

Environmental security: dimensions and priorities

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Summary

In its report to the 5th GEF Assembly (2014), the Scientific and Technical Advisory Panel (STAP) noted the importance of action to “enable improved human well-being, health, security, livelihoods and social equity at the same time as environmental benefits” and recommended increased attention to environmental security.

Environmental security has been described as a bundle of issues which involves the role that the environment and natural resources can play in peace and security, including environmental causes and drivers of conflict, environmental impacts of conflict, environmental recovery, and post-conflict peacebuilding. The scope of security and insecurity is by no means limited to violent conflict or its absence but includes the roots of sustainable livelihoods, health, and well-being.

Environmental security underpins the rationale for investment in global environmental benefits, and is essential to maintain the earth's life-supporting ecosystems generating water, food, and clean air. Reducing environmental security risks also depends fundamentally on improving resource governance and social resilience to natural resource shocks and stresses. The environment is better protected in the absence of conflict and in the presence of stable, effective governance. GEF investment to achieve global environmental benefits depends on effective management of environmental security risks as an element of human security.

The GEF is already engaged through its programmatic and project investments. But, to date, the GEF does not appear to have addressed environmental security in an integrated manner across its program areas. One reason may be the lack of a common framework or language to differentiate the various dimensions of environmental security and, thus, evaluate the case for different strategies of engagement.

There are four dimensions of environmental security which are of particular relevance to the GEF.

First, ecosystem goods and services fundamentally underpin human well-being and human security. Human beings depend on the earth's ecosystems and the services they provide. The degradation of these services often causes significant harm to human well-being which, in the framework of the Millennium Ecosystem Assessment, explicitly includes human security.

Second, conflict, irrespective of its source, affects the viability or sustainability of investments in environmental protection and their outcomes. Violent conflict often results in direct and indirect environmental damage, with associated risks for human health, livelihoods and ecosystem services. Even where natural resources play no role as a source of tension in spurring conflict, the threat of violence or insecurity can undermine project implementation.

Third, ecosystem degradation, resource competition, or inequitable distribution of benefits increase vulnerability and conflict risk. Environmental degradation is a cause of human insecurity and can aggravate other sources of social division based on ethnicity, class, religion, or economic position. While rarely the simple or sole cause of conflict and insecurity, environmental change (including climate change) is increasingly characterized as a “risk multiplier.” Even where violent conflict does not occur,

longer-term environmental trends often act as stressors on rural livelihoods and increase the vulnerability of natural resource-dependent communities to social, economic, or environmental shocks.

Fourth, environmental cooperation can increase capacity for conflict management, prevention, and recovery. Managing shared natural resources sustainably and equitably can motivate greater cooperation, and can also help build institutions that moderate and reduce the disruptive impacts of conflict, or aid post-conflict reconciliation and rebuilding.

Environmental security is relevant to all of the GEF's focal areas. The international waters portfolio has given most explicit attention to investment in institutions for transboundary cooperation, in international river basins as well as large marine ecosystems. The biodiversity portfolio addresses direct threats to food security and well-being, often in sensitive environments: there is significant overlap between biodiversity hