REPORT SUMMARY

LINKING ENVIRONMENT AND CONFLICT PREVENTION

THE ROLE OF THE UNITED NATIONS

A report by

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Cover photo

Paul Klee, Rosenwind 1922,39
Ölfarbe auf Grundierung auf Papier auf Karton
38,2 x 41,8 cm
Zentrum Paul Klee, Bern, Schenkung Livia Klee

«Quite frankly, I found the analysis and presentation to be solid. You've done a superior job of presenting the various conceptual approaches and outlining the comparative advantages (as well as weaknesses) of various UN entities.»

David Jensen, UNEP

«The report offers the latest in thinking of the complex linkages between conflicts and environment. A group of eminent scholars have managed to strike a balance between providing the reader with a broad overview – while at the same time offering concrete and tangible options for the UN to act on. As global forecasted changes will affect the environment in many parts of the world, the report challenges the UN to take the lead and prevent and resolve environment-related conflict.»

Jon Martin Trondalen, Compass

The Center for Security Studies (CSS) at ETH Zurich is a Swiss academic center of competence that specializes in research, teaching, and information services in the fields of international relations and security policy. The CSS also acts as a consultant to various political bodies and the general public. The CSS is engaged in research projects with a number of Swiss and international partners. The Center's research focus is on new risks, European and transatlantic security, strategy and doctrine, state failure and state building, and Swiss foreign and security policy. The CSS runs the International Relations and Security Network (ISN), and in cooperation with partner institutes manages the Comprehensive Risk Analysis and Management Network (CRN), the Parallel History Project on Cooperative Security (PHP), the Swiss Foreign and Security Policy Network (SSN), and the Russian and Eurasian Security (RES) Network. The Center for Security Studies is a member of the Center for Comparative and International Studies (CIS), which is a joint initiative between the ETH Zurich and the University of Zurich specializing in comparative politics and international relations.

swisspeace is a practice-oriented peace research institute in the area of conflict analysis and peacebuilding. swisspeace researches the causes of wars and violent conflicts, develops tools for early recognition of tensions, and formulates conflict mitigation and peacebuilding strategies. swisspeace contributes to information exchange and networking on current issues of peace and security policy through its analyses and reports as well as meetings and conferences. swisspeace was founded in 1988 as the Swiss Peace Foundation with the goal of promoting independent peace research in Switzerland. Today swisspeace engages about 40 staff members. Its most important clients are the Swiss Federal Department of Foreign Affairs (DFA) and the Swiss National Science Foundation (SNF), as well as national and international organizations and foundations.

CONTENT

ACRONYMS

CGIAR	Consultative Group on International Agricultural Research
CPM	Conflict Prevention Measure
DPKO	Department of Peacekeeping Operations
EITI	Extractive Industries Transparency Initiative
FAO	Food and Agricultural Organization
FSC	Forest Stewardship Council
G8	Germany, France, Italy, Great Britain, US, Canada, Japan, Russia
GEF	Global Environmental Facility
GRID	Global Resource Database
ILO	International Labor Organization
IMF	International Monetary Fund
IUCN	The World Conservation Union
MSC	Marine Stewardship Council
MSU	Mediation Support Unit (of the DPA)
NGO	Non-Governmental Organization
OSCE	Organization for Security and Cooperation in Europe
SC	Security Council
SG	Secretary-General
SRSG	Special Representative of the Secretary-General
TRIP	Transboundary River Basin Initiative
UN	United Nations
UN CSD	UN Commission on Sustainable Development
UN DESA	UN Department of Economic and Social Affairs
UNESCAP	UN Economic and Social Commission for Asia and Pacific
UNESCO	UN Educational, Scientific and Cultural Organization
UNESCWA	UN Economic and Social Commission for Western Asia
UNFCCC	United Nations Framework Convention on Climate Change
UNIFEM	UN Development Fund for Women
WB	World Bank
WCPA	World Commission on Protected Areas
WTO	World Trade Organization

EXECUTIVE SUMMARY

This report examines the links between environment and violent conflict, and explores the role of the United Nations in preventing conflicts related to environmental factors.

1. Links between environment and conflict

Key message:
Environmental factors play a key role in many conflicts, yet they are always interlinked with political, economic, and socio-cultural factors. Different types of environment-related conflicts are influenced by particular trends and call for differentiated responses.

Three types of environment-related conflicts can be identified:

First, the **indirect use, 'resource curse'** type conflict involves the extraction and trade of valuable natural resources that are globally scarce, but locally abundant. Such conflicts are often linked to highly escalated conflict dynamics. These conflicts can be prevented through measures that attempt to increase good governance in resource-rich countries and through global norms that regulate the international flow of finances and goods related to natural resources.

Second, the **direct use, 'local and regional resource scarcity'** type conflicts are generally at a low or medium escalation level. In the aggregate, however, they can be a key factor in detrimental destabilization processes. Measures to deal with such conflicts include culturally sensitive development and enforcement of property rights; approaches to support participatory resource and conflict management; and the development of options for sustainable livelihoods for the affected population. Global measures to mitigate climate change and help vulnerable communities adapt to it, constitute further important lines of preventive action.

A third form of environment-related conflicts, characterized more by the level of escalation than the form of resource use, are **complex conflict 'hot spots'**, where both of the above types of conflict can appear in addition to the prevailing dynamics of highly escalated conflicts. Mediation, wealth-sharing, peacekeeping operations, and peacebuilding are needed to deal with such conflicts.

To achieve UN reform, the direct use type of conflict has the potential to provide a good entry point. It is not as sensitive as 'conflict hot spots' and has not been discussed as extensively as indirect, resource curse type conflicts. By simply promoting the efficient and equitable use of environmental resources, environmental conflict prevention can be achieved.

2. The role of the United Nations

Key message:
The UN has unique roles to play in the prevention of environment-related conflicts, as it has expertise and legitimacy in both 'environment' and 'conflict prevention'. Using synergies between these two fields would greatly enhance effectiveness. The topic of 'environment and conflict prevention' should be further integrated within existing UN units, rather than improperly mainstreaming it by tagging it on as a separate issue.

The comparative advantages of the UN include its specific programmes, long-term expertise, financial opportunities and international legitimacy in the fields of both 'environment' and 'conflict prevention'. Yet the UN's conflict prevention potential is left largely untapped due to its segregated and top-down problem-solving approach, its cumbersome bureaucracy, the divided interests of member states, its difficulty to keep sensitive information confidential, and its tendency to offer 'one-size-fits-all' solutions to local problems.

This report explores various measures to improve the effectiveness of UN conflict prevention. These measures, however, should avoid any increase in UN bureaucracy:

At the **global level,** possible measures to enhance coordination include inter-agency secondments, collaborative initiatives such as the Environment and Security Initiative (ENVSEC), environmental dimensions in need assessment toolkits, training workshops, and cooperation focused on specific conflict prevention measures. To be effective, environmental factors need to be integrated in the various other dimensions of conflict prevention. At the organizational level, this means integrating the environmental topic within the existing UN units instead of tagging it on as an extra issue in a separate department.

At the **country level,** possible measures include inter-departmental efforts in conflict regions following the 'One UN' approach and joint Third Party teams including mediators and environmental experts, e.g. put together by Special Representatives of the Secretary-General.

UN entities that take the prevention of environment-related conflicts into consideration include:

- **Department of Political Affairs (DPA):** The DPA has a central role in operational conflict prevention and in monitoring which types of conflict need to be dealt with. Greater awareness of how environmental factors relate to the various types of conflict would be beneficial.

- **Department of Peacekeeping Operations (DPKO):** The DPKO is important in operational conflict prevention. A key challenge for the DPKO is how to deploy its peacekeeping troops in an environmentally sensitive manner, to avoid damage that could aggravate future conflicts.

- **UN Environment Programme (UNEP):** UNEP is strong in collecting and analyzing environmental data that is central to dealing with environment-related conflicts. UNEP produces assessments of environment and security risks through the Environment and Security Initiative, which aims at increased trans-boundary cooperation in South Eastern and Eastern Europe as well as Caucasus and Central Asia. UNEP's "Environmental Diplomacy" project seeks to use the shared management of the environment to foster cooperation in regions vulnerable to conflict. Greater expertise on the various conflict and mediation dimensions could increase the effectiveness of UNEP's efforts. UNEP could benefit from greater collaboration with the DPA and other agencies that possess competence in conflict prevention.

- **UN Development Programme (UNDP):** UNDP has experience in managing development and reconstruction programmes, an essential element of most conflict prevention measures. The nexus between environment, conflict and development, which UNDP can address, is especially relevant for conflicts related to local and regional resource scarcity.

- **Food and Agriculture Organization (FAO):** The role of the FAO is central to food, water and land security that are related to the direct use form of conflicts. One key challenge is how to link the grass-roots level of conflict management with the political level of the state.

- **Security Council (SC), Secretary-General (SG), and Special Representatives of the Secretary-General (SRSGs):** Resolutions of the SC have the potential to legitimize and support measures seeking to prevent environment-related conflicts. SC resolutions have, for example, supported initiatives such as the Kimberley Process. However, at present this forum has only focused on the resource curse of diamonds, and has not pushed to address other pertinent issues, such as climate change – mainly due to resistance from key states. Raising a topic to the level of the SC can also hinder its promotion, as member states fear encroachment on their sovereignty or national interests. The SG has a key role in creating awareness concerning the environmental dimensions of conflicts. SRSGs are important and reliable resources

to aid the SG in overcoming some of the bureaucratic inflexibility of the various agencies, e.g. by proposing mixed UNEP and DPA teams.

3. Environmental conflict prevention measures

Key message:
The UN's role in implementing environmental conflict prevention measures should be enhanced, especially with regard to:

- **the regulation of financial flows related to natural resources;**
- **the culturally-sensitive use of property rights in preventing conflicts;**
- **mediation combined with environmental expertise to support participatory resource and conflict management;**
- **providing marginalized parts of societies with new options for sustainable livelihoods.**

The third part of the report collects 26 environmental conflict prevention measures (CPMs) that address the underlying environmental trends and driving factors potentially escalating a conflict (structural conflict prevention) and/or aspects of conflict dynamics where the environment plays a key role (operational conflict prevention).

Conclusion and Recommendations

The prevention of environment-related conflicts requires a balance between ecology and politics, a balance that varies depending on the case and the level of engagement.

At the country level, this means considering the physical situation and dynamics of the eco-system, yet also carefully engaging with national and local actors. For to be effective, conflict prevention measures need to be locally developed, supported and legitimized. Adopting a purely standardized, technical approach – overly depoliticizing conflicts – leads to unsustainable solutions.

At the global level, the ecological facts and conflict patterns that call for the adoption of global measures to counteract environmental dimensions of conflict tend to be widely acknowledged. However, these measures are often not adopted because of the politicization of the topic by UN member states when obstructionism suits their domestic economic or political interests. In summary, key recommendations of the study are to:

Focus on transversal approaches to conflict prevention: The environmental factor should be treated as one factor among, and in tight interplay with, political, economic, and socio-cultural factors.

Differentiate conflict types: Differentiating environment-related conflict types (indirect resource use, direct resource use and conflict 'hot spots') helps to identify optimal conflict prevention strategies. Institution building and good governance are important for all types.

Support norms on natural resource use: Globally accepted norms and charters on how to regulate the international flow of finances and goods related to natural resources would be a key step in preventing 'resource curse' type conflicts.

Support public participation and sustainable livelihoods: The participation of local and national stakeholders in conflict prevention processes is an important element in assuring that the adopted measures are legitimate and sustainable, and in avoiding the danger of overly depoliticizing conflicts at the country level. Providing sustainable livelihoods to all parts of society is paramount to keeping society's conflict prevention capacity intact.

Tap UN synergies and take appropriate and concrete action: Synergies between the UN units focusing on the environment (e.g. UNEP) and those on conflict prevention (e.g. DPA) need to be utilized to a greater extent. Stronger emphasis should be given to conflict prevention in all conflict phases, instead of focusing primarily on post-conflict measures. More concrete action, jointly agreed and supported by the (potential) conflict parties, is called for.

LINKING ENVIRONMENT AND CONFLICT PREVENTION

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REPORT SUMMARY

AIM AND FOCUS

The report highlights the links between environment and violent conflicts, exploring the potential role of the UN in preventing environment-related conflicts. Conflict prevention measures can be further distinguished into the subcategories of structural conflict prevention (focusing on long-term prevention of crises and their underlying driving factors) and operational conflict prevention (dealing with measures applicable in the face of immediate crisis). We use the term 'conflict' to refer to the incompatible interaction between two or more groups. We especially focus on violent political conflicts, including both international conflicts and intra-national conflicts with the potential of international spillover. The full report with in-depth analyses and references can be accessed online (www.css.ethz.ch; www.swisspeace.ch).

1. LINKS BETWEEN ENVIRONMENT AND CONFLICT

Environmental factors play a key role in many violent conflicts. They are not, however, the sole causes of conflicts. Rather, they are closely interlinked with political, economic, and socio-cultural factors. Therefore, environmental factors need to be integrated into the various other dimensions of conflict prevention, rather than be treated as separate factors.

Environment-related conflict prevention as a broad topic highlights important 'soft' links between conflict prevention and the environment – links that are often ignored or underemphasized. Nevertheless, in order to

indicate specific conflict prevention measures and approaches for dealing with the topic, a sub-grouping of specific 'environmental conflicts' is needed. The most relevant structure for this categorization is one that distinguishes conflicts related to the indirect, global use of resources and others involving the direct, i.e., local or regional, use of resources. A third group of complex, conflict 'hot spots' is treated separately, as these require additional measures. When conflicts related to the environment are grouped into these three types, the resulting structure allows for a better assessment of trends affecting them and the identification of appropriate responses and conflict prevention measures. In addition to measures that are specific to the various forms of conflicts, it is also necessary to improve the governance and policies of the states affected by environment-related conflicts.

1.1 INDIRECT-USE: 'RESOURCE CURSE' CONFLICTS

Characterization: Conflicts related to the 'resource curse' involve the extraction and trade of valuable natural resources (e.g., oil, gas, coltan, uranium, diamonds, timber, drugs) that are globally scarce, but locally abundant. This leads to the global commercialization, trade, and the indirect use of these resources far from their origin. Such conflicts are often linked to highly escalated conflict dynamics. Rather than giving rise to economic development in these countries, these resources often become more of a curse than a blessing for the respective populations – especially if local governance and policies are weak. Natural resources frequently mean either quick (e.g., diamonds) or big (e.g., oil) money in an unregulated context, which often cause,

prolong, or intensify violent conflict or even war. The probability of violent conflict in countries that produce oil, gas, and diamonds increased between the 1970s and 1990s. Conflict is prone to occur when resources are used as wealth-funding for armed non-state actors or to finance dictatorial 'rentier' states that are not account-able to their tax payers. Valuable natural resources can also be an incentive for coups d'états or lead to a situation of 'Dutch Disease' where resource income prevents a diversification of the economy. Furthermore, resources can be an incentive for insurgencies and separatism for the resource-rich part of the country; or for the government's violent marginalization and oppression of the regional population, in order to access and exploit resources more easily. Examples of primary commodities related to wars are oil (Sudan North/South, Nigeria), diamonds (Sierra Leone), timber (Cambodia, Burma), copper (Papua New Guinea), and coltan (D.R. Congo).

Trends: A key trend affecting these conflicts is the decreasing global availability of resources compared to increasing demand. This applies to many key resources for industrial production and consumption goods (such as copper, cobalt, and diamonds), and to energy resources in particular. While estimates about peak oil (i.e., the time at which the maximum oil production rate will be reached) vary, experts taking a middle-of-the-road position put it somewhere between 2015 and 2020. Furthermore, reserves of energy resources such as oil and gas are likely to become increasingly concentrated in the Middle East, Central Asia, and Russia, leading to greater global economic dependence on these often instable areas.

Measures: Important measures to prevent these types of conflicts are efforts to increase good governance in resource-rich countries, and apply global norms on how to regulate the international flow of finances and goods related to these natural resources. The UN has had some useful experience in adopting measures to prevent these types of conflicts. For example, the mining and trade of conflict diamonds as a primary commodity leading to war caused the UN Security Council to pass resolutions that placed an embargo on diamonds imported from the Democratic Republic of the Congo (1998), Angola (1999), Sierra Leone (2000), Liberia (2001), and Côte d'Ivoire (2005). The UNDP has been involved in both small- and large-scale projects assisting Cambodia to prevent further indirect resource use conflicts by helping to develop its environmental management capacities. It identified priorities and needs, established sustainable forestry and land-planning projects. In 2003, Liberia's diamonds and timber were sanctioned by the UN as they were viewed as contributing to the second civil war and continuing instability in the country. Still, there is very little UN presence in Liberia compared to Cambodia in terms of land and forest rehabilitation projects, due to a lack of donor interest. Security Council resolutions on the production and trade of commercialized natural resources are the exception (e.g., Kimberly Process) rather than the norm. UN resolutions to push forward and develop norms (e.g., the Extractive Industries Transparency Initiative) regulating the extraction and trade of natural resources would be an important step forward. Box 1 below illustrates one possible concrete measure to prevent such conflicts. The full list of measures is available in table 1 below.

Box 1: Conflict Prevention Measure 6 and 7 - Norms for Natural Resource Management

Globally accepted norms on how to regulate the international flow of finances and goods related to natural resources would be a key step in preventing resource curse type conflicts. Norms enforced by peer pressure can at times be more effective than laws, if such laws cannot be agreed upon or enforced. Paul Collier (*The Bottom Billion*) proposes a charter for regulating the misuse of natural resource revenues by the producing states and businesses. Such a charter could, for example, outline the basic features of how contracts should be auctioned to bidding companies in a transparent process. This would prevent companies from bribing their way into acquiring contracts. Second, the charter would stipulate that companies should bear part of the price risk, to avoid the negative impacts on weak states trying to deal with boom-bust cycles. A third requirement would be to make payments by extractive companies more transparent, as has been recommended by the Extractive Industries Transparency Initiative (EITI). This information can then be used by citizens to monitor how much money their government is taking in, in order to compare this figure with their government's public spending.

Due to the importance of the extractive industry for national GDP in many developing resource-abundant states, such norms would have a particularly significant impact. The charter could cut off one key source of income for corrupt governments and undercut institutional arrangements underlying, prolonging, or fuelling many conflicts. As many of these companies are based in Western states, public pressure could be exerted to make these companies join such a charter. Unlike the G8, the World Bank and other institutions support the EITI with statements and resources. The SC recognized the role of EITI in its Presidential Statement of June 2007. The adoption of General Assembly or even Security Council resolutions endorsing the EITI initiative, as was the case with other transparency initiatives (e.g., the Kimberley Process), would send an even stronger message to potential member states. (For references and further conflict prevention measures, see the full report).

1.2 DIRECT-USE: LOCAL AND REGIONAL 'RESOURCE SCARCITY' CONFLICTS

Characterization: Conflicts related to 'local and regional resource scarcity' are generally at a low level of escalation and linked to human insecurity. Such conflicts tend to take place in subsistence economies and are linked to the direct use of resources where they are accessed. In the aggregate, however, they can be a key factor contributing to detrimental destabilization processes. Here, resources are generally sufficient on the global level, such as water, yet they are scarce in specific regions (e.g., Middle East and North Africa). In other cases, access to and the infrastructure to use the resources are insufficient, even if they are not physically scarce per se, e.g., the lack of water infrastructure in Sub-Saharan Africa. At the international level, tensions may occur between countries experiencing water scarcity and sharing the same water resource. The link between the environment and violent conflict is less clear with direct resource use conflicts – due to their lower intensity – which is one reason why these types of conflicts are often neglected. Another reason is the intergovernmental mandate of the UN, which often makes the UN address the international dimensions of such conflicts, even though the national and sub-national aspects are just as important.

Trends: One of the main trends affecting such conflicts consists of processes that accentuate the marginalization of already vulnerable parts of societies. Climate change can aggravate the pressure on local and regional ecosystems and the direct use of resources, and may thereby also increase the likelihood of such conflicts. Shifting climatic zones can easily exhaust socio-cultural, economic, and political adaptation capacities. Water scarcity is a factor that will become increasingly important in driving the global cereal market ('virtual water'). Food and water security often depend on distribution, access, institutions, and infrastructure, rather than on 'absolute' resource availability. Thus, local and

regional resource scarcity conflicts are typically related to bad governance and policies, i.e., 'failing states'.

Measures: Measures to deal with such conflicts include: the cultural-sensitive development and enforcement of property rights; dialogue-oriented approaches combined with environmental expertise to support participatory resource and conflict management (e.g., 'environmental diplomacy'); the development of new options for sustainable livelihoods for marginalized parts of societies (e.g., organic agriculture); and global measures to mitigate climate change and measures to help vulnerable communities to adapt to it. Socio-cultural, economic, and political factors need to be considered in ways that enhance sustainable and equitable resource access and management. In addressing direct use conflicts, the UN's strength lies in its programmes, which provide technical assistance and facilitate development cooperation without the need to deal directly with more

delicate political questions. However, this is also one of the weaknesses of UN structural conflict prevention, as all too often, political questions are completely ignored – the price paid for the host government's willingness to cooperate. Approaches such as mediation and dialog facilitation, which are typical elements of operational conflict prevention in highly escalated conflicts, could also be useful in structural conflict prevention if they are adapted to the respective cultural context. Greater efforts at engaging with national and local actors in resource and conflict management could thus help to make conflict prevention more socially legitimate and sustainable. Box 2 below illustrates a possible concrete measure to prevent such conflicts.

Box 2: Conflict Prevention Measure 13 - Participatory Development of Property Rights

Property rights in the context of natural resources and the environment can take several forms, such as access or withdrawal rights, rights to manage, or exclusion and alienation rights. Those rights can also have varying degrees of strength, reliability, and scope, with or without temporal or spatial restrictions. Establishing and assigning certain schemes of clear, reliable, and enforceable property rights is a promising approach to dealing with aspects of conflicts related to externalities, resource over-use, and environmental degradation that can be attributed to undefined property rights or situations with intrinsic incentives for over-use (e.g., the tragedy of the commons). It is important, however, that traditional and communal property rights (often unwritten) be carefully considered when analyzing and developing property rights institutions. Otherwise there is a danger of overly emphasizing legally binding state and private property rights. To prevent conflict, the development of property rights should be done in a participatory manner, i.e., the resource user groups must have a say in how the property rights are defined and enforced.

The currently most prominent example of property rights establishment on the global level is the Kyoto Protocol, which regulates the use of the greenhouse gas absorption capacity of the atmosphere and assigns responsibilities. Other examples are quotas in fisheries or for water use. Property rights systems that enhance land access for poor rural households are effective in providing sustainable livelihoods and increasing family and the overall economy, disproportionately more than if they target wealthier households. Furthermore, assigning land rights to women has a significant effect on household food consumption and educational attainments. (For references and further conflict prevention measures, see the full report. Table 1 below summarizes all proposed measures).

1.3 COMPLEX CONFLICT 'HOT SPOTS'

Characterization: In a third form of environment-related conflicts, complex conflict 'hot spots', characterized by both of the above types of conflict, appear in addition to the typical dynamics of highly escalated conflicts. The situation in Central Asia, for example, shows how resource mismanagement and environmental degradation, international tensions over shared water resources, and geopolitical resource issues are intertwined with political instability and economic decline. Revenues from energy resources can finance the autocratic regimes of 'rentier' states. The Darfur region of Sudan, another 'hot spot' example, shows how key conflict factors include marginalization of traditional land-use systems by the government, as well as unresolved tensions between the center and the periphery over power and wealth-sharing (e.g., oil, land, and water). In addition, climate change is gradually shifting regional climatic zones, thus further taxing traditional resource and conflict management systems.

Trends: Both types of trends discussed above may have an effect here, yet in addition, there is often the legacy of past conflicts, which tends to keep a region trapped in conflict cycles, calling for additional measures to escape the 'conflict trap'.

Measures: Support for peace negotiations, the civilian and military implementation of peace agreements, and the longer-term reconstruction of society in a post-conflict phase are key tasks for the UN when addressing such conflict 'hot spots'. However, the 'soft link' between environmental factors and conflict prevents powerful bodies such as the Security Council from getting involved unless a conflict has already escalated and is judged to pose a threat to international peace and security. It would be important for the Secretary-General (SG), the Department of Political Affairs (DPA), the Department of Peacekeeping Operations (DPKO), and others involved in peacemaking and peacekeeping training to integrate the analysis of environmental factors into their existing structures to ensure that peacekeepers are provided with information on how the environment can cause, perpetuate, but also resolve a conflict. After all, wisely managed natural resources often provide the basis for economic development, and are thus crucial to reconstruction and peacebuilding. The UN Environment Programme (UNEP) as well as non-UN institutions (states, NGOs, or regional intergovernmental organizations) are important partners in such a task and could aid in the development of sensitivity training related to environmental conflicts. The UN plays an important role in bringing urgent issues to the attention of its member states. It also enjoys unique comparative advantages in operational conflict prevention addressing complex conflict 'hot spots'. The UN's conflict prevention capacity could be enhanced by a greater focus on the environmental factor in conflicts, notably if combined with participatory long-term engagements with national and local actors. It is also important for the UN do recognize its limitations in operational conflict prevention (e.g. in Darfur), and work with other actors (states, intergovernmental organizations, non-governmental organizations, private actors, community based organizations) when the respective comparative advantages call for this. Box 3 below illustrates a possible concrete measure to prevent such conflicts.

Box 3: Conflict Prevention Measure 21 - Mixed Teams of Environmental Experts and Mediators

One concrete measure that links the fields of 'environment' and 'conflict prevention' is the use of mixed teams consisting of both environment and mediation experts. The role of environmental experts is to provide neutral scientific data that is relevant to understanding the environmental issues at hand and to developing appropriate mitigation measures. In a heavily political context, this data may be perceived as being more favourable to one or the other party in the conflict, and may be instrumentalized for political gain. The role of mediation experts is therefore different; they focus on procedural issues, structure the process, facilitate communication, or draft solutions based on the common ground that was identified in the negotiation process. If the mediators introduce technical data – even if it is scientifically sound – they may be viewed as being biased, and be prevented from achieving their core task. Thus, both types of experts need to know enough about the other field of expertise to communicate and work with each other, and to know when to call in the other expert, but it is important that their roles be kept separate. It is therefore generally advisable for one person to stick to one role throughout a process, even if they ideally have the skills to do both. In the Sudan North-South peace process, for example, the mediators called in technical experts to coach the two parties on the details of oil economics. Once both parties had acquired sufficient information, it was possible to proceed with the negotiation process. It may therefore at times be advisable to remove an issue from the political negotiation process to allow for scientific assessment or to provide technical instruction to the conflicting parties, but the issue must then be reintegrated into the political process.

Another example of balancing ecological expertise with mediation skills are UNEP's efforts to provide scientific data and convene technical meetings between nations on shared transboundary environmental issues. Examples are between Afghanistan and Iran on the joint management of the Sistan wetlands, or meetings between the environmental administrations of Iran and Iraq, south and north Sudan, and Israel and the Palestinian Authority.

2. THE ROLE OF THE UN

The UN system has unique roles to play in environmental conflict prevention. The comparative advantages of the UN include its specific programmes, long-term expertise, financial opportunities, and international legitimacy in the fields of both environmental affairs and conflict prevention. Nevertheless, the UN's conflict prevention potential is left largely untapped due to its segregated and top-down approaches to problem-solving, its cumbersome bureaucracy, the divided interests of the member states, its difficulty in keeping sensitive information confidential, and its tendency to offer one-size-fits-all solutions to local problems. The following sections review the ongoing debates affecting the UN with regard to this topic; possible measures to improve the UN's role in general; and the role and potential of specific UN agencies and actors.

2.1 DEBATES RELATED TO THE PREVENTION OF ENVIRONMENTAL CONFLICTS

Recently, the topic of environmental change and resource conflicts (e.g., oil, resource curse) has been gaining prominence on the UN agenda, providing new opportunities to link the two fields of environment and conflict prevention. However, the 'local resource-scarcity'-type conflicts are generally dealt with more as a development challenge, rather than one of conflict prevention. Several ongoing debates within the UN system characterize and influence the organization's role in its efforts to prevent 'environmental conflicts':

Conflict prevention and post-conflict peace-building: introducing "environment"
Conflict prevention should not be identified as a particular 'phase' in the life-span of an armed conflict, but rather a continuous exercise prior, during and after the escalation of a conflict.

Here two paths can be identified: introducing "environment" into the conflict prevention debate, or introducing "conflict prevention" into the environmental debate. From interviews with various UN staff, it seems the former is a more promising way forward, as the latter could lead to unnecessary overloading and the "securitization" of the environmental discourse. For example, the UN debate on the impact of climate change on peace and security in 2007 was an attempt to achieve the former. However, the results demonstrated the presence of progression in thought but not necessarily in action.

Fear of Encroachment on Sovereignty

The continuous debate surrounding the sovereignty of Member States to manage their own resources and deal with their internal conflicts often places the United Nations in an awkward position as it is restrained from involving itself in national resource management policies unless requested to do so. In addition, many countries with aspirations for higher economic growth argue that international environmental efforts threaten to limit their economic growth potential through policy restrictions and a shift of priority from the economy to the environment. However, the reverse is also true; investment in environmental management processes in the present could prevent a future stress on both the environment and on the national political and economic systems.

UN Institutional Reform

There continues to be an ideological and practical gap between the activities conducted on peacebuilding and conflict prevention and those that place an emphasis on environmental resource management. There is thus little interdisciplinary knowledge transfer within the UN system, as the issues are addressed in isolation of each other. This is due to the common assumption that the environment should be analyzed separately from social, political and economic systems due to their 'soft' relationship. Therefore, many programmes fail to enforce a stronger connection between ecosystems and societal actions, despite their integrated effect on one another.

Engaging with civil society actors

'Cooperation' is an essential approach and priority requisite for addressing environmental conflicts. Rather than working alone, the UN needs to encourage local, regional, national and international organizations, as well as the private sector, non-governmental organizations, and other civil society actors to work together through debate and dialogue to generate solutions that account for different needs and perspectives.

2.2 CONFLICT PREVENTION ON THE COUNTRY AND GLOBAL LEVELS

What could be done to make better use of the untapped potential of the UN in preventing environment-related conflicts – at both the global and the country levels?

Global Level: At the global level, possible measures to enhance communication, co-ordination, and cooperation include inter-agency coordination efforts; collaborative initiatives, inter-agency secondments; environmental dimensions in toolkits designed to assess needs; training workshops; and cooperation focused on specific conflict prevention measures. An interesting collaborative UN initiative is the Environmental Security (ENVSEC) project between UNEP, UNDP, NATO and OSCE, which identifies environmental threats to security and aims to initiate diplomatic and technical interventions. To be practical, confer-ences, workshops, and training programmes would require a special focus on specific conflict prevention measures or types of environment-related conflicts, rather than just dealing with 'environment and conflict prevention' in general. Any such efforts, however, should avoid any further increase in the UN bureaucracy. In the context of UN institutional reform, this may call for a critical analysis with the aim to significantly downsize, close, or replace inef-fective parts of the UN. A good example of an inter-organizational initiative that has facilitated

dialogues and generated recommendations and strategies for change within local, regional, national, and international organizations is the Environmental Change and Security Program, led by the Woodrow Wilson International Center for Scholars.

Country Level: At the country level, possible measures include joint third-party teams including mediators and environmental experts. For example, teams put together by SRSGs or in the form of UNEP's 'Environmental diplomacy' programme; and joint efforts in conflict regions following the 'One UN' approach. Having one UN leader, one pro-gramme, and one multi-donor trust fund for a country helps to avoid duplications or contradictions between various UN agencies in the field. Moreover, for the sake of coherence, donors should refrain from directly funding individual agencies and pushing through their own particular agendas.

Appropriate levels: Certain environment-related conflict prevention measures would benefit from being elevated to the level of the Security Council, while others are more likely to be better resolved in a different way. Elevating environ-mental conflict prevention to the Security Council seems useful for general measures (e.g. Kimberly Process, transparency initiatives, climate change). However, in specific cases where strategic and economic interests of member states are impinged upon, elevating issues to the level of the Security Council may block efforts. Working at the programme level, in contrast, may lack leverage and lead to an overly 'technical' approach at the country level. However, this might be more effective in instances in which local grievances need to be better considered, or if the Security Council is not willing to act. It is necessary for the institu-tional underpinnings of conflict prevention measures to be tailored carefully, duly taking into account the type of conflict and the local and global context of each concrete situation.

2.3 UN AGENCIES AND ACTORS: ROLES AND POTENTIAL

The specific roles of various UN agencies and actors regarding the prevention of environment-related conflicts include:

Department of Political Affairs (DPA): The DPA has a central role in operational con-flict prevention and in monitoring the type and location of conflicts that need to be dealt with, such as through its 'Inter-Departmental Framework for Coordination on Early Warning and Early Action'. Nevertheless, it lacks expertise concerning the environmental dimensions. Rather than 'mainstreaming' the environment in such a way as to tag it on as an additional topic (as was done with gender issues in the case of the United Nations Development Fund for Women (UNIFEM)), the topic should be integrated within the existing DPA structure, e.g., through training and the development of relevant expertise. The new training on 'Coping with Non-traditional Security Threats' organized jointly with the Geneva Center for Security Policy (GCSP), which also includes environmental factors, is a good example. The Mediation Support Unit (MSU) of the DPA is an important source of information and lessons learned. It should explore how to integrate the environmental security dimension into mediation support.

Department of Peacekeeping Operations (DPKO): The DPKO is important in operational conflict prevention. A key challenge for the DPKO is how to deploy its peacekeeping troops in an environmentally-sensitive manner, so as not to cause damage that could aggravate conflicts in the future. A decision-support system providing quick information prior to deployment would complement the more in-depth UNEP post-conflict assessments, which are very good, but come too late to be of use in the field. Humanitarian agencies already in the conflict regions often have local expertise that could be very useful to assist an environmentally and socially sensitive form of DPKO deployment. DPKO should also explore how to

better ensure the implementation of resource-related sanctions.

UN Development Group (UNDG): The UNDG is an umbrella of some 28 UN units, including UNDP, UNFPA, UNICEF, WFP, and UNEP, formed by the Secretary-General in 1997 to increase the effectiveness of UN development work at the country level. The aim is to develop joint policies and procedures to increase cooperation and impact of member agencies. The UNDG can set guidelines for integrating conflict prevention and the environment for the country teams, thus having a "trickle down" effect on its member agencies and on the country teams. This may have a much more concrete impact than trying to push measures at the SC level (too high up), or within individual UN units (too far down).

UN Environment Programme (UNEP): UNEP has the technical know-how to acquire and assess environmental data that is central in dealing with environment-related conflicts. Since 1999, UNEP has conducted post-conflict environmental assessments to understand environmental damages from conflicts and the risks to human health, livelihoods and security.
In February 2008, UNEP's Governing Council endorsed a proposal to broaden the scope of UNEP's conflict portfolio to cover all conflict phases. New areas of work will include conducting assessments on how environment and natural resources contribute to conflict as well how they could directly contribute to peacebuilding, providing analyses to DPA to be used as inputs in peace negotiations and mediation (e.g. on wealth sharing, resource scarcity, livelihoods), and facilitating dialogue and technical cooperation within or between conflict affected countries on natural resources and environmental issues (known as environmental diplomacy). As of 2010, addressing both the environmental causes and consequences of conflicts and disasters will become one of the six strategies priorities of the organization with initial budget aspirations of USD 50 million per year (depending on need and demand).

UN Development Programme (UNDP): The UNDP has expertise in managing development and reconstruction pro-grammes, which are essential to many of the measures needed to prevent environment-related conflicts. The nexus between the environment, conflict and development which UNDP can address, is particularly relevant for local and regional resource-scarcity conflicts. Efforts to assist riparian states of shared river basins in setting up international river basin commissions are important to counteract unilateral develop-ment approaches and mitigate international tensions. The UNDP Bureau for Crisis Prevention and Recovery – the political arm of UNDP – provides a relevant and specific focus on preventing armed conflicts and reducing the impact of disasters – which are often environmentally related – and promoting early recovery in a post-crisis situation.

Food and Agriculture Organization (FAO): The role of the FAO is central to the direct use form of conflicts that are related to food, water and land security. One key challenge is how to link the grass-roots level of FAO conflict management with the political level of the central state.

Secretary-General (SG) and Special Representatives of the Secretary-General (SRSGs): The SG has a key role in creating recognition for the environmental dimen-sions of conflicts. A key problem of the UN system is the lack of coordination and cooperation between its various agencies. Here, the SG has a clear responsibility to prevent inter-agency tensions, such as between the DPKO and the DPA. SRSGs can help the Secretary-General in over-coming some of the inflexibility of the various agencies. By putting together a team of conflict management and environmental experts from the DPA and UNEP, for instance, SRSGs could make use of UN strengths and allow the organization to maximize knowledge and effectiveness when dealing with a specific case.

UN Security Council: There are intense debates about whether an issue such as the environment benefits from being raised to the level of the

Security Council (SC). Sceptics argue that the politicization of a topic can lead to the overshadowing of its original goals and objectives. For example, in 2007, the UK effort to discuss the impact of climate change on peace and security with 55 member states backfired due to lack of support. The refusal of countries such as Russia and China to discuss climate change as a security issue demonstrated how the SC has the power of silencing and making an issue 'off limits' even before it has been seriously considered. Further, the UK was accused of attempting to bring unacceptable policy measures to the Security Council, an organ which should instead focus on addressing immediate breaches of peace and threats to security. Nevertheless, resolutions of the Security Council (SC) have the potential to legitimize and support important conflict prevention measures. SC resolutions have, for example, supported initiatives such as the Kimberley Certification Process.

3. ENVIRONMENTAL CONFLICT PREVENTION MEASURES

The third part of the report collects two dozen environmental conflict prevention measures (CPMs). An environmental CPM is understood to address a) the underlying environmental trends and driving factors that may escalate a conflict (structural conflict prevention), and/or b) aspects of conflict dynamics where the environment plays a key role (operational conflict prevention) (see also Table 1).

The collection of environmental CPMs is to serve as a source of inspiration of what could be done, as well as to provide the necessary references to learn more about what they have accomplished thus far. Each measure taken by itself may be ineffective and may not offer a comprehensive solution. In combination, however, they provide some of the possible elements of a strategy that could deal with environmental conflict prevention in both concrete and holistic manners. We structure these environmental CPMs broadly according to a group of mutual learning, information, and educational measures, and with reference to the three types of conflict distinguished above. Measures to deal with the 'hot spots' type conflict generally focus more on operational conflict prevention, while measures dealing with the 'resource curse' and 'local resource scarcity'-type conflict focus more on structural conflict prevention. Moreover, the CPMs related to the group of indirect-use conflicts (e.g., resource trade transparency) are also directly linked to preventing conflicts of the complex 'Hot spot' (e.g., oil in Chad) type.

The table below offers a summary of these measures, which are described in more detail with references (one page per measure) in the full report. Boxes 1-3 above illustrate three of these measures. While the UN is involved in some of these measures, it has the potential to use them more effectively for conflict prevention than is currently the case.

Table 1: Summary of environmental conflict prevention measures

	Measure	Rationale of measure	UN entity involved (key non-UN actors in brackets)
Coordination, learning and sharing			
1	Internal UN coordination	Make use of synergies, combine environmental and conflict expertise	SG, SRSGs & all
2	General information-sharing initiatives	Promote knowledge-sharing, network-building, and cooperation	All
3	Prospective impact assessments	Considers risks and impacts of projects	UNEP
4	Guidelines	Harmonize approaches and standards	All
5	Physical and scientific information	Provides accurate and timely information	UNEP/GRID, FAO
Indirect use, 'Resource curse' conflicts			
6	Norms for Natural Resource Management - Financial flows	Foster transparency and good governance (e.g., EITI) (see also Box 1)	SC, IMF, WB, WTO
7	Norms for Natural Resource Management - Certification	Deliver information on social and environmental standards of production (e.g., FSC, MSC, fair trade, Kimberley Process) (see also Box 1)	SC, ILO
8	Private companies	Inclusion of companies in common policy goals	UN Global Compact
9	International groups	Multilateral approach to global problems that cannot be dealt with unilaterally	SC (G8, OSCE)
10	Fuel substitution	The aim of substitution is to decrease the dependency on energy resources from conflict zones and potentially instable regions	UNFCCC, UN CSD
11	Reduced consumption	Reduction of consumption is highly effective, even if there are ways to substitute fossil fuels with other energy sources	UN DESA, UN CSD
Direct use, 'Local and regional resource scarcity' conflicts			
12	Organic agriculture	Alternative to conventional agriculture that avoids environmental degradation (esp. soil, water, pesticides). An alternative for sustainable livelihoods adapted to local conditions	FAO, UNDP, UNESCAP
13	Participatory Development of Property rights	Establishing and assigning property rights is a promising approach to dealing with internalizing externalities (also Box 2)	FAO, UNDP
14	Integrated Water Resources Management (IWRM)	Water has multiple uses; to consider its use as a resource only within one economic sector or within one political entity falls short of its diverse uses and characteristics	FAO, CGIAR, UNEP, UNDP, UNESCO
15	Water demand management	In the long term, WDM is more sustainable compared to supply-side management	FAO, CGIAR, UNEP, UNDP
16	Regulation of 'virtual water' trade	A way to compensate for regional water scarcity	IMF, WB, WTO
17	Transboundary freshwater regimes	To mitigate conflicts related to shared water	UNDP/TRIP, UNEP, UN ESCWA

