From Conflict to Peacebuilding

The Role of Natural Resources and the Environment

About UNEP's Disaster and Conflict Operations

The United Nations Environment Programme (UNEP) conducts field-based environmental assessments and strengthens national environmental management capacity in countries affected by conflicts and disasters. Using state-of-the-art science and technology, UNEP deploys teams of environmental experts to assess environmental damage and determine risks for human health, livelihoods and security. Since 1999, UNEP has operated in more than twenty-five countries and published eighteen environmental assessment reports. Based on this expertise, UNEP is providing technical assistance to the UN Peacebuilding Commission in assessing the role of natural resources and the environment in conflict and peacebuilding. The main objective of this cooperation is to prevent natural resources and environmental stress from undermining the peacebuilding process while at the same time using environment as a platform for dialogue, cooperation and confidence-building.

About UNEP's Expert Advisory Group on Environment, Conflict and Peacebuilding

To broaden UNEP's expertise and analytical capacity, an Expert Advisory Group on Environment, Conflict and Peacebuilding was established in February 2008. Coordinated by the International Institute for Sustainable Development (IISD) the advisory group provides independent expertise, develops tools and policy inputs, and identifies best practices in using natural resources and the environment in ways that contribute to peacebuilding. The group is composed of senior experts from academic institutions, non-governmental organizations and think tanks that have demonstrated leadership in environment and conflict issues (see annex 5).

About this report

This report, which inaugurates a new policy series by UNEP on the environmental dimensions of disasters and conflicts, aims to summarize the latest knowledge and field experience on the linkages between environment, conflict and peacebuilding, and to demonstrate the need for those linkages to be addressed in a more coherent and systematic way by the UN, Member States and other stakeholders. As such, it is linked to a wider cooperation on conflict and natural resource management started between the European Commission and the United Nations system in 2008, which has resulted in a new project funded by the European Commission under the Instrument for Stability on "Strengthening Capacities for Consensual and Sustainable Management of Land and Natural Resources." The research and consolidation of information herein will feed into the development of upcoming guidance notes, training modules, policy papers and other outputs under this EC-UN project.

A joint product of UNEP and the Expert Advisory Group, this paper was co-authored by Richard Matthew of the University of California, Irvine, Oli Brown of the International Institute for Sustainable Development (IISD) and David Jensen of UNEP's Post-Conflict and Disaster Management Branch (PCDMB). It was open for peer review to all UN agencies, programmes and funds working on conflict and peacebuilding, as well as to the Member States and observers of the Peacebuilding Commission. It was also released as a consultation draft at four international meetings during 2008, involving over 250 environment, security, peacebuilding and development practitioners. These included the UN Peacebuilding Commission Working Group on Lessons Learned on Environment, Conflict and Peacebuilding (8 May), a special event on environment, conflict and peacebuilding at the IUCN World Conservation Congress in Barcelona (7 October), the Belgo-British Conference on Natural Resources: Challenges and Opportunities (12-13 November) and the NATO Partnership for Peace Workshop on Environmental Security (25-26 November). All substantive contributions received during the consultation process are acknowledged in annex 4.

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Foreword

International peace and security underpin the United Nations Charter, which commits the international community "to save succeeding generations from the scourge of war." The critical role of peace and security for sustainable development is further emphasized in the Rio Declaration, which calls for States to "respect international law providing protection for the environment in times of armed conflict and cooperate in its further development, as necessary." It also explicitly recognizes that peace, development and environmental protection are "interdependent and indivisible." Finally, the UN General Assembly has recently linked armed conflict and natural resources in several important resolutions, specifically identifying the exploitation of natural resources as a source of conflict and a threat to durable peace and sustainable development in Africa, for example.

Linking the terms "environment" and "conflict" remains contentious in today's international political arena. While most acknowledge that numerous conflicts have been fuelled by natural resources, UN Member States are divided on how to address the linkages. Some States express concern about protecting their sovereign right to use their resources according to their national interest. Many others consider environmental degradation and the illegal exploitation of natural resources as issues of international concern requiring a coordinated global approach. In their view, the potential impacts of climate change on the availability of natural resources, coupled with rising consumer demand and the free flow of international investment capital, only sharpen the need for collective action.

This report discusses the key linkages between environment, conflict and peacebuilding, and provides recommendations on how these can be addressed more effectively by the international community. It has been developed in the context of UNEP's mandate to "keep under review the world environmental situation in order to ensure that emerging environmental problems of wide international significance receive appropriate and adequate consideration by governments."
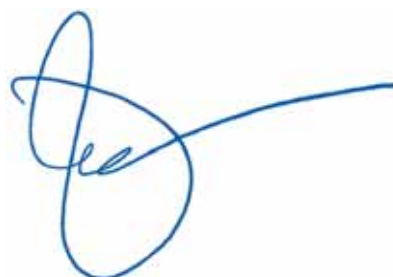
UNEP has been helping Member States to assess the environmental impacts of conflicts and disasters since 1999. This report extends this work by investigating not only how the environment and natural resources are damaged by conflict, but also how they contribute to both conflict and peacebuilding. Developed by UNEP and its Expert Advisory Group on Environment, Conflict and Peacebuilding as part of UNEP's technical support to the UN Peacebuilding Commission, it has been financially supported by the Government of Finland.

In supporting the implementation of the recommendations contained in this report, UNEP seeks to partner with UN agencies, Member States, and other stakeholders to address the environmental needs of war-torn societies, and to provide the technical expertise necessary to integrate those needs into peacebuilding interventions and conflict prevention. This report advocates the value of sound environmental and natural resource management as key inputs to achieve these aims.

We invite the international community to engage with us to transform environmental challenges into opportunities, and hope this report will contribute to advancing the objectives of the UN Charter on peace and security, as well as the mandate of the UN Peacebuilding Commission in facilitating the transition from conflict to lasting peace and sustainable development.

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United Nations Under-Secretary-General
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Executive summary

Since 1990 at least eighteen violent conflicts have been fuelled by the exploitation of natural resources. In fact, recent research suggests that over the last sixty years at least forty percent of all intrastate conflicts have a link to natural resources. Civil wars such as those in Liberia, Angola and the Democratic Republic of Congo have centred on "high-value" resources like timber, diamonds, gold, minerals and oil. Other conflicts, including those in Darfur and the Middle East, have involved control of scarce resources such as fertile land and water.

As the global population continues to rise, and the demand for resources continues to grow, there is significant potential for conflicts over natural resources to intensify in the coming decades. In addition, the potential consequences of climate change for water availability, food security, prevalence of disease, coastal boundaries, and population distribution may aggravate existing tensions and generate new conflicts.

Environmental factors are rarely, if ever, the sole cause of violent conflict. Ethnicity, adverse economic conditions, low levels of international trade and conflict in neighbouring countries are all significant drivers of violence. However, the exploitation of natural resources and related environmental stresses can be implicated in all phases of the conflict cycle, from contributing to the outbreak and perpetuation of violence to undermining prospects for peace. In addition, the environment can itself fall victim to conflict, as direct and indirect environmental damage, coupled with the collapse of institutions, can lead to environmental risks that threaten people's health, livelihoods and security.

Because the way that natural resources and the environment are governed has a determining influence on peace and security, these issues can also contribute to a relapse into conflict if they are not properly managed in post-conflict situations. Indeed, preliminary findings from a retrospective analysis of intrastate conflicts over the past sixty years indicate that conflicts associated with natural resources are twice as likely to relapse into conflict in the first five years. Nevertheless, fewer than a quarter of peace negotiations aiming to resolve conflicts linked to natural resources have addressed resource management mechanisms.

The recognition that environmental issues can contribute to violent conflict underscores their potential significance as pathways for cooperation, transformation and the consolidation of peace in war-torn societies. Natural resources and the environment can contribute to peacebuilding through economic development and the generation of employment, while cooperation over the management of shared natural resources provides new opportunities for peacebuilding. These factors, however, must be taken into consideration from the outset. Indeed, deferred action or poor choices made early on are easily "locked in," establishing unsustainable trajectories of recovery that can undermine the fragile foundations of peace.

Integrating environment and natural resources into peacebuilding is no longer an option – it is a security imperative. The establishment of the UN Peacebuilding Commission provides an important chance to address environmental risks and capitalize on potential opportunities in a more consistent and coherent way.

In this context, UNEP recommends that the UN Peacebuilding Commission and the wider international community consider the following key recommendations for integrating environment and natural resource issues into peacebuilding interventions and conflict prevention:

1. Further develop UN capacities for early warning and early action: The UN system needs to strengthen its capacity to deliver early warning and early action in countries that are vulnerable to conflicts over natural resources and environmental issues. At the same time, the effective governance of natural resources and the environment should be viewed as an investment in conflict prevention.

2. Improve oversight and protection of natural resources during conflicts: The international community needs to increase oversight of "high-value" resources in international trade in order to minimize the potential for these resources to finance conflict. International sanctions should be the primary instrument dedicated to stopping the trade in conflict resources and the UN should require Member States to act against sanctions violators. At the same time, new legal instruments are required to protect natural resources and environmental services during violent conflict.

3. Address natural resources and the environment as part of the peacemaking and peacekeeping process: During peace mediation processes, wealth-sharing is one of the fundamental issues that can "make or break" a peace agreement. In most cases, this includes the sharing of natural resources, including minerals, timber, land and water. It is therefore critical that parties to a peace mediation process are given sufficient technical information and training to make informed decisions on the sustainable use of natural resources. Subsequent peacekeeping operations need to be aligned with national efforts to improve natural resource and environmental governance.

4. Include natural resources and environmental issues into integrated peacebuilding strategies: The UN often undertakes post-conflict operations with little or no prior knowledge of what natural resources exist in the affected country, or of what role they may have played in fuelling conflict. In many cases it is years into an intervention before the management of natural resources receives sufficient attention. A failure to respond to the environmental and natural resource needs of the population can complicate the task of fostering peace and even contribute to conflict relapse.

5. Carefully harness natural resources for economic recovery: Natural resources can only help strengthen the post-war economy and contribute to economic recovery if they are managed well. The international community should be prepared to help national authorities manage the extraction process and revenues in ways that do not increase risk of further conflict, or are unsustainable in the longer term. This must go hand in hand with ensuring accountability, transparency, and environmental sustainability in their management.

6. Capitalize on the potential for environmental cooperation to contribute to peacebuilding: Every state needs to use and protect vital natural resources such as forests, water, fertile land, energy and biodiversity. Environmental issues can thus serve as an effective platform or catalyst for enhancing dialogue, building confidence, exploiting shared interests and broadening cooperation between divided groups, as well as between states.

1 Introduction

Since the end of the Cold War, two fundamental changes have shaped the way the international community understands peace and security. First, the range of potential actors of conflict has expanded significantly to include a number of non-state entities. Indeed, security is no longer narrowly conceived in terms of military threats from aggressor nations. In today's world, state failure and civil war in developing countries represent some of the greatest risks to global peace. War-torn countries have become havens and recruiting grounds for international terrorist networks, organized crime, and drug traffickers, and tens of millions of refugees have spilled across borders, creating new tensions in host communities. Instability has also rippled outward as a consequence of cross-border incursions by rebel groups, causing disruptions in trade, tourism and international investment.

Second, the potential causes of insecurity have also increased and diversified considerably. While political and military issues remain critical, conceptions of conflict and security have broadened: economic and social threats including poverty, infectious diseases and environmental degradation are now also seen as significant contributing factors. This new understanding of the contemporary challenges to peace is now being reflected in high-level policy debates and statements. The 2004 report of the UN Secretary-General's High-Level Panel on Threats, Challenges and Change highlighted the fundamental relationship between the environment, security, and social and economic development in the pursuit of global peace in the 21st century,[1] while a historic debate at the UN Security Council in June 2007 concluded that poor management of "high-value" resources constituted a threat to peace.[2] More recently, UN Secretary-General Ban Ki-moon confirmed that "the basic building blocks of peace and security for all peoples are economic and social security, anchored in sustainable development, [because they] allow us to address all the great issues – poverty, climate, environment and political stability – as parts of a whole."[3]

The potential for conflicts to be ignited by the environmental impacts of climate change is also attracting international interest in this topic. A recent high-level brief by the European Union, for instance, called climate change a "threat multiplier which exacerbates existing trends, tensions and instability" posing both political and security risks.[4] As a result, no serious discussion of current or emerging threats to security can take place without considering the role of natural resources and the environment.

This changing security landscape requires a radical shift in the way the international community engages in conflict management. From conflict prevention and early warning to peacemaking, peacekeeping and peacebuilding, the potential role of natural resources and the environment must be taken into consideration at the onset. Indeed, deferred action or poor choices made early on are easily "locked in," establishing unsustainable trajectories of recovery that can undermine the fragile foundations of peace. In addition, ignoring the environment as a peacebuilding tool misses an important opportunity for dialogue and confidence-building between former conflicting parties: some of the world's greatest potential tensions over water resources for example – including those over the Indus River system and Nile Basin – have been addressed through cooperation rather than violent conflict.[5, 6] Integrating environmental management and natural resources into peacebuilding, therefore, is no longer an option – it is a security imperative.

