- ¹⁷⁶ van der Linde, H.; Oglethorpe, T.; Sandwith, T.; Snelson, D.; and Tessma, Y., 'Beyond Boundaries: Transboundary Natural Resource Management in Sub-Saharan Africa', Biodiversity Support Program, Washington, DC, 2001.
- ¹⁷⁷ UNDP, 'Guidelines on the Joint Management of Transboundary Water Resources in the Arab World', 2010. Accessed April 2012 from <http://www.wgpas-undp.org/Reports/Guidelines%20on%20the%20Joint%20Management%20of%20Transboundary%20Water%20Resources%20in%20the%20Arab%20World.pdf>.
- ¹⁷⁸ Ibid.
- ¹⁷⁹ Hajost, S.A.; and Shea, Q.J., 'An Overview of Enforcement and Compliance Mechanisms in International Environmental Agreements', 2009. Accessed April 2012 from www.inece.org/1stvol1/hajost.htm.
- ¹⁸⁰ UNESCO, 'Institutional Capacity Development in Transboundary Water Management', UNESCO, Paris, 2009.
- ¹⁸¹ Conflict Sensitivity Consortium, 'Conflict-Sensitive Approaches to Development, Humanitarian Assistance and Peacebuilding: A Resource Pack', International Alert, London, 2004.
- ¹⁸² Ruckstuhl, S. (2009).
- ¹⁸³ UNEP, 'Livelihood Security: Climate Change, Migration and Conflict in the Sahel', UNEP, Geneva, 2011.
- ¹⁸⁴ The study was authored by the UN Environment Programme (UNEP) in cooperation with the International Organization for Migration (IOM), the Office for the Coordination of Humanitarian Affairs (OCHA) and the United Nations University (UNU), as well as the Permanent Interstate Committee for Drought Control in the Sahel (CILSS).
- ¹⁸⁵ UNEP (2011c).

Acknowledgements

Development Team

David Jensen, UNEP Post-Conflict and Disaster Management Branch (coordinator)

Jenny Clover, UNEP Regional Office for Africa

Steve Lonergan, Department of Geography, University of Victoria

Marc Levy, Center for International Earth Science Information Network, Columbia University

Belinda Bowling, UNEP Afghanistan

Brendan Bromwich, UNEP Sudan

Silja Halle, UNEP Post-Conflict and Disaster Management Branch

Natalie Barefoot, UNEP Post-Conflict and Disaster Management Branch

Dennis Hamro-Drotz, UNEP Post-Conflict and Disaster Management Branch

Bessma Mourad, UNEP Post-Conflict and Disaster Management Branch

Renard Sexton, UNEP Post-Conflict and Disaster Management Branch

Editor

Josie Lianna Kaye, Independent Consultant, New York

Additional Contributors

Lucas De Muelenaere, UNEP Post-Conflict and Disaster Management Branch

Kathryn Chelminski, UNEP Post-Conflict and Disaster Management Branch

Daniele Senzanonna, EU European External Action Service

Alex Fischer, Center for International Earth Science Information Network, Columbia University

David Woods, UNEP Post-Conflict and Disaster Management Branch

Divya Sama, UNEP Post-Conflict and Disaster Management Branch

Hannah Moosa, UNEP Post-Conflict and Disaster Management Branch

External Reviewers

Florian Bruyas, UN Inter-Agency Framework Team for Preventive Action

Adrienne Stork, UNEP/UNDP Joint Initiative on DDR and NRM

Alec Crawford, International Institute for Sustainable Development

Alex Grzybowski, UN Department for Political Affairs

Andrew Morton, UNEP Post-Conflict and Disaster Management Branch

Andrew Scanlon, UNEP Afghanistan

Anne-Cécile Vialle, UNEP Post-Conflict and Disaster Management Branch

Asif Zaidi, UNEP Post-Conflict and Disaster Management Branch

Cecilia Morales, UNEP Liaison Office in Brussels

Matti Lehtonen, UNEP Post-Conflict and Disaster Management Branch

Mike Beevers, University of Maryland

Mirko Puig, European Commission

Mohamed Yahya, UN Inter-Agency Framework Team for Preventive Action

Muralee Thummarukudy, UNEP Post-Conflict and Disaster Management Branch

Oli Brown, UN Integrated Peacebuilding Office in Sierra Leone

Robin Bovey, UNEP Sudan

Salih A. Majid El Douma, SOS Sahel International UK

Szilard Friccska, UN-HABITAT



United Nations Department of Economic and Social Affairs (UNDESA)



United Nations Department of Political Affairs (DPA)



United Nations Development Programme (UNDP)



United Nations Environment Programme (UNEP)



United Nations Human Settlements Programme (UNHABITAT)



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The United Nations
Interagency Framework Team for Preventive Action

UN Interagency Framework Team for Preventive Action

Hosted by: UNDP, Bureau for Crisis Prevention and Recovery
One United Nations Plaza, Rm. 2084
New York, NY 10017, U.S.A.
Tel.: +1-212-906-5422, E-mail: framework.team@undp.org