18	Access to markets of the developed countries	Decreasing agricultural production subsidies and trade barriers in developed countries, in order to give developing economies better access to their markets	IMF, WB, WTO
19	Mitigation – the Kyoto Protocol	Reducing climate change and its potentially negative effects can help to reduce pressure on ecosystems and the corresponding negative effects on human security	UNFCCC, UNEP
20	Adaptation	The increasing consensus that a certain degree of climate change is inevitable implies a need for adaptation measures	UNFCCC, UNEP
Complex, conflict 'hot spots'			
21	Mixed Teams of Environmental Experts and Mediators	Third-party assistance - involving both environmental and mediation expertise - can support conflict parties in dealing with environmental issues and reaching an agreement (see also Box 3)	DPA, UNEP, SRSGs
22	Multiple stakeholder dialog processes	Environmental concerns often affect diverse stakeholders, involving them increases legitimacy and sustainability of decisions	DPA, UNDP; UNEP
23	Wealth-sharing in peace agreements	By de-linking territory from the actual resource, wealth-sharing clauses can help to end separatist conflicts. They also provide important resources for post-peace agreement reconstruction efforts	DPA, UNEP
24	Peace parks	The joint management of peace parks and natural resources involves collaboration between the involved states, thereby serving as a confidence-building measure	UNEP (IUCN/WCPA)
25	Smart sanctions	When diplomatic initiatives have failed, sanctions increase pressure before actually using military force	DPKO, SC
26	Environment and natural resources management in post-conflict cases	In the transitional period, the institutional capacity of a government is often very weak. Outside assistance may be needed to manage environment or natural resources	UNEP, DPKO, UNDP

Based on the first two sections of the report, there are indications that additional efforts would be especially useful in regulating the extraction and trade of natural resource, in efforts to support a culturally sensitive use of communal, private, and state property rights, and in the provision of new livelihood strategies for marginalized parts of the population. The latter of these measures is expected to gain importance as the effects of climate change are increasingly felt. The most far-reaching measures remain those related to demand management. These include water demand management, efficiency increase, and efforts to support the mitigation and reduction of resource consumption. More sustainable consumption patterns in affluent countries are needed to prevent resource use from contributing to conflict escalation in source countries.

CONCLUSION: BALANCING ECOLOGY AND POLITICS

Conflict prevention dealing with environment-related conflicts requires a balance between ecology and politics, a balance that varies depending on the case and level of engagement.

On the country level, this means taking into consideration the physical situation and the eco-system dynamics, yet at the same time engaging with national and local actors. It is important not to take an overly apolitical approach to such conflicts, by adopting purely technical, ecological, economic, or military measures. The temptation of such technical approaches is that they lend themselves to an easy rationalization for UN intervention in conflict 'hot spots', avoiding long-term and 'messy' processes of engagement with national and local political actors. This could be detrimental, however, as technical quick fixes ignore context-specific realities, actors, and management practices, and are thus not legitimized or carried out by the people and governments that are most affected by the measures.

On the global level, the ecological facts and conflict patterns calling for the adoption of global measures to counteract the environmental dimensions of conflict are frequently understood. Nevertheless, measures are often not adopted, yet due to different reasons than on the local and country level. UN member states, for example, may politicize the topic when obstruction suits their domestic economic or political interests. Merging the dimensions of 'environment' and 'conflict' would likely enhance the effectiveness of UN conflict prevention. The physical and ecosystem dynamics of conflicts could thus be taken into proper consideration without running the danger of either overly politicizing such conflicts at the global level or de-politicizing them at the country or local levels. The recommendations of the study are to:

Focus on transversal approaches to conflict prevention: Environmental factors should be treated as one factor among, and in tight interplay with, political, economic, and socio-cultural factors.

Differentiate conflict types: Differentiating environment-related conflict types (indirect resource use, direct resource use and conflict 'hot spot') helps to identify optimal conflict prevention strategies. Institution building and good governance are important for all types.

Support norms on natural resource use: Globally accepted norms and charters on how to regulate the international flow of finances and goods related to natural resources would be a key step in preventing 'resource curse' type conflicts.

Support public participation and sustainable livelihoods: Stakeholder participation including local and national actors in conflict prevention processes is essential to make the adopted measures legitimate and sustainable, and to avoid the danger of overly depoliticizing conflicts at the country level. Providing sustainable livelihoods to all parts of society is paramount to keeping society's conflict prevention capacity intact.

Tap UN synergies and take appropriate and concrete action: Synergies between the UN units focusing on the environment (e.g. UNEP) and those on conflict prevention (e.g. DPA) need to be utilized to a greater extent. Stronger emphasis should be given to conflict prevention in all phases of a conflict, instead of on post-conflict measures only. More concrete action, jointly agreed and supported by the (potential) conflict parties, is called for.

«Quite frankly, I found the analysis and presentation to be solid. You've done a superior job of presenting the various conceptual approaches and outlining the comparative advantages (as well as weaknesses) of various UN entities.»

David Jensen, UNEP

«The report offers the latest in thinking of the complex linkages between conflicts and environment. A group of eminent scholars have managed to strike a balance between providing the reader with a broad overview – while at the same time offering concrete and tangible options for the UN to act on. As global forecasted changes will affect the environment in many parts of the world, the report challenges the UN to take the lead and prevent and resolve environment-related conflict.»

Jon Martin Trondalen, Compass

The Center for Security Studies (CSS) at ETH Zurich is a Swiss academic center of competence that specializes in research, teaching, and information services in the fields of international relations and security policy. The CSS also acts as a consultant to various political bodies and the general public. The CSS is engaged in research projects with a number of Swiss and international partners. The Center's research focus is on new risks, European and transatlantic security, strategy and doctrine, state failure and state building, and Swiss foreign and security policy. The CSS runs the International Relations and Security Network (ISN), and in cooperation with partner institutes manages the Comprehensive Risk Analysis and Management Network (CRN), the Parallel History Project on Cooperative Security (PHP), the Swiss Foreign and Security Policy Network (SSN), and the Russian and Eurasian Security (RES) Network. The Center for Security Studies is a member of the Center for Comparative and International Studies (CIS), which is a joint initiative between the ETH Zurich and the University of Zurich specializing in comparative politics and international relations.

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