The establishment of the UN Peacebuilding Commission provides an important chance to address environmental risks and capitalize on potential opportunities in a more consistent and coherent way. This was clearly recognized in 2007 by the former Assistant Secretary-General for Peacebuilding Support, Carolyn McAskie, when she stated that "where resource exploitation has driven war, or served to impede peace, improving governance capacity to control natural resources is a critical element of peacebuilding."[7]

With a view to offering independent expertise and advice to the Commission and the wider peacebuilding community, the United Nations Environment Programme (UNEP) established an Expert Advisory Group on Environment, Conflict and Peacebuilding in February 2008. Consisting of leading academics, think tanks and non-governmental organizations with combined experience from over 30 conflict-affected countries (see annex 4), the Group provides policy inputs, develops tools, and identifies best practice in using natural resources and the environment in ways that contribute to peacebuilding and prevent relapse into conflict.

This report, authored by UNEP and selected members of the Expert Advisory Group, aims to summarize the current academic knowledge and field experience on the links between environment, conflict and peacebuilding. Written to inform UN entities, Member States and other peacebuilding actors, it presents fourteen case studies and provides key recommendations for addressing natural resources and the environment in conflict management.

The report is divided into five chapters. Following this first section, chapter two focuses on the linkages between environment and conflict and examines how resource availability and exploitation, combined with economic, social and political factors, can drive violence and insecurity. Chapter three offers an analysis of how conflicts affect the environment, through a combination of direct and indirect impacts and through the breakdown of governance and diversion of financial resources. The fourth chapter examines the relationship between environment and peacebuilding in terms of economic recovery and the development of sustainable livelihoods. It also discusses how environmental cooperation and assistance for sustainable development can help achieve wider peacebuilding goals, and how integrating environmental factors earlier on may build trust, contribute to reconciliation and support the peacebuilding agenda. The fifth and final chapter of the report provides policy recommendations for the UN and wider peacebuilding community to integrate environmental and natural resource issues into conflict management, proposing six different areas for concrete action.

Glossary of terms used in this report

Conflict: Conflict is a dispute or incompatibility caused by the actual or perceived opposition of needs, values and interests. In political terms, conflict refers to wars or other struggles that involve the use of force. In this report, the term "conflict" is understood to mean violent conflict.

Conflict resources: Conflict resources are natural resources whose systematic exploitation and trade in a context of conflict contribute to, benefit from, or result in the commission of serious violations of human rights, violations of international humanitarian law or violations amounting to crimes under international law.[8]

Ecosystem services: An ecosystem is a dynamic complex of plant, animal and micro-organism communities, and the non-living environment interacting as a functional unit. Ecosystem services are the conditions and processes through which natural ecosystems, and the species that compose them, sustain and fulfil human life. These include "provisioning services" such as food, water, timber, and fibre; "regulating services" that affect climate, floods, disease, wastes, and water quality; "cultural services" that provide recreational, aesthetic, and spiritual benefits; and "supporting services" such as soil formation, photosynthesis, and nutrient cycling.

Environment: The environment is the sum of all external conditions affecting the life, development and survival of an organism. In the context of this report, environment refers to the physical conditions that affect natural resources (climate, geology, hazards) and the ecosystem services that sustain them (e.g. carbon, nutrient and hydrological cycles).

Livelihood: A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. It is considered sustainable when it can cope with and recover from stresses and shocks, and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base.

Natural resources: Natural resources are actual or potential sources of wealth that occur in a natural state, such as timber, water, fertile land, wildlife, minerals, metals, stones, and hydrocarbons. A natural resource qualifies as a renewable resource if it is replenished by natural processes at a rate comparable to its rate of consumption by humans or other users. A natural resource is considered non-renewable when it exists in a fixed amount, or when it cannot be regenerated on a scale comparative to its consumption.

Peacebuilding: Peacebuilding comprises the identification and support of measures needed for transformation toward more sustainable, peaceful relationships and structures of governance, in order to avoid a relapse into conflict. The four dimensions of peacebuilding are: socio-economic development, good governance, reform of justice and security institutions, and the culture of justice, truth and reconciliation.

Peacekeeping: Peacekeeping is both a political and a military activity involving a presence in the field, with the consent of the parties, to implement or monitor arrangements relating to the control of conflicts (cease-fires, separation of forces), and their resolution (partial or comprehensive settlements), as well as to protect the delivery of humanitarian aid.

Peacemaking: Peacemaking is the diplomatic process of brokering an end to conflict, principally through mediation and negotiation, as foreseen under Chapter VI of the UN Charter.

Security: "State or national security" refers to the requirement to maintain the survival of the nation-state through the use of economic, military and political power and the exercise of diplomacy. "Human security" is a paradigm for understanding global vulnerabilities, which argues that the proper referent for security should be the individual rather than the state. Human security holds that a people-centred view of security is necessary for national, regional and global stability. "Environmental security" refers to the area of research and practice that addresses the linkages among the environment, natural resources, conflict and peacebuilding.

2 The role of natural resources and the environment in conflict

Rationale

Environmental factors are rarely, if ever, the sole cause of violent conflict. Ethnicity, adverse economic conditions, low levels of international trade and conflict in neighbouring countries are all significantly correlated as well. However, it is clear that the exploitation of natural resources and related environmental stresses can become significant drivers of violence.

Since 1990, at least eighteen violent conflicts have been fuelled by the exploitation of natural resources (see table 1).[9] Looking back over the past sixty years, at least forty percent of all intrastate conflicts can be associated with natural resources.[10] Civil wars such as those in Liberia, Angola and the Democratic Republic of Congo have centred on "high-value" resources like timber, diamonds, gold, minerals and oil. Other conflicts, including those in Darfur and the Middle East, have involved control of scarce resources such as fertile land and water.

As the global population continues to rise, and the demand for resources continues to grow, there is significant potential for conflicts over natural resources to intensify. Demographic pressure and urbanization, inequitable access to and shortage of land, and resource depletion are widely predicted to worsen, with profound effects on the stability of both rural and urban settings. In addition, the potential consequences of climate change for water availability, food security, the prevalence of disease, coastal boundaries, and population distribution are also increasingly seen as threats to international security, aggravating existing tensions and potentially generating new conflicts.[11]

The relationship between natural resources, the environment and conflict is thus multi-dimensional and complex, but three principal pathways can be drawn:

a) **Contributing to the outbreak of conflict:** Attempts to control natural resources or grievances caused by inequitable wealth sharing or environmental degradation can contribute to the outbreak of violence. Countries that depend on the export of a narrow set of primary commodities may also be more vulnerable to conflict.

b) **Financing and sustaining conflict:** Once conflict has broken out, extractive "high-value" resources may be exploited to finance armed forces, or become strategic considerations in gaining territory. In such cases, the duration of conflict is extended by the availability of new sources of financing, or complicated by efforts to gain control over resource-rich areas.

c) **Undermining peacemaking:** The prospect of a peace agreement may be undermined by individuals or splinter groups that could lose access to the revenues generated by resource exploitation if peace were to prevail. Once a peace agreement is in place, the exploitation of natural resources can also threaten political reintegration and reconciliation by providing economic incentives that reinforce political and social divisions.

Contributing to the outbreak of conflict

Many countries currently face development challenges relating to the unsustainable use of natural resources and the allocation of natural wealth. At a basic level, tensions arise from competing demands for the available supply of natural resources. In some cases, it is a failure in governance (institutions, policies, laws) to resolve these tensions equitably that leads to specific groups being disadvantaged, and ultimately to conflict. In others, the root of the problem lies in the illegal exploitation of resources.

Research and field observation indicate that natural resources and the environment contribute to the outbreak of conflict in three main ways. First, conflicts can occur over the fair apportioning of wealth derived from "high-value" extractive resources like minerals, metals, stones, hydrocarbons and timber.[12] The local abundance of valuable resources, combined with acute poverty or the lack of opportunity for other forms of income, creates an incentive for groups to attempt to capture them by taking control of resource-rich territories or violently hijacking the state. The potential for "high-value" natural resources to contribute to conflict is a function of global demand and depends largely on their market price.

Second, conflicts also occur over the direct use of scarce resources including land, forests, water and wildlife. These ensue when local demand for resources exceeds the available supply or when one form of resource use places pressure on other uses.[13] This can result either from physical scarcity or from governance and distribution factors. Such situations are often compounded by demographic pressures

Case study 1: Darfur, Sudan

Scarce resources, such as water and fertile land, contribute to the conflict in Darfur
© UNEP

Sudan has been the site 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 more than two million people since 2003.[14]

While the causes of conflict in Darfur are many and complex, UNEP's environment and conflict analysis found that regional climate variability, water scarcity and the steady loss of fertile land are important underlying factors.[15] The decrease in the availability of fertile land and water has been compounded by the arrival of people displaced from conflict-affected areas in southern Sudan during the civil war.

Overgrazing and deforestation have reduced the vegetation cover, leading to a decrease of topsoil volume and quality. The lack of sheltering trees and vegetation has in turn undermined natural defences against shifting sands. In addition, the region has experienced a marked decline in rainfall. In northern Darfur, sixteen of the twenty driest years on record have occurred since 1972.[16] With higher population density and growing demand for resources, recurring drought under conditions of near anarchy has 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.

With rapidly increasing human and livestock populations,[17] the weaknesses of institutions governing access to land and water have become more apparent, and some groups have been particularly disadvantaged.[18] Desertification and its acute form, drought, do not inevitably lead to conflict. By causing poverty, marginalization and migration however, they create the conditions that make violence an attractive option for disempowered young men. Marginalized pastoralist groups, for example, have been recruited as militias to fight proxy wars where they were able to raid cattle. Nomads, whose camel-herding livelihoods have been hard-hit by drought and desertification, have also been easy prey for armed groups in the region.

As climate change may further compound water and land stresses, Darfur and indeed the entire Sahel region – recently dubbed "ground zero" for climate change[19] – will need to place adaptation at the centre of their development and conflict prevention plans. In addition to resolving the long-standing ethnic tensions in Darfur, durable peace will indeed depend on addressing the underlying competition for water and fertile land.

Case study 2:   Sierra Leone and Liberia

Timber revenues fueled conflict in Liberia   **© Corbis**

In 1991, Liberian warlord Charles Taylor sponsored the invasion of Sierra Leone by the Revolutionary United Front (RUF), a rebel group whose brutal military campaign was characterized by mass amputations and systematic rape.[20] Taylor not only provided material support to the RUF, but also sent his own troops to fight alongside them, both before and after he assumed the Liberian presidency in 1997.[21] Taylor's support of the RUF was motivated at least in part by his desire to gain control of lucrative Sierra Leonean diamond fields less than 100 miles from the Liberian border. This interest undermined peace in Sierra Leone until 2001, and the Special Court for Sierra Leone later indicted Taylor for participating in a joint criminal enterprise "to take any actions necessary to gain and exercise political power and control over the territory of Sierra Leone, in particular the diamond mining areas."[22]

In response to the role of the diamond trade in financing Charles Taylor and the RUF, the UN Security Council imposed sanctions on diamond exports from Liberia in March 2001. This increased pressure on the RUF, which laid down arms the following year, leaving over 200,000 people dead, more than two million displaced, and thousands maimed.[23] As an unintended side effect of the sanctions, however, Charles Taylor switched to another natural resource – Liberian timber – as his main source of revenue. Reflecting the lack of coherence in the UN's approach to natural resource-fuelled conflicts, it was another two years before sanctions were imposed on Liberian timber exports in July 2003. The following month, with his key funding source cut and rebel groups advancing on Monrovia, Charles Taylor went into exile in Nigeria.

Full appreciation of the role of natural resources in the conflict in Sierra Leone also requires scrutiny of the Sierra Leonean government's own track record. In the years preceding the RUF insurgency, massive corruption in Sierra Leone's diamond sector played a more subtle but significant role in setting the stage for complete political collapse. Autocratic ruler Siaka Stevens, who was in power from 1968 to 1985, brought Sierra Leone's lucrative diamond sector under his personal control, overseeing the wholesale diversion of revenues from the state into the pockets of a few individuals.[24] As diamond-smuggling operations overseen by Stevens' cronies skyrocketed, official exports dropped from more than two million carats in 1970 to 48,000 carats in 1988.[25] By the end of Stevens' rule, the Sierra Leonean economy was for all intents and purposes criminalized or destroyed. The situation improved little under the rule of his successor, Joseph Momoh.[26] This looting of the state marginalized large sections of the population, undermined the government's legitimacy and weakened its capacity to maintain peace and stability.

and disasters such as drought and flooding. Unless local institutions or practices mitigate competing interests, these tensions can lead to forced migration or violent conflict at the local level. Case study 1 on Darfur demonstrates how the steady loss of fertile land, coupled with rapidly increasing human and livestock populations, is one of a cluster of stresses that have driven the region to war.

Third, countries whose economies are dependent on the export of a narrow set of primary commodities are more likely to be politically fragile.[27] Not only are their economic fortunes held hostage to the fluctuating price of the commodity on international markets, but it can be difficult for developing countries to add value or generate widespread employment from such exports. Moreover, governments whose revenues are generated from the export of commodities rather than from taxation tend to be alienated from the needs of their constituents. The combination of the problems of currency appreciation and the opaque revenue management and corruption that have developed in many resource-rich countries is known as the "resource curse."[27]

The common trait in these three situations is the inability of weak states to resolve resource-based tensions peacefully and equitably. Indeed, conflict over natural resources and the environment is largely the reflection of a failure of governance, or a lack of capacity. As demands for resources continue to grow, this conclusion highlights the need for more effective investment in environmental and natural resource governance.

Financing and sustaining conflict

Regardless of whether or not natural resources play a causal role in the onset of conflict, they can serve to prolong and sustain violence. In particular, "high-value" resources can be used to generate revenue for financing armed forces and the acquisition of weapons. Capturing such resources becomes a strategic objective for military campaigns, thereby extending their duration.

In the last twenty years, at least eighteen civil wars have been fuelled by natural resources (see table 1). Diamonds, timber, minerals and cocoa have been exploited by armed groups from Liberia and Sierra Leone (case study 2), Angola (case study 3) and Cambodia (case study 4). Indeed, the existence of easily captured and exploited natural resources not only makes insurgency economically feasible[28] (and, therefore, war more likely); it may also alter the dynamics of conflict itself by encouraging combatants to direct their activities towards securing the assets that enable them to continue to fight. Thus revenues and riches can alter the mindset of belligerents, transforming war and insurgency into an economic rather than purely political activity, with violence resulting less from grievance than from greed.

Undermining peacemaking

Economic incentives related to the presence of valuable natural resources can hinder the resolution of conflict and complicate peace efforts. As the prospect of a peace agreement appears closer, individuals or splinter groups who stand to lose access to the revenues gained from resource exploitation can act to spoil peacemaking efforts. Indeed, real or perceived risks of how peace may alter access to and regulation of natural resources in ways that damage some actors' interests can be a major impediment. At the same time, natural resources can also undermine genuine political reintegration and reconciliation even after a peace agreement is in place, by providing economic incentives that reinforce political divisions (case study 5).

Furthermore, preliminary findings from a retrospective analysis of intrastate conflicts over the past sixty years indicate that conflicts associated with natural resources are twice as likely to relapse into conflict within the first five years.[29]

Table 1:   Recent civil wars and internal unrest fuelled by natural resources[30]

Country	Duration	Resources
Afghanistan	1978-2001	Gems, timber, opium
Angola	1975-2002	Oil, diamonds
Burma	1949-	Timber, tin, gems, opium
Cambodia	1978-1997	Timber, gems
Colombia	1984-	Oil, gold, coca, timber, emeralds
Congo, Dem Rep. of	1996-1998, 1998-2003, 2003-2008	Copper, coltan, diamonds, gold, cobalt, timber, tin
Congo, Rep. of	1997-	Oil
Côte d'Ivoire	2002-2007	Diamonds, cocoa, cotton
Indonesia – Aceh	1975-2006	Timber, natural gas
Indonesia – West Papua	1969-	Copper, gold, timber
Liberia	1989-2003	Timber, diamonds, iron, palm oil, cocoa, coffee, rubber, gold
Nepal	1996-2007	Yarsa gumba (fungus)
PNG – Bougainville	1989-1998	Copper, gold
Peru	1980-1995	Coca
Senegal – Casamance	1982-	Timber, cashew nuts
Sierra Leone	1991-2000	Diamonds, cocoa, coffee
Somalia	1991-	Fish, charcoal
Sudan	1983-2005	Oil

Case study 3:   Angola

Illegal extraction and trafficking of diamonds financed UNITA's armed struggle in Angola   © Corbis

The civil war between the government of Angola, dominated by the socialist independence movement Movimento Popular de Libertação de Angola (MPLA) and the anti-colonialist movement União Nacional para a Independência Total de Angola (UNITA), originated as a political struggle linked to the Cold War. After the end of the Cold War period however, foreign support for the warring parties began to dry up. When the first multiparty elections in the history of the country were won by the MPLA in 1992, UNITA rejected the results and resumed armed struggle.[31] This move caused UNITA to lose most of its international support, and would probably have undermined its ability to wage war if diamonds had not sustained its military effort for almost a decade after foreign support was incrementally withdrawn.[32]

From the early 1980s onwards, UNITA established its operations in the diamond-rich north of the country and began earning revenue from taxes on the production of, and trade in, diamonds. Valued at USD 3-4 billion in the period from 1992 to 2000, the importance of the diamond trade for UNITA leadership was such that obtaining the position of Minister of Geology and Mining was a critical objective for UNITA in the 1994 Lusaka Protocol.[33]

In a virtually parallel development, the Angolan government's war effort was to a large extent dependent on oil revenues. In this respect, the civil war in Angola can be considered "the ultimate natural resource war,"[34] as the course of the conflict broadly followed the price of oil relative to diamonds.

While a telling example of some of the dangers posed by natural resource riches in a country engaged in civil war, the case of Angola also illustrates how natural resource revenues render belligerents vulnerable to outside economic pressures, as UN sanctions on UNITA diamonds undoubtedly sped up the organization's downfall from the late 1990s onwards.

Case study 4:   Cambodia

In 1979, Vietnam invaded its neighbour Cambodia and overthrew Pol Pot's Khmer Rouge regime, whose four-year rule had seen around a fifth of the Cambodian population die from starvation, overwork, or execution.[35] The Khmer Rouge regrouped along the Thai border and launched an insurgency that would last for almost two decades.

The civil war between the Khmer Rouge and the Vietnamese-installed government in Phnom Penh was initially about ideology and power, and like Angola, was a proxy for Cold War antagonism. The new Vietnamese-installed government in Phnom Penh was supported financially by the Soviet Union and eastern bloc countries, while China, the United States and Thailand came out against the Vietnamese invasion. China viewed Vietnam's invasion as an unwelcome extension of Soviet influence and accused Hanoi of attempting to annex Cambodia and "set up an 'Indochina Federation' under its control."[36]

As the end of the Cold War eroded much of the Khmer Rouge's external support, the group switched its revenue-raising efforts to the exploitation of valuable natural resources under its control, principally timber and rubies. This approach was quickly emulated by Phnom Penh government forces, as political and military leaders on both sides saw an opportunity to prosecute the war while amassing personal fortunes. Logging funded military campaigns, and military campaigns soon became pretexts for more logging, with devastating human and environmental impacts. Studies estimate that the forest cover in Cambodia decreased from 73 percent in 1969 to as low as 30 to 35 percent in 1995[37] from a combination of logging and slash and burn agriculture.

The official policy of Cambodia's western neighbour, Thailand, was one of non-cooperation with the Khmer Rouge, and the Thai government therefore insisted that timber imported from Cambodia have a certificate of origin obtained from the Phnom Penh authorities. Surprisingly, these certificates were forthcoming, even for timber felled in Khmer Rouge territory. The Cambodian government charged loggers operating in Khmer Rouge zones a flat rate of USD 35 per cubic meter for the provision of these certificates, thus enabling their enemy to raise the funds to pursue their war effort.[38] In the 1995 dry season, overland exports of timber from Khmer Rouge-held territory to Thailand were earning the Khmer Rouge leadership USD 10-20 million per month.[39] This information was used by the NGO Global Witness to lobby successfully for a change in the US Foreign Operations Act, which thereafter stated that US assistance would not be given to any country determined to be cooperating militarily with the Khmer Rouge. The next day, Thailand closed its border with Cambodia to further imports of logs.

The Khmer Rouge regional command, which controlled key forest and mineral reserves in the west of Cambodia, defected to the Phnom Penh government in August 1996. While Pol Pot and his key lieutenants continued to hold territory in the north, they were severely weakened politically and through the loss of earning capacity from natural resources. The movement went on to suffer further defections and, by the end of 1998, had disintegrated completely.

It is estimated that forest cover in Cambodia decreased from 73% in 1969 to 35% in 1995   **© Global Witness**

Case study 5: Côte d'Ivoire

The Forces Nouvelles reportedly generated USD 30 million from the cocoa trade in 2006   © Global Witness

Côte d'Ivoire was once the economic powerhouse of West Africa – a stable and affluent country that had avoided the descent into civil war that had plagued so many of its neighbours. In the 1970s and 1980s, it was known as the "African miracle." Yet in September 2002, an army mutiny escalated into a full-scale rebellion, resulting in the country's split between a rebel-held north and a government-held south. After several failed peace agreements, Côte d'Ivoire remains divided in a military stalemate, with the latest power-sharing agreement signed on 4 March 2007.[40]

Economic agendas on both sides are key to understanding why the conflict has proven so difficult to resolve. In September 2005, investigators discovered that diamonds mined in rebel-held Forces Nouvelles areas were being smuggled into Mali and Guinea and then onto the international market.[41] In November 2005, the UN Panel of Experts on Côte d'Ivoire published a report detailing how the rebels were using diamonds, as well as cocoa and cotton, to fund their war effort, and for personal gain.[42] The economic benefits gained from these natural resources, the Panel found, constituted a major disincentive to negotiate peace. In December 2005, three years after the conflict started, the Security Council extended the arms embargo against Côte d'Ivoire to include a ban on rough diamond exports from the country.[43]

Diamonds, however, were not the only source of revenue that needed to be controlled. With some 40 percent of the world's cocoa coming from Côte d'Ivoire, the commodity makes up 35 percent of the country's export earnings.[44] In 2006, an investigation by the British NGO Global Witness uncovered evidence that the Forces Nouvelles were generating approximately USD 30 million per year by levying taxes on the cocoa trade – more than the group's estimated returns from the diamond trade.[45]

The Ivorian cocoa sector also funds military activity by the government and government-associated militias. Indeed, the majority of cocoa plantations are situated in the government-controlled south of the country. More than USD 58 million in cocoa revenues were used for the government's war effort through the national cocoa institutions – a series of parastatal bodies mostly set up after President Laurent Gbagbo came to power in 2001.[46]

These economic interests, which benefit both parties to the power-sharing agreement, contribute to a situation in which neither side has an incentive to accelerate reunification. The resulting political foot-dragging is underscored by repeated postponement of presidential elections. While the exploitation of Côte d'Ivoire's national wealth may form an area of common interest for both sides, it is also clearly stalling genuine political reintegration.

3 Impacts of conflict on natural resources and the environment

Rationale

The environment has always been a silent casualty of conflict. To secure a strategic advantage, demoralize local populations or subdue resistance, water wells have been polluted, crops torched, forests cut down, soils poisoned, and animals killed. In some cases, such as the draining of the marshlands of the Euphrates-Tigris Delta by Saddam Hussein during the 1980s and 1990s, ecosystems have also been deliberately targeted to achieve political and military goals. During the Vietnam war, nearly 72 million litres[47] of the dioxin-containing defoliant Agent Orange were sprayed over the country's forests, resulting in entire areas being stripped of all vegetation. Some of these areas remain unsuitable for any form of agricultural use today. Recent examples of intentional environmental damage include the 1991 Gulf War, during which Kuwait's oil wells were set on fire and millions of tonnes of crude oil were discharged into waterways. In this instance, the environment itself was used as a weapon of mass destruction.

While numerous other examples of natural resources being used as a weapon of war exist, the majority of the environmental damage that occurs in times of conflict is collateral, or related to the preparation and execution phases of wars and to the coping strategies of local populations. In this regard, impacts of conflict on the environment can be divided into three main pathways:

a) **Direct impacts:** are caused by the physical de-struction of ecosystems and wildlife or the release of polluting and hazardous substances into the natural environment during conflict.

b) **Indirect impacts:** result from the coping strategies used by local and displaced populations to survive the socio-economic disruption and loss of basic services caused by conflict. This often entails the liquidation of natural assets for immediate survival income, or the overuse of marginal areas, which can lead to long-term environmental damage.

c) **Institutional impacts:** Conflict causes a disruption of state institutions, initiatives, and mechanisms of policy coordination, which in turn creates space for poor management, lack of investment, illegality, and the collapse of positive environmental practices. At the same time, financial resources are diverted away from investments in public infrastructure and essential services towards military objectives.

Direct impacts

Often presenting acute risks for human health and livelihoods, the direct impacts of conflict on the environment are the most visible and well understood. This type of impact is largely due to chemicals and debris generated by bomb damage to settlements, rural areas and infrastructure (case study 6). In some situations, natural resources such as oil wells, forests and water can also be targeted. The direct effects of war are not limited to the countries in which they are waged, as air and water pollution can be carried across borders, threatening the health of populations in neighbouring regions. Direct damage to the environment can also result from the movement of troops, landmines and other unexploded ordnance, weapons containing depleted uranium, and the production, testing, stockpiling and disposal of weapons.

Indirect impacts

By disrupting normal socio-economic patterns, wars force populations to adopt coping strategies, and often lead to in-ternal displacement or migration to neighbouring countries. In the refugee camps that are established to provide basic shelter, food and protection, natural resources are critical assets, providing land, water, construction materials, and renewable energy. Damage to natural resources not only undermines the delivery of humanitarian aid, but can also cause conflict with host communities.

Conversely, vulnerable populations that do not flee must find alternative strategies to survive the breakdown of governance, social services and economic opportunities. Despite the long-term consequences, converting natural resources into capital is often a key coping mechanism and lifeline (case study 7).

Once conflict has diminished the resettlement of refugees and the restoration of economic activities can put intense pressure on natural resources. The indirect environmental impacts of war-time survival strategies and post-conflict reconstruction can be more persistent and widespread than the direct impacts of war.

Case study 6:   Kosovo conflict

The 1999 conflict in the Balkans was triggered by the collapse of the Rambouillet peace negotiations, which failed to find a diplomatic solution to the Kosovo crisis. NATO initiated air strikes on targets within the Federal Republic of Yugoslavia on 24 March, suspending its campaign on 10 June. Although the conflict was relatively short, severe damage was inflicted to strategic infrastructure and industrial sites in the Former Yugoslavian Republics of Serbia and Montenegro.[48]

The industrial complex at Pancevo, one of more than 50 such sites that were bombed, was hit twelve separate times during the conflict, resulting in the release of 80,000 tonnes of burning oil into the environment. Black rain reportedly fell onto neighbouring towns and villages. In addition, a toxic cocktail of compounds and substances leaked into the air, soil and water around Pancevo, including 2,100 tonnes of ethylene dichloride (a substance causing kidney, liver and adrenal damage), eight tonnes of metallic mercury (known to cause severe birth defects and brain damage), 460 tonnes of vinyl chloride monomer (a known human carcinogen and a source of dioxins when burned), and 250 tonnes of liquid ammonia (which can cause blindness, lung disease and death).[49]

The potential environmental contamination and risks to human health were clearly very serious. Neighbouring countries – namely Bulgaria and Romania – expressed their deep concern about transboundary air pollution and the possible toxic sludge in the Danube River. While NATO argued that the environmental damage was minimized by the use of sophisticated weapons and selective targeting, the intensity of the air strikes, the targeting of industrial facilities, and the dramatic media coverage combined to raise fears that an environmental catastrophe had resulted from massive pollution of air, land and water in those countries.

To address these claims, Dr. Klaus Töpfer, then Executive Director of UNEP and Acting Executive Director of UN-HABITAT, established the Balkans Task Force to undertake a neutral and independent assessment of the impact of the conflict on the environment and human settlements. A team of international experts, along with two mobile laboratories from Denmark and Germany, were deployed to investigate the purported environmental damage. The field assessment conducted by the Task Force found truth on both sides. The scientific data indicated that while the environment had indeed been contaminated, the situation could not be called an environmental catastrophe. Out of 50 bombed industrial sites, four could be classified as environmental hotspots, as the toxic chemicals released there presented serious risks to human health and required urgent clean-up on humanitarian grounds.[50]

The UNEP report also concluded that some of the contamination identified at various sites clearly pre-dated the Kosovo conflict.[51] This finding indicated serious industrial deficiencies in the treatment and storage of hazardous waste and pollution control that needed to be addressed as part of the reconstruction process. In addition to the urgent clean-up of the hotspots, UNEP recommended that further assessments of the potential risks caused by the use of depleted uranium weapons be conducted.

UNEP's environmental assessments in the Balkans responded to a clear need to understand and address the environmental impacts of conflict. This capacity was institutionalized in 2001, with the creation of the UNEP Post-Conflict and Disaster Management Branch. In 2008, the 10th Special Session of the UNEP Governing Council endorsed the proposal that assessing and addressing the environmental causes and consequences of conflicts and disasters become one of six new strategic priorities for the organization.[52]

The Pancevo industrial complex in Serbia was bombed ten seperate times during the Kosovo conflict   © Pancevac

Case study 7:   Afghanistan

In Afghanistan, UNEP observed landscapes that were completely deforested, such as this site near Qala-I-Nau, Herat   © UNEP

Natural resources and environmental services underpin the livelihoods of 80 percent of Afghanistan's population.[53] The combined pressures of warfare, civil disorder, institutional disintegration, the collapse of traditional community-based management systems, and drought have taken a major toll on Afghanistan's natural resources. Livelihoods were thrown into disarray by the conflict and resulting coping strategies have led to the widespread liquidation of the country's natural assets.

In 2003, UNEP's post-conflict environmental assessment found that over 50 percent of the natural pistachio woodlands had been cut in order to sell wood for income or to stockpile fuelwood for fear that access to the forests would be lost.[54] In some areas, the presence of landmines also drove farmers into pistachio woodlands to grow food, requiring the complete elimination of the trees. Extensive grazing and soil erosion in the former woodlands now prevent any hope of natural regeneration.

As a consequence, the livelihoods that these forests once sustained by producing pistachio nuts and fuelwood for cooking and heating have been destroyed. At the same time, decreased vegetation cover and accelerated erosion have reduced water quality and quantity, further compounding existing water scarcity. Some humanitarian interventions, which provided emergency water through deep well drilling, have also exacerbated the situation. By failing to understand groundwater dynamics, coordinating activities, or monitoring extraction levels, these operations have undermined local *karez* water systems, placing different users in conflict over the scarce resource. With the loss of forests, water scarcity, excessive grazing and dry land cultivation, soils are exposed to erosion from wind and rain. UNEP found that the productivity of the land base was on the brink of collapse, driving people from rural to urban areas in search of food and employment – a clear case of environmentally induced displacement.[55] As in Darfur, peace in Afghanistan will depend on rehabilitating the natural resource base and addressing tensions relating to access and tenure.

Institutional impacts

Weak governance institutions and expressions of authority, accountability and transparency are frequently eroded by conflict. When tensions intensify and the rule of law breaks down, the resulting institutional vacuum can lead to a culture of impunity and corruption as public officials begin to ignore governance norms and structures, focusing instead on their personal interests. This collapse of governance structures contributes di-rectly to widespread institutional failures in all sectors, allowing opportunistic entrepreneurs to establish un-controlled systems of resource exploitation. Conflict also tends to confuse property rights, undercut positive environmental practices, and compromise dispute re-solution mechanisms. At the same time, public finances are often diverted for military purposes, resulting in the decay of, or lack of investment in, water, waste and energy services, with corresponding health and environmental contamination risks (case study 8).

Case study 8: Gaza and the West Bank

Rescuers search for victims after the banks of a sewage pond collapsed in the village of Umm Naser   © Associated Press

Access to sufficient clean water is an issue of vital importance in the Occupied Palestinian Territories (OPT) and across the region. On a per capita basis, the Middle East is the world's most water-scarce region. Indeed, the Middle East and Northern Africa house five percent of the world's population, but only one percent of its accessible freshwater resources.[56] Under such circumstances, state-of-the-art technology and careful management are essential to guarantee that this rare resource can be put to maximum use.

One of the consequences of the ongoing conflict affecting the OPT is the erosion of the institutional capacity of the Palestinian Authority to manage key natural resources efficiently and provide basic services such as water and sanitation. Following the withdrawal of foreign aid to the Palestinian government after the election of Hamas in January 2006, roads, power plants and waterworks across the 140 square-mile Gaza strip deteriorated rapidly from lack of management and maintenance. The declining state of the sewage infrastructure was tragically highlighted in March 2007, when the earthen wall of a sewage pond in the northern Gaza Strip ruptured, flooding a nearby village and killing four Palestinians. The ponds and adjacent treatment plant were designed to serve 50,000 people in the Beit Lahiya area, but the region's population had grown to 190,000.[57] The management and planning situation has been further exacerbated by the split between Hamas-controlled Gaza and the Fatah-controlled West Bank, as well as the periodic border closures by the Israeli government.

In addition to the problems related to wastewater treatment, good management of water resources in the region must take water extraction, transport and consumption into consideration. A 2003 UNEP study estimated that 35-50 percent of the water was being lost between the well and the tap, due to the poor condition of waterworks in Gaza and the West Bank.[58] The study also found that groundwater (the primary source of water in Gaza and the West Bank) was in many places threatened by pollution. Sources of pollution varied from sewage problems to pesticides and illegal dumpsites. Among the recommendations of the study was the strengthening of Palestinian water management authorities, policy-making bodies on water issues, and water planning.[59]

On the other hand, the clear need for collaboration over groundwater presents an important opportunity to bring the Palestinian and Israeli authorities together for dialogue, technical cooperation, or even co-management.

4 The role of natural resources and the environment in peacebuilding

Rationale

Whether a war-torn society can maintain peace after a conflict ceases depends on a broad range of factors, including the conditions that led to the onset of war, the characteristics of the conflict itself, the nature of the peace settlement, and the influence of external forces (i.e. global economic or political pressures).

The previous sections have shown that natural resources can be an important contributing factor in the outbreak of conflict, in financing and sustaining conflict, and in spoiling peacemaking prospects. Increasing demand for resources, population growth and environmental stresses including climate change, will likely compound these problems. At the same time, conflicts cause serious environmental impacts, which need to be addressed to protect health and livelihoods.

In peacebuilding, it is therefore critical that the environmental drivers and impacts of conflict are managed, that tensions are defused, and that natural assets are used sustainably to support stability and development in the longer term.[60] Indeed, there can be no durable peace if the natural resources that sustain livelihoods and ecosystem services are damaged, degraded or destroyed. As mentioned above, conflicts associated with natural resources are twice as likely to relapse into conflict in the first five years. Despite this, fewer than a quarter of peace negotiations aiming to resolve conflicts linked to natural resources have addressed resource management mechanisms.[61]

Furthermore, the UN has not effectively integrated environment and natural resource considerations into its peacebuilding interventions. Priorities typically lie in meeting humanitarian needs, demobilization, disarmament and reintegration, supporting elections, restoring order and the rule of law, and opening the economy to foreign investment. The environment and natural resources are often framed as issues to be addressed at a later stage.

This is a mistaken approach, which fails to take into account the changing nature of the threats to national and international security. Rather, integrating these issues into peacebuilding should be considered a security imperative, as deferred action or poor choices made early on often establish unsustainable trajectories of recovery that may undermine long-term peace and stability.

To ensure that environmental and natural resource issues are successfully integrated across the range of peacebuilding activities (see figure 2), it is critical that they are not treated in isolation, but instead form an integral part of the analyses and assessments that guide peacebuilding interventions. Indeed, it is only through a cross-cutting approach that these issues can be tackled effectively as part of peacebuilding measures to address the factors that may trigger a relapse of violence or impede the peace consolidation process. The following section provides three compelling reasons and supporting case studies to demonstrate how environment and natural resources can concretely contribute to peacebuilding:

a) **Supporting economic recovery:** With the crucial provision that they are properly governed and carefully managed – "high-value" resources (such as hydrocarbons, minerals, metals, stones and export timber) hold out the prospect of positive economic development, employment and budget revenue. The risk, however, is that the pressure to kick-start development and earn foreign exchange can lead to rapid uncontrolled exploitation of such resources at sub-optimal prices, without due attention to environmental sustainability and the equitable distribution of revenues. When the benefits are not shared, or when environmental degradation occurs as a consequence of exploitation, there is serious potential for conflict to resume.

b) **Developing sustainable livelihoods:** Durable peace fundamentally hinges on the development of sustainable livelihoods, the provision of basic services, and on the recovery and sound management of the natural resource base. Environmental damage caused by conflicts, coping strategies, and chronic environmental problems that undermine livelihoods must therefore be addressed from the outset. Minimizing vulnerability to natural hazards and climate change through the management of key natural resources and the introduction of appropriate technologies should also be addressed.

c) **Contributing to dialogue, cooperation and confidence-building:** The environment can be an effective platform or catalyst for enhancing dialogue, building confidence, exploiting shared interests and broadening cooperation between divided groups as well as within and between states.

Case study 9:   The Democratic Republic of Congo

Mineral resources such as copper, gold, diamonds and coltan played a significant role in the economics of the civil war that took hold of the Democratic Republic of Congo in the past decade, perpetuating the conflict, financing rebel groups and incentivising regional participation in what became known as "Africa's World War."[62] As DR Congo edges towards peace, it is clear that its natural resources – timber, water and minerals in particular – could play an important part in the country's reconstruction, especially in the absence of other sources of revenue and employment. In the current context of extensive corruption, lack of government control and marginalization of local populations, however, the exploitation of the country's resources is fraught with risks.

The forests of DR Congo are known as the "world's second lung." In addition to logging, they provide many livelihood opportunities, including ecotourism, conservation, agriculture and non-timber forest products such as foodstuffs, medicine or cosmetics. If logging is not carried out in a manner that is sustainable and ensures that local populations benefit from the trade, deforestation and degradation could undermine these other livelihood options, and soil erosion, increasing flood risk and declining yields could lead to competition between groups with different livelihood strategies. In addition, the risk that armed groups become involved in the timber and mineral trades, that revenues be misappropriated and that forest-dependent communities be pushed off their land also presents considerable threats to the peacebuilding process. The unrest in the Kivus, for example – the region that has been the epicentre of instability in DR Congo for a decade – has been closely linked to land and livelihood conflicts between communities.[63]

The absence of clear regulations, transparent systems and law enforcement is cited as an important reason for the lack of investment in the private forestry sector.[64] Continuing insecurity and issues of infrastructure could also hinder the development of an ecotourism industry. Some measures have already been taken by the government of DR Congo and the international community to begin reforming the forest sector. In 2002, for example, a review of the logging concessions issued in the 1990s was announced. The process began in 2005, and by 2007, 163 of 285 reviewed concessions (covering a total of 25.5 million hectares) had been rescinded. The conversion process has suffered numerous delays and other problems, however, and has yet to be completed.[65]

In addition, while a new forest code was adopted in 2002, it is not being properly implemented, and only a handful of the 42 accompanying decrees have officially been adopted. Major information gaps remain regarding the actual quality and current usage of forests (as well as other ecosystems) in the country. The authorities do not have the means or the capacity to exercise oversight of the sector, and this lack of control has left the door open to abuse, fraud and illegal exploitation. The government will hence need continued support from the international community to monitor the environment, control natural resource extraction, and build governance and enforcement capacity.

Coltan played a significant role in the economics of the civil war in the Democratic Republic of Congo   © Still Pictures

Case study 10: Rwanda

Tourists pay USD 500 for a permit to observe the gorillas in their natural environment in Rwanda   **© Associated Press**

Rwanda provides a number of interesting lessons learned on generating revenue from natural resources at the national and community levels, and on regional cooperation for environmental management. With a history of violent conflict both between different ethnic groups and across borders, the country lies in one of the most densely populated regions of Africa and is experiencing rapidly growing demand for natural resources. In the late 1990s, the Rwandan government embarked on the parallel reform and rehabilitation of the National Parks Management Authority, and the development of high-value mountain gorilla tourism. Today, tourists pay some USD 500 for a single gorilla permit, in addition to a similar daily amount on luxury accommodation, meals and transportation. The funds generated from the sale of the permits are used for the management of national parks, and a percentage is shared with local communities to contribute to their development.[66]

Furthermore, recognizing that regional cooperation was needed as the gorilla population also lives in protected areas in DR Congo and Uganda, the three countries signed the "Declaration of Goma" in 2005. This cooperation agreement,[67] including joint patrols, information exchange and the sharing of revenues, represents a major achievement in the transboundary management of natural resources and demonstrates that environmental cooperation can be a useful mechanism for confidence-building.

Rwanda, however, also provides an important lesson on the need for a regional approach to natural resources management. Due to widespread deforestation, the government issued a complete ban on charcoal production in 2006.[68] While the policy may have been effectively implemented in Rwanda, the production of charcoal simply shifted to neighbouring DR Congo, further increasing extractive pressures on Virunga National Park, potentially undermining the gorilla habitat upon which local communities in Rwanda now depend for tourism revenue, and creating a shadow economy of illegal charcoal smuggling.

Supporting economic recovery

Recreating a viable economy after a prolonged period of violent conflict remains one of the most difficult challenges of peacebuilding.[69] A post-conflict state faces key policy questions on how to ensure macro-economic stability, generate employment and restore growth. It must therefore seek to immediately (re)establish systems for the management of public finances, as well as monetary and exchange rate policies. This is complicated by the fact that conflict reverses the process of development, impacting institutions, foreign investment, capital and GDP.[70]

Authorities typically need to identify quick-yielding revenue measures and priority expenditures aimed at supporting economic recovery and restoring basic infrastructure and services. In a post-conflict situation, governments are also faced with high unemployment rates that can result in social instability. Extractable natural resources are often the obvious (and only) starting point for generating rapid financial returns and employment. However, as illustrated by the cases of Sierra Leone and Liberia (case study 2), the exploitation of natural resources and the division of the ensuing revenues can also create the conditions for renewed conflict. It is therefore vital that good management structures are put in place, and that accountability and transparency are ensured. These challenges are illustrated in case study 9 on the Democratic Republic of Congo and case study 10 on Rwanda.

Developing sustainable livelihoods

The ability of the environment and resource base to support livelihoods, urban populations and economic recovery is a determining factor for lasting peace. In the aftermath of war, people struggle to acquire the clean water, sanitation, shelter, food and energy supplies on which they depend for their well-being and livelihoods. A failure to respond to the environmental and natural resource needs of the population as well as to provide basic services in water, waste and energy can complicate the task of fostering peace and stability.

Sustainable livelihoods approaches provide a framework for addressing poverty and vulnerability in all contexts. They have emerged from the growing realization of the need to put the poor and all aspects of their lives and means of living at the centre of development and humanitarian work, while maintaining the sustainability of natural resources for present and future generations.

Collapse of livelihoods from environmental stresses, overuse of assets or poor governance results in three main coping strategies: innovation, migration and competition. Combined with other factors, the outcome of competition can be violent. For this reason, developing sustainable livelihoods should be at the core of any peacebuilding approach, as discussed in case study 11 on Afghanistan and case study 12 on Haiti.

Contributing to dialogue, confidence-building and cooperation

The collapse of social cohesion and public trust in state institutions is a crippling legacy of war.[71] Irrespective of the genesis of the violence, creating the space for, and facilitating national and local dialogue in ways that rebuild the bonds of trust, confidence and cooperation between affected parties is an immediate post-conflict task. Peacebuilding practitioners are currently discovering new or unseen pathways, linkages and processes to achieve these goals.

Experience and new analysis alike suggest that the environment can be an effective platform or catalyst for enhancing dialogue, building confidence, exploiting shared interests and broadening cooperation. The approach can be applied at multiple levels, including between local social groups (across ethnic or kinship lines of conflict), between elite parties or leadership in conflict factions, and at the transnational and international levels.

The premise lies in the notion that cooperative efforts to plan and manage shared natural resources can promote communication and interaction between adversaries or potential adversaries, thereby transforming insecurities and establishing mutually recognized rights and ex-pectations. Such efforts attempt to capitalize on parties' environmental interdependence, which can serve as an incentive to communicate across contested borders or other dividing lines of tension.

The shared management of water, land, forests, wildlife and protected areas are the most frequently cited examples of environmental cooperation for peacebuilding, but environmental protection (in the form of protected areas, for example) has also been used as a tool to resolve disputes over contested land or border areas (case studies 13 and 14). Meanwhile, constitutional processes or visioning exercises that aim to build national consensus on the parameters of a new system of governance can include environmental provisions. Issues such as the right to clean air, water and a healthy environment are often strong connecting lines between stakeholder groups with diverging interests. The need for communities to identify risks from climate change and to develop adaptation measures could also serve as an entry point. Finally, as many post-conflict states are parties to international regimes, regional political processes and multilateral environmental agreements, opportunities and support may also exist through these mechanisms.

Case study 11: Afghanistan

Community reforestation efforts near Bamiyan have increased employment and contributed to livelihoods © UNEP
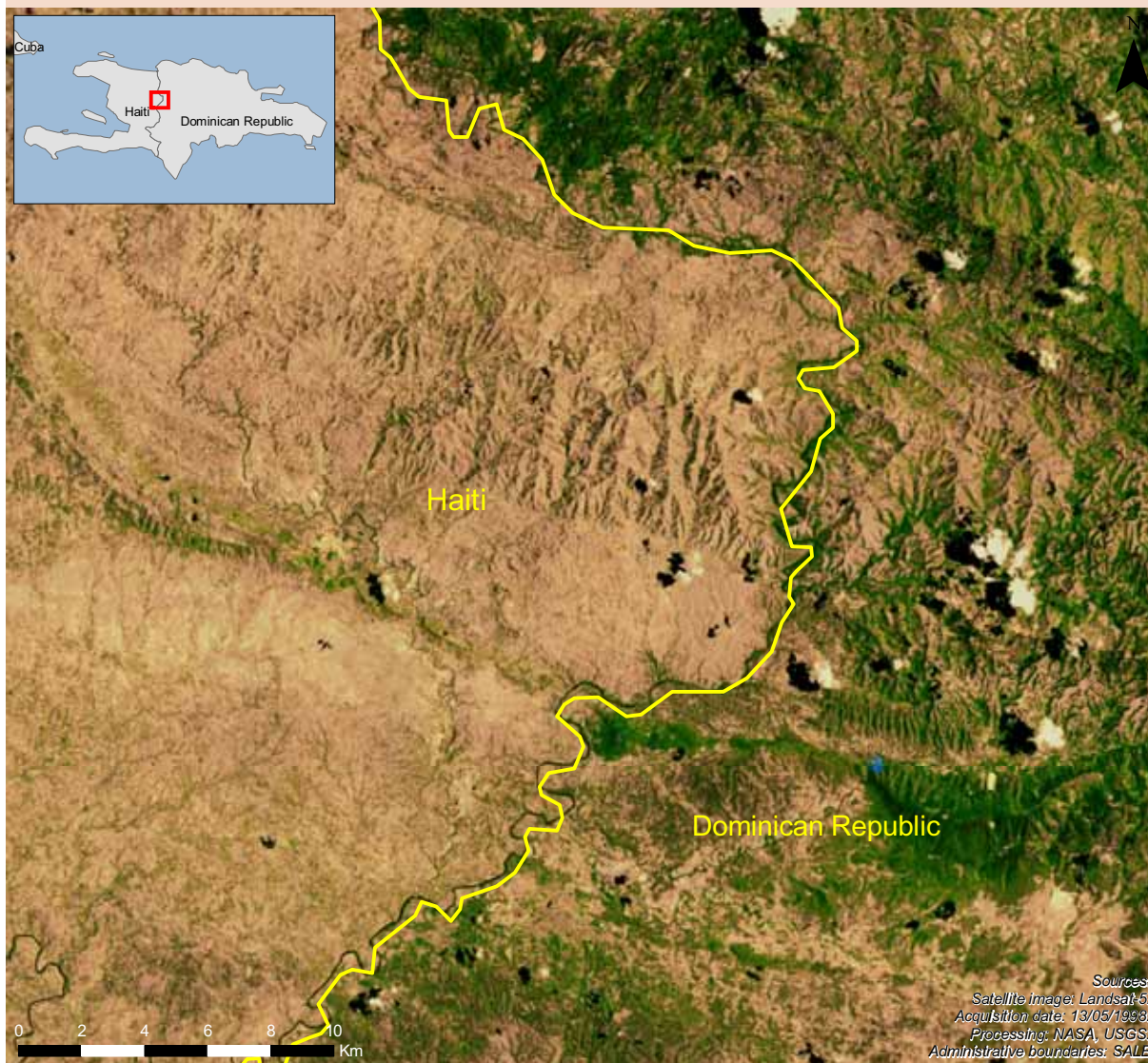
UNEP's 2003 post-conflict environmental assessment found that after two decades of war, Afghanistan's natural resource base had largely been destroyed. The degradation of the natural resources upon which some 80 percent of Afghans depended for their livelihoods was a critical problem across the country.[72] Together with high population growth rates, poverty was deepening and rural livelihoods were becoming increasingly vulnerable. The report contended that as part of the peacebuilding process, the creation of employment and the injection of cash were essential to support the recovery of the local economy and re-establish livelihoods.

With funding from the United States Agency for International Development, the Afghanistan Conservation Corps (ACC) was founded to generate long-term improvements in the livelihoods of the Afghan people by providing labour-intensive work opportunities that could meet the income generation needs of the poorest, while at the same time renewing and conserving the country's natural resource base.

Since the beginning of the programme, the ACC has implemented over 300 projects with local communities in 22 provinces. More than five million trees have been planted and over 700,000 labour days generated (100,000 for women). When implementing its activities, the ACC works through local community development councils and traditional leaders, using a participatory approach to identify potential problems and opportunities to facilitate the projects' long-term sustainability.[73]

In addition, as a complement to these efforts, UNEP has been working hand in hand with the Afghan National Environmental Protection Agency to establish and implement policies and laws for the recovery and sustainable management of natural resources, with a focus on sustainable livelihoods.[74]

Case study 12: Haiti

Sources:
Satellite image: Landsat 5.
Acquisition date: 13/05/1998.
Processing: NASA, USGS.
Administrative boundaries: SALB

Severe deforestation contributes to flooding and mudslides in Haiti, costing many lives each year   Mapping: Yves Barthélemy

The UN currently has a force of 7,000 peacekeepers and almost 2,000 police officers stationed in Haiti, with a mandate to "stabilize" the country.[75] Although UN forces have been in Haiti since 2004 – when the latest in a series of coups, riots and clashes occurred – peace and development remain elusive. Haiti's colonial legacy, poor leadership and history of economic disruptions have shaped the country's plight and have contributed to the extreme environmental problems that are among the most serious obstacles to peacebuilding.

Between 1990 and 2000, Haiti lost 44 percent of its total forest cover.[76] When forests disappear, the natural shield that they form against the impacts of tropical storms in mountainous terrain is lost. Topsoil is then easily removed by the rain running down the mountainside, and is deposited in rivers, lakes and bays. As a result, farmers are progressively left with less fertile soil to raise crops. When storms are particularly severe, mudslides and floods cost many lives. Hurricane Jeanne, for example, left 2,000 dead in Haiti in 2004.[77]

The single most significant cause of deforestation in Haiti is the production of charcoal for fuel. In a country where 76 percent of the population lives under the poverty line, charcoal is an essential form of energy.[78] In addition, cutting trees and selling firewood is one of few livelihood options in this economically stagnant country. The situation is a vicious circle: deforestation undermines livelihoods, leaving few viable options for development besides further harvesting of the forest, and fewer people in a position to invest in energy sources other than firewood.

Reforestation, investment in alternative energy sources, and sustainable agricultural and forestry practices are essential elements of environmental rehabilitation in Haiti. In turn, environmental rehabilitation will be essential to promoting development, reducing Haiti's vulnerability to the impacts of climate change, and achieving long-term stability.

Case study 13: Peru and Ecuador

The common border between Peru and Ecuador was a source of tension between the two countries for over 150 years.[79] The last major conflict took place in 1942, when Peru invaded Ecuador, triggering a ten-day war that ended with the signing of the Rio de Janeiro protocol. The protocol established a new border between the two countries by granting Peru approximately 200,000 square kilometers of formerly Ecuadorian territory. The new border remained poorly defined, however, leading to further skirmishes and larger-scale hostilities – most notably in 1981 and 1995.

After a series of prolonged discussions, the Acta Presidencial de Brasilia was signed in 1998. This agreement was unique in that it recognized the potential for fostering transboundary cooperation and reducing tension between the countries while protecting biodiversity. In particular, the treaty called for Peru and Ecuador to establish Adjacent Zones of Ecological Protection on both sides of the border in the Cordillera del Cóndor. In 1999, Ecuador established the El Cóndor park, while Peru created an Ecological Protection Zone and the Santiago-Comaina Reserved Zone.

These peace parks were established as mechanisms for bilateral cooperation for conservation, as well as to promote the social, cultural and economic development of local communities in both countries. The treaty has led to subsequent bi-national initiatives to manage and conserve the parks such as the "Peace and Bi-national Conservation in the Cordillera del Cóndor, Ecuador-Peru" project.[80]

In addition to helping to resolve a long-term territorial dispute between the two countries, the 1998 Brasilia agreement initiated an important phase of bilateral diplomacy, cooperation and commercial relations in the post-conflict phase. Not only has the establishment of the Cordillera del Cóndor peace parks created a foundation for confidence-building and collaboration, but local communities have been building their capacity to manage the protected areas and have directly benefited from ongoing conservation efforts.

Based on the experiences of the Cordillera del Cóndor, similar parks have been proposed between Israel and Syria in the Golan Heights, as well as between North and South Korea in the demilitarized zone.[81] These parks, it is hoped, could transform disputed border areas into transboundary conservation zones with flexible governance arrangements, facilitating cooperation between the countries involved.

The Cordillera del Cóndor transboundary park   **© Conservation International / Cesar Vega**

Case study 14: Environmental cooperation in conflict-affected countries

Since UNEP's post-conflict operations began in 1999, opportunities to contribute to peacebuilding using environmental concerns and natural resource management as a platform for dialogue, confidence-building and cooperation have presented themselves in various ways. Each of the cases presented below was treated as a pilot activity to better understand how environmental needs could be addressed while simultaneously fostering cooperation and serving wider peacebuilding goals.

The need for transboundary cooperation between Afghanistan and Iran over the water resources of the Sistan Basin was one of the key recommendations of UNEP's post-conflict assessment in 2002. Due to frequent droughts and mismanagement on both sides, the wetland lay completely dry between 2001 and 2005, devastating livelihoods and resulting in large-scale population displacement, including the migration of Afghan refugees into Iran. In 2002, the region was qualified as a humanitarian disaster zone and became a recipient of relief aid. The socio-economic problems engendered by the environmental collapse – particularly emigration, unemployment and smuggling – destabilized this sensitive border region and strained relations between the two countries. In this case, UNEP was requested to facilitate "environmental diplomacy" between the two sides by organizing technical meetings and providing an objective environmental analysis of the situation based on time-series satellite images. The meetings, which involved senior inter-ministerial delegations

Stranded boat near Kang in the Sistan Basin © UNEP

The Sistan inland delta in 1987-1990 © ITC & UNEP

The Sistan inland delta in 1999-2000 © ITC & UNEP

Afghanistan-Iran Sistan Basin dialogue in Geneva, December 2005 © UNEP

from key government agencies such as foreign affairs, environment, water, agriculture and local government, resulted 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). Progress has unfortunately been stalled by increasing insecurity in the region.

Following the post-conflict environmental work done by UNEP in Iraq, the Iraqi Ministry of Water Resources approached UNEP in early 2004 and proposed instigating a process with Iran on transboundary waters, with UNEP acting as chair. Points of contention arose from the shared Mesopotamian marshlands. As the two countries' relations had been severed for more than twenty years, the first meeting held in Geneva in 2004 was a major achievement and a diplomatic breakthrough. Although these workshops, which focused on information-sharing, did not set out to advocate for any larger political aims, they were instrumental in fostering cooperation and trust between ministries of both nations, until this cooperation was overtaken by political developments.

The post-conflict environmental assessment (PCEA) process conducted by UNEP in Sudan during 2006 and 2007 also provided a clear opportunity to use the environment as a platform for dialogue and cooperation between the authorities in the North and South. Two major workshops, held in Khartoum and Juba respectively, brought stakeholders from both sides together to debate key environmental issues and provide information for the assessment. The lines of communication and bonds of trust that were established during these meetings allowed the PCEA to include an analysis of current politically sensitive issues between the two parties. This, in turn, facilitated inter-governmental communication and eventually led to meetings between northern and southern environment ministers to discuss substantive issues, including overlapping laws, mandates and shared waters.

In each of these cases, UNEP has acted as both a neutral broker and technical expert, bringing parties to the table and providing objective environmental information and analysis. Further research is now needed to determine how this service can be more systematically offered by the UN to Member States, as well as how stakeholder participation can be further enhanced. Although environmental issues do not always carry major political weight, it is clear that these interactions foster goodwill and understanding, and help lay the foundation for moving from confrontation to cooperation.

5 Conclusions and policy recommendations

Three main conclusions can be drawn from the arguments and cases presented in this report:

a) Natural resources and the environment can be implicated in all phases of the conflict cycle, contributing to the outbreak and perpetuation of violence and undermining prospects for peace. In post-conflict countries, they can also contribute to conflict relapse if they are not properly managed from the outset. The way that natural resources and the environment are managed has a determining influence on peace and security.

b) The environment can itself fall victim to conflict, as direct and indirect environmental damage, coupled with the collapse of institutions, can lead to environmental risks that threaten health, livelihoods and security. These risks should be addressed as a part of the recovery process.

c) Natural resources and the environment can contribute to peacebuilding through economic development, employment generation and sustainable livelihoods. Cooperation over the management of natural resources and the environment provides new opportunities for peacebuilding that should also be pursued.

As a result, UNEP's Expert Advisory Group on Environment, Conflict and Peacebuilding recommends that the UN Peace-building Commission and the wider international community consider the following six areas for priority action:

1. Further develop UN capacities for early warning and early action

The UN system needs to strengthen its capacity to deliver early warning and early action in countries that are vulnerable to conflicts over natural resources and environmental issues. At the same time, the effective governance of natural resources and the environment should be viewed as an investment in conflict prevention within the development process itself:

*   Prioritize capacity-building for dispute resolution, environmental governance and land administration in states that are vulnerable to conflicts over natural resources and the environment.

*   Include environmental and natural resource issues in international and regional conflict early warning systems and develop expertise for preventive action.

*   Build international capacity to conduct mediation between conflicting parties where tensions over resources are rising.

*   Support research on how the impacts of climate change could increase vulnerability to conflict and how early warning and adaptation projects could address this issue.

*   Ensure that all development planning processes are conflict-sensitive and consider potential risks from the mismanagement of natural resources and the environment.

2. Improve oversight and protection of natural resources during conflicts

The international community needs to increase oversight of "high-value" resources in international trade in order to minimize the potential for these resources to finance conflict. International sanctions should be the primary instrument dedicated to stopping the trade in conflict resources and the Security Council should require Member States to act against sanctions violators. At the same time, new legal instruments are required to protect natural resources and environmental services during violent conflict:

*   Develop international certification mechanisms to ensure that natural resources can be tracked more effectively.

*   A high-level report by the Secretary-General examining the UN's experience in addressing the role of natural resources in conflict and peacebuilding, recommending ways in which existing UN approaches may be strengthened, and clarifying what constitutes a "conflict resource," would help improve coordination, increase oversight and provide a basis for the identification of cases that require action by the Security Council.

*   Make secondary sanctions systematic and uniform, so that individuals and companies violating sanctions are subject to criminal prosecution, no matter which state they are based in.

*   Support and strengthen current processes to develop new international legal instruments against targeting natural resources and ecosystems during conflicts.

3. Address natural resources and the environment as part of the peacemaking and peacekeeping process

During peace mediation processes, wealth-sharing is one of the fundamental issues that can "make or break" a peace agreement. In most cases, this includes the sharing of natural resources, including minerals, timber, land and water. It is therefore critical that parties to a peace mediation process are given sufficient technical information and training to make informed decisions on the distribution and sustainable use of natural resources. Subsequent peacekeeping operations need to be aligned with national efforts to improve natural resource and environmental governance:

- Strengthen UN capacity to provide technical information on the status of natural resources and the environment, and to make recommendations for sustainable use during mediation processes.

- Ensure that there are processes in place within peace agreements for the transparent, equitable and legitimate definition and realization of property rights and resource revenues and tenure.

- Mandate UN peacekeeping operations, where appropriate, to monitor natural resource extraction and management, or certain environmental issues that have the potential to re-ignite conflict or finance rebel groups. In particular, the UN should make efforts, in conjunction with regional organizations and states, to prohibit smuggled resources from being exported from sanctioned countries and to prevent the trade in conflict resources.

4. Integrate natural resource and environmental issues into post-conflict planning

The UN often undertakes post-conflict operations with little or no prior knowledge of what natural resources exist in the affected country, or of what role they may have played in fuelling conflict. In many cases it is years into an intervention before the management of natural resources receives sufficient attention. A failure to respond to the environmental and natural resource needs of the population, including the gender dimension of resource use, can complicate the task of fostering peace and even contribute to conflict relapse:

- Ensure that a conflict analysis is conducted at the operational planning stage of what natural resources exist in the country, the role that they may have played in fuelling conflict, and the potential risks they pose to the peace process if they are mismanaged or poorly governed. This conflict analysis should directly inform the wider post-conflict needs assessment process.

- Systematically conduct post-conflict environmental assessments that identify environmental risks to human health, livelihoods and security and prioritize needs in the short and medium term.

- Consider environmental sustainability when planning relief and recovery operations, so as to make sure that the projects are not contributing to the risk of future conflict.

- Integrated peacebuilding strategies should include a selection of environmental and natural resource indicators to monitor the peacebuilding trajectory and any potential destabilizing trends.

5. Carefully harness natural resources for economic recovery

Natural resources can only help strengthen the post-war economy and contribute to economic recovery if they are managed well. The international community should be prepared to help national authorities manage the extraction process and revenues in ways that do not increase risk of further conflict, or are unsustainable in the longer term. This must go hand in hand with ensuring accountability, transparency and environmental sustainability in their management:

- Prioritze weaknesses in natural resource and environmental governance structures for capacity-building when these may contribute to a conflict relapse or human insecurity.

- UN bodies should help assess the legitimacy and fairness of existing concession agreements, as inequitable contracts may themselves become a source of conflict. UN agencies or international financial institutions could also provide technical assistance to public officials to help negotiate equitable concessions and contracts on natural resources.

- International organizations should promote the transparent management of revenues from natural resource extraction. Where applicable, efforts should be made from an early stage to bring the country into compliance with international standards of revenue transparency and trade controls such as the Extractive Industries Transparency Initiative, the Kimberley Process, and the Forest Law Enforcement, Governance and Trade initiative.

- At the national level, independent monitoring bodies should be established to carry out regular inspections of logging, mining and other forms of resource extraction.

- Gather lessons learned on best and worst practices in terms of natural resource and environmental management in conflict-affected countries, with a view to developing a database, guidance materials and training for UN Country Teams and peacekeeping operations.

- More systematic efforts are needed by the UN and national governments to engage the private sector in the development of policies on natural resources and the environment.

6. Capitalize on the potential for environmental cooperation to contribute to peacebuilding

Every state needs to both use and protect vital natural resources such as forests, water, fertile land, energy and biodiversity. Environmental issues can thus serve as an effective platform or catalyst for enhancing dialogue, building confidence, exploiting shared interests and broadening cooperation between divided groups, as well as between states:

- At the outset of peacebuilding processes, identify locations or potential "hotspots" where natural resources may create tension between groups, as well as opportunities for environmental cooperation to complement and reinforce peacebuilding efforts.

- Conversely, make dialogue and confidence-building between divided communities an integral part of environmental projects, so that peacebuilding opportunities are not missed.

- Include environmental rights in national constitutional processes as a potential connecting line between diverging interests.

- Build on existing community-based systems and traditions of natural resource management as potential sources for post-conflict peacebuilding, while working to ensure that they are broadly inclusive of different social groups and interests.

Figure 1: From conflict to peacebuilding: The role of natural resources and the environment
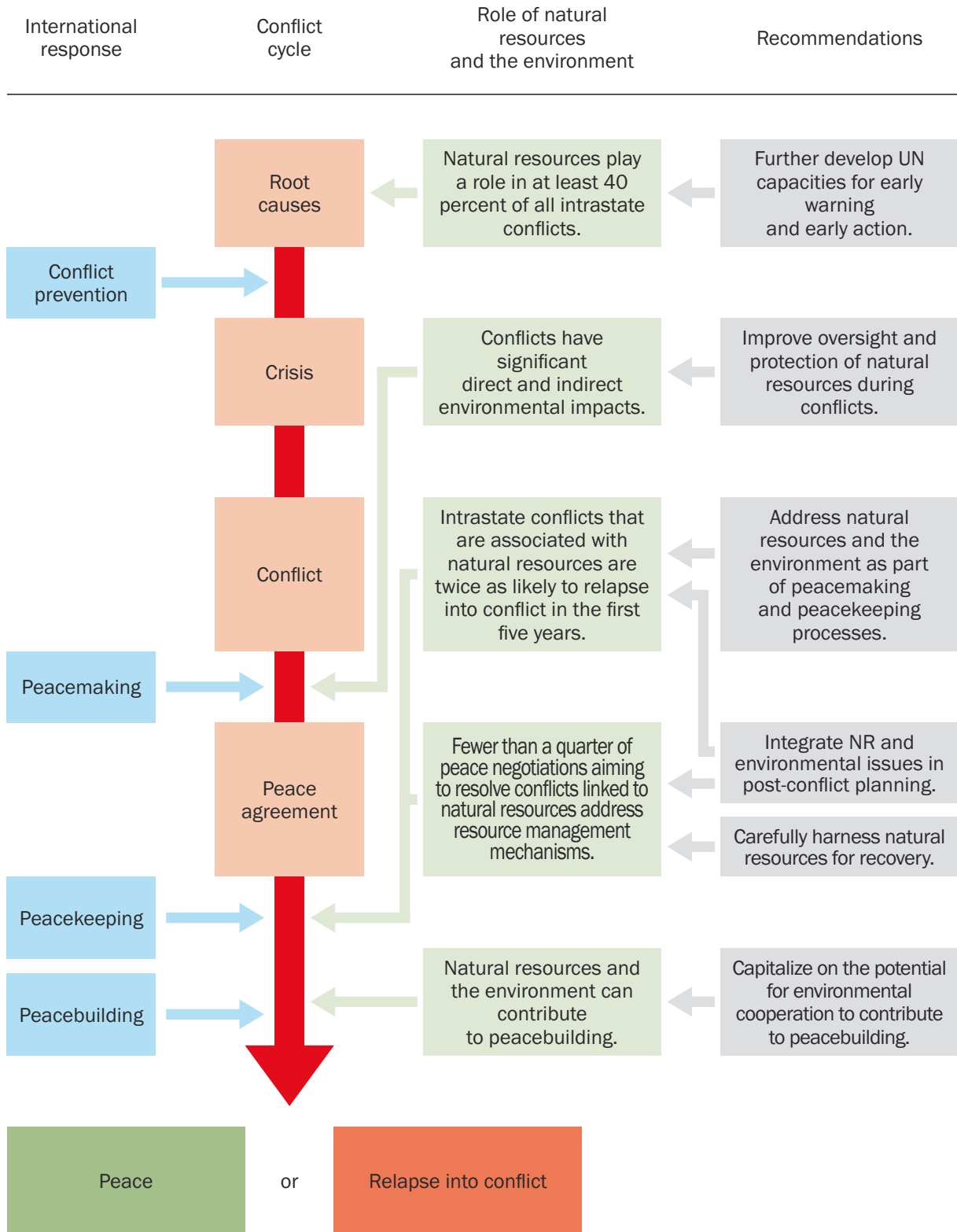
International response	Conflict cycle	Role of natural resources and the environment	Recommendations
	Root causes	Natural resources play a role in at least 40 percent of all intrastate conflicts.	Further develop UN capacities for early warning and early action.
Conflict prevention			
	Crisis	Conflicts have significant direct and indirect environmental impacts.	Improve oversight and protection of natural resources during conflicts.
	Conflict	Intrastate conflicts that are associated with natural resources are twice as likely to relapse into conflict in the first five years.	Address natural resources and the environment as part of peacemaking and peacekeeping processes.
Peacemaking			
	Peace agreement	Fewer than a quarter of peace negotiations aiming to resolve conflicts linked to natural resources address resource management mechanisms.	Integrate NR and environmental issues in post-conflict planning.
			Carefully harness natural resources for recovery.
Peacekeeping			
Peacebuilding		Natural resources and the environment can contribute to peacebuilding.	Capitalize on the potential for environmental cooperation to contribute to peacebuilding.

Peace   or   Relapse into conflict

Figure 2: Environmental opportunities for peacebuilding arranged by OECD peacebuilding pillars

Adapted from OECD DAC 2008

	Socio-economic development	*Good governance*	*Reform of justice and security institutions*	*Culture of justice, truth and reconciliation*
Supporting Economic Recovery	Wise use of high-value natural resources for economic recovery and tax revenues	Resource concessions managed to ensure legitimacy, transparency, and sharing of benefits	Illegal extraction and trade of natural resources monitored and prevented	Economic integration and cooperation improved between divided communities
Developing Sustainable Livelihoods	Sustainable use of natural resources as the foundation for livelihoods and essential services	Capacity built for the sustainable management of natural resources	Livelihoods based on the sustainable use of natural resources developed as a tool for reintegrating former combatants	Natural resource requirements included in the resettlement of displaced persons
Dialogue, Confidence Building and Cooperation	Shared vision reached between divided communities on the use of natural resources for development	Cooperation over natural resource management improved between multiple levels of government	Capacity built for the resolution of disputes over resource access and ownership	Tension hotspots identified, and natural resources used as a peace platform

Note: The Donor Assistance Committee of the Organization for Economic Cooperation and Development (OECD) has identified four major pillars of peacebuilding. These include socio-economic development, good governance, reform of justice and security institutions, and promoting a culture of justice, trust and reconciliation. This figure demonstrates how the three environmental opportunities for peacebuilding discussed in this report are linked to each of these pillars.

Annex 1
Acronyms

ACC	Afghanistan Conservation Corps
DOCO	United Nations Development Operations Coordination Office
DPA	United Nations Department of Political Affairs
DPKO	United Nations Department of Peacekeeping Operations
DR Congo	Democratic Republic of Congo
ECP	Environment, Conflict and Peacebuilding
EITI	Extractive Industries Transparency Initiative
FCA	Framework for conflict analysis
FLEGT	Forest Law Enforcement, Governance and Trade Initiative
GDP	Gross domestic product
GEF	Global Environment Facility
MPLA	Movimento Popular de Libertação de Angola
NATO	North Atlantic Treaty Organization
NEPA	Afghan National Environmental Protection Agency
NGO	Non-governmental organization
NR	Natural resources
OECD	Organisation for Economic Co-operation and Development
OPT	Occupied Palestinian Territories
PBC	United Nations Peacebuilding Commission
PBF	United Nations Peacebuilding Fund
PBSO	United Nations Peacebuilding Support Office
PCDMB	UNEP Post-Conflict and Disaster Management Branch
PCEA	Post-conflict environmental assessment
RUF	Revolutionary United Front (Liberia)
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNITA	União Nacional para a Independência Total de Angola
UN-HABITAT	United Nations Human Settlements Programme

Annex 2
Further reading

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Annex 3
Key UN documents on environment, conflict and peacebuilding

1. Policy Reports and Statements of the UN Secretary-General

Statement of the Secretary-General on the International Day for Preventing the Exploitation of the Environment in War and Armed Conflict (2008):[82] "The environment and natural resources are crucial in consolidating peace within and between war-torn societies [...] Lasting peace in Darfur will depend in part on resolving the underlying competition for water and fertile land. And there can be no durable peace in Afghanistan if the natural resources that sustain livelihoods and ecosystems are destroyed. The United Nations attaches great importance to ensuring that action on the environment is part of our approach to peace. Protecting the environment can help countries create employment opportunities, promote development and avoid a relapse into armed conflict. On this International Day, let us renew our commitment to preventing the exploitation of the environment in times of conflict, and to protecting the environment as a pillar of our work for peace."

Statement of the Secretary-General at the Security Council Debate on Energy, Security and Climate (2007):[83] "In a series of reports on conflict prevention, my predecessor, Secretary-General Kofi Annan, pointed to the threats emanating from environmental degradation and resource scarcity. Let me quote from the latest of the reports: 'Environmental degradation has the potential to destabilize already conflict-prone regions, especially when compounded by inequitable access or politicization of access to scarce resources.' I urge Member States to renew their efforts to agree on ways that allow all of us to live sustainably within the planet's means."

A/61/583: Report of the Secretary-General's High-Level Panel on System-Wide Coherence: Delivering as One (2006):[84] "Poverty, environmental degradation, and lagging development exacerbate vulnerability and instability to the detriment of us all [...] There is an increasingly compelling case for taking urgent action on the environment [...] There can be no long-term development without environmental care. In a global and interdependent world economic objectives and environmental objectives increasingly reinforce each other. Environmental priorities have too often been compartmentalized in isolation from economic development priorities. However, global environmental degradation – including climate change – will have far-reaching economic and social implications that affect the world's ability to meet the Millennium Development Goals. Because the impacts are global and felt disproportionately by the poor, coordinated multilateral action to promote environmental sustainability is urgently required."

A/59/565: Secretary-General's High-Level Panel on Threats, Challenges and Change (2004):[85] "Threats to security are interconnected [...] Poverty, infectious disease, environmental degradation and war feed one another in a deadly cycle [...] Environmental stress, caused by large populations and shortages of land and other natural resources, can contribute to civil violence [...] Yet rarely are environmental concerns factored into security, development or humanitarian strategies [...] More legal mechanisms are necessary in the area of natural resources, fights over which have often been an obstacle to peace [...] A new challenge for the United Nations is to provide support to weak States – especially, but not limited to, those recovering from war – in the management of their natural resources to avoid future conflicts."

A/58/323: Secretary-General's Report on the Implementation of the United Nations Millennium Declaration (2003):[86] "The more immediate concern for most of our fellow human beings is with 'soft threats' to their security, such as those posed by environmental problems, contagious diseases, economic dislocation, crime, domestic violence, oppressive or corrupt management at all levels [...] The implications of the scarcity of a number of natural resources, the mismanagement or depletion of such resources and unequal access to them should also be recognized as potential causes of conflict and should be more systematically addressed as such by the international community."

A/55/985 – S/2001/574:[87] **Secretary-General's Report on the Prevention of Armed Conflict (2001):** "The United Nations should strengthen its capacity to help coordinate the international efforts of all actors to carry out structural prevention strategies [...] In addressing the root causes of armed conflict, the United Nations system will need to devote greater attention to the potential threats posed by environmental problems."

A/55/305 - S/2000/809 Report of the Panel on UN Peace Operations (2000):[88] "Other variables that affect the difficulty of peace implementation include, first, the sources of the conflict. These can range from economics (e.g. issues of poverty, distribution, discrimination or corruption), politics (an unalloyed contest for power) and resource and other environmental issues (such as competition for scarce water) to issues of ethnicity, religion or gross violations of human rights."

2. Statements and Resolutions of the UN Security Council

S/PRST/2007/22:[89] **Maintenance of international peace and security: natural resources and conflict.** "The Security Council recalls the principles of the Charter of the United Nations and in particular the Security Council's primary responsibility for the maintenance of international peace and security. In this respect, the Security Council recognizes the role that natural resources can play in armed conflict and post-conflict situations […] Moreover, the Security Council notes that, in specific armed conflict situations, the exploitation, trafficking, and illicit trade of natural resources have played a role in areas where they have contributed to the outbreak, escalation or continuation of armed conflict. The Security Council, through its various resolutions, has taken measures on this issue, more specifically to prevent illegal exploitation of natural resources, especially diamonds and timber, from fuelling armed conflicts and to encourage transparent and lawful management of natural resources, including the clarification of the responsibility of management of natural resources, and has established sanctions committees and groups and panels of experts to oversee the implementation of those measures […] The Security Council acknowledges the crucial role that the Peacebuilding Commission, together with other UN and non-UN actors, can play, in post-conflict situations, in assisting governments, upon their request, in ensuring that natural resources become an engine for sustainable development […] The Security Council also stresses that the use, disposal and management of natural resources is a multifaceted and cross-sector issue that involves various UN organizations. In this regard, the Security Council acknowledges the valuable contribution of various UN organizations in promoting lawful, transparent and sustainable management and exploitation of natural resources […] The Security Council recognizes, in armed conflict and post-conflict situations, the need for a more coordinated approach by the United Nations, regional organizations and governments concerned, in particular the empowerment of governments in post-conflict situations to better manage their resources."

S/PRST/2007/1:[90] **Threats to international peace and security.** "The Security Council emphasizes the importance of post-conflict peacebuilding to assist countries emerging from conflict in laying the foundation for sustainable peace and development and, in this context, welcomes the establishment of the Peacebuilding Commission that should play an important role to achieve the objective of improving United Nations capacity to coordinate with regional organizations, countries in the relevant regions, donors, troop contributors and recipient countries and to perform peacebuilding activities, in particular from the start of peacekeeping operations through stabilization, reconstruction and development."

SCR 1625/2005:[91] **Declaration on strengthening the effectiveness of the Security Council's role in conflict prevention, particularly in Africa.** "Reaffirming the need to adopt a broad strategy of conflict prevention, which addresses the root causes of armed conflict and political and social crises in a comprehensive manner, including by promoting sustainable development, poverty eradication, national reconciliation, good governance, democracy, gender equality, the rule of law and respect for and protection of human rights […] Recognizing the need to strengthen the important role of the United Nations in the prevention of violent conflicts, and to develop effective partnerships between the Council and regional organizations, in particular the African Union and its sub-regional organizations, in order to enable early responses to disputes and emerging crises."

SCR 1565/2004:[92] **The situation concerning the Democratic Republic of Congo**: "Recalls the link between the illicit exploitation and trade of natural resources in certain regions and the fuelling of armed conflicts and […] condemns categorically the illegal exploitation of the natural resources and other sources of wealth of the Democratic Republic of the Congo, urges all States, especially those in the region including the Democratic Republic of the Congo itself, to take appropriate steps in order to end these illegal activities, including if necessary through judicial means, and to report to the Council as appropriate, and exhorts the international financial institutions to assist the Government of National Unity and Transition in establishing efficient and transparent control of the exploitation of natural resources."

SCR 1509/2003:[93] **The situation in Liberia**. "Acting under Chapter VII of the Charter of the United Nations, decides to establish the United Nations Mission in Liberia (UNMIL), the stabilization force called for in resolution 1497 (2003), for a period of 12 months […] Decides that UNMIL shall have the following mandate: […] (r) to assist the transitional government in restoring proper administration of natural resources."

3. Resolutions and Reports of the UN General Assembly

A/RES/62/163 (2008):[94] **Promotion of peace as a vital requirement for the full enjoyment of all human rights by all.** "Recognizing that peace and development are mutually reinforcing, including in the prevention of armed conflict […] Affirming that human rights include social, economic and cultural rights and the right to peace, a healthy environment and development, and that development is in fact the realization of those rights."

A/RES/62/28 (2008):[95] **Observance of environmental norms in the drafting and implementation of agreements on disarmament and arms control.** "Emphasizing the importance of the observance of environmental norms in the preparation and implementation of disarmament and arms limitation agreements [...] Reaffirms that international disarmament forums should take fully into account the relevant environmental norms in negotiating treaties and agreements on disarmament and arms limitation and that all States, through their actions, should contribute fully to ensuring compliance with the aforementioned norms in the implementation of treaties and conventions to which they are parties [...] Calls upon States to adopt unilateral, bilateral, regional and multilateral measures so as to contribute to ensuring the application of scientific and technological progress within the framework of international security, disarmament and other related spheres, without detriment to the environment or to its effective contribution to attaining sustainable development."

A/RES/61/28 (2007):[96] **The role of diamonds in fuelling conflict: breaking the link between the illicit transaction of rough diamonds and armed conflict as a contribution to prevention and settlement of conflicts.** "Recognizing that the trade in conflict diamonds continues to be a matter of serious international concern, which can be directly linked to the fuelling of armed conflict, the activities of rebel movements aimed at undermining or overthrowing legitimate Governments and the illicit traffic in and proliferation of armaments, especially small arms and light weapons [...] Reaffirms its strong and continuing support for the Kimberley Process Certification Scheme and the Kimberley Process as a whole [...] Recognizes that the Kimberley Process Certification Scheme can help to ensure the effective implementation of relevant resolutions of the Security Council containing sanctions on the trade in conflict diamonds and act as a mechanism for the prevention of future conflicts, and calls for the full implementation of existing Council measures targeting the illicit trade in rough diamonds, particularly conflict diamonds which play a role in fuelling conflict."

A/RES/60/223 (2006):[97] **Implementation of the recommendations contained in the report of the Secretary-General on the causes of conflict and the promotion of durable peace and sustainable development in Africa.** "Underlines the need to address the negative implications of the illegal exploitation of natural resources in all its aspects on peace, security and development in Africa, noting, in this context, the relevant recommendations contained in the progress report of the Secretary-General [...] Stresses the critical importance of a regional approach to conflict prevention, particularly regarding cross-border issues such as disarmament, demobilization and reintegration programmes, prevention of illegal exploitation and trafficking of natural resources and high-value commodities, and emphasizes the potential role of the African Union and sub-regional organizations in addressing the issue of the illicit trade in small arms and light weapons in all its aspects."

A/RES/60/180 (2006):[98] **The Peacebuilding Commission.** "Recognizing the need for a dedicated institutional mechanism to address the special needs of countries emerging from conflict towards recovery, reintegration and reconstruction and to assist them in laying the foundation for sustainable development [...] Decides, acting concurrently with the Security Council, in accordance with Articles 7, 22 and 29 of the Charter of the United Nations, with a view to operationalizing the decision by the 2005 World Summit, to establish the Peacebuilding Commission as an intergovernmental advisory body [...] Also decides that the following shall be the main purposes of the Commission: (a) To bring together all relevant actors to marshal resources and to advise on and propose integrated strategies for post-conflict peacebuilding and recovery; (b) To focus attention on the reconstruction and institution-building efforts necessary for recovery from conflict and to support the development of integrated strategies in order to lay the foundation for sustainable development; (c) To provide recommendations and information to improve the coordination of all relevant actors within and outside the United Nations, to develop best practices, to help to ensure predictable financing for early recovery activities and to extend the period of attention given by the international community to post-conflict recovery [...] Reaffirms its request to the Secretary-General to establish, within the Secretariat, from within existing resources, a small peacebuilding support office staffed by qualified experts to assist and support the Commission, and recognizes in that regard that such support could include gathering and analysing information relating to the availability of financial resources, relevant United Nations in-country planning activities, progress towards meeting short- and medium-term recovery goals and best practices with respect to cross-cutting peacebuilding issues."

A/RES/59/213 (2005):[99] **Cooperation between the United Nations and the African Union.** "Calls upon the United Nations system to intensify its efforts, in collaboration with the African Union, in combating illegal exploitation of natural resources, particularly in conflict areas, in accordance with relevant resolutions and decisions of the United Nations and the African Union."

A/RES/57/337 (2003):[100] **Prevention of armed conflict.** "Recognizes the need for mainstreaming and coordinating the prevention of armed conflict throughout the United Nations system, and calls upon all its relevant organs, organizations and bodies to consider, in accordance with their respective mandates, how they could best include a conflict prevention perspective in their activities, where appropriate [...] Calls for strengthening the capacity of the United Nations in order to carry out more effectively its responsibilities for the prevention of armed conflict, including relevant peacebuilding and development activities, and requests the Secretary-General to submit a detailed review of the capacity of the United Nations system in the context of the report on the implementation of the present resolution."

A/RES/57/253 (2003):[101] **World Summit on Sustainable Development:** "Reaffirming the need to ensure a balance between economic development, social development and environmental protection as interdependent and mutually reinforcing pillars of sustainable development [...] Reaffirming also that poverty eradication, changing unsustainable patterns of production and consumption, and protecting and managing the natural resource base of economic and social development are overarching objectives of, and essential requirements for, sustainable development [...] Recognizing that good governance within each country and at the international level is essential for sustainable development."

A/RES/53/242 (1999):[102] **Report of the Secretary-General on environment and human settlements.** "Reaffirms that, in accordance with its mandate, the United Nations Environment Programme should not become involved in conflict identification, prevention or resolution." (Note: In the context of the other mandates of UNEP, this reference is understood to mean "not *directly* involved." Where environment and natural resource issues are being addressed, however, UNEP can upon request provide technical expertise and support to Member States and the wider UN system involved in conflict identification, prevention or resolution.)

A/RES/47/37 (1993):[103] **Protection of the environment in times of armed conflict.** "Recognizing that the use of certain means and methods of warfare may have dire effects on the environment, recognizing also the importance of the provisions of international law applicable to the protection of the environment in times of armed conflict [...], [the General Assembly] Urges States to take all measures to ensure compliance with the existing international law applicable to the protection of the environment in times of armed conflict; [...] to take steps to incorporate the provisions of international law applicable to the protection of the environment into their military manuals and to ensure that they are effectively disseminated; Requests the Secretary-General to invite the International Committee of the Red Cross to report on activities undertaken by the Committee and other relevant bodies with regard to the protection of the environment in times of armed conflict."

A/CONF.151/26 (1992):[104] **Report of the UN Conference on Environment and Development. Annex 1. Rio Declaration on Environment and Development.** Principle 24: "Warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and cooperate in its further development, as necessary." Principle 25: "Peace, development and environmental protection are interdependent and indivisible." Principle 26: "States shall resolve all their environmental disputes peacefully and by appropriate means in accordance with the Charter of the United Nations."

Resolution 3435 (XXX) (1975):[105] **United Nations Environment Programme.** "The General Assembly, Recalling recommendations 24, 36, 37, 74, 85 and 102 of the Action Plan for the Human Environment [...], Recognizes that the development of certain developing countries has been impeded by the material remnants of [...] wars [...]; Requests the Governing Council of the United Nations Environment Programme to undertake a study of the problem of the materials remnants of war, particularly mines, and their impacts on the environment."

4. Decisions of the UNEP Governing Council

23/1/I (2005):[106] **Bali Strategic Plan for Technology Support and Capacity-Building.** "Requests the Executive Director to give high priority to the effective and immediate implementation of the Bali Strategic Plan for Technology Support and Capacity-Building; including: [...] (xiv) Environmental emergency preparedness and response [...] (xvii) Post-conflict assessment [...] Work must be coordinated, linked with efforts already in progress and integrated with other sustainable development initiatives using existing coordinating mechanisms, such as the Environmental Management Group, the United Nations Development Group and the resident coordinator system."

23/11 (2005):[107] **Gender equality in the field of the environment.** "Further requests the Executive Director to give an account of lessons learned about gender-related aspects of environmental issues in conflict situations and to apply its conclusions to the post-conflict assessment work of the United Nations Environment Programme."

22/1/IV (2005):[108] **Post-conflict environmental assessments.** "Commends the role that the United Nations Environment Programme has played in undertaking post-conflict assessments, including its role in promoting clean-up of environmental hotspots, in supporting the environmental activities of Governments in post-conflict situations, in raising awareness of conflict-related environmental risks, and in integrating post-conflict environmental activities as part of the United Nations humanitarian assistance and part of the reconstruction efforts to countries and regions [...] Requests the Executive Director to further strengthen the ability of the United Nations Environment Programme to assess environmental impacts in post-conflict situations [...] Requests the Executive Director to make the necessary arrangements in order to enable the United Nations Environment Programme to conduct post-conflict environmental assessment at the request of the concerned State or States to be assessed as well as to report to the relevant United Nations bodies and commissions for further follow-up."

Annex 4
Acknowledgements

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Annex 6
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"Throughout human history, people and countries have fought over natural resources. From livestock, watering holes and fertile land, to trade routes, fish stocks and spices, sugar, oil, gold and other precious commodities, war has too often been the means to secure possession of scarce resources. Even today, the uninterrupted supply of fuel and minerals is a key element of geopolitical considerations. Things are easier at times of plenty, when all can share in the abundance, even if to different degrees. But when resources are scarce – whether energy, water or arable land – our fragile ecosystems become strained, as do the coping mechanisms of groups and individuals. This can lead to a breakdown of established codes of conduct, and even outright conflict."

Ban Ki-moon, UN Secretary-General, 2007

"We find ourselves in the early steep climb of exponential change: per capita consumption of materials and energy; the demand for shrinking natural resources, most critical of which is fresh water; climate change with an impact on virtually every aspect of human welfare; the cost of war; and the destruction of ecosystems and species, which have hitherto sustained us scot free. These trends are interlocked and mutually reinforcing. We must study and address them as a unity. Success would ensure a future for humanitarian civilization. Failure is unthinkable."

Pulitzer Prize-winning Ecologist E.O. Wilson, Harvard University, 2008

"Action to reduce environmental threats to security requires a redefinition of priorities, nationally and globally. Such a redefinition could evolve through the widespread acceptance of broader forms of security assessment and embrace military, political, environmental, and other sources of conflict."

Our Common Future: Report of the World Commission on Environment and Development, 1987

"War-torn countries rich in natural resources face particular challenges in the stabilization and reconstruction of their societies, despite the apparent promise that natural resource wealth holds for peacebuilding and development. Where resource exploitation has driven war, or served to impede peace, improving governance capacity to control natural resources is a critical element of peacebuilding."

Carolyn McAskie, Assistant Secretary-General for Peacebuilding Support, 2007

Today's changing security landscape requires a radical shift in the way the international community engages in conflict management. This report by the United Nations Environment Programme aims to review the latest knowledge and field experience on the linkages between environment, conflict and peacebuilding, and to discuss the ways in which these issues can be addressed and integrated in a more coherent and systematic way by the UN, Member States and other stakeholders involved in peacebuilding interventions and conflict prevention.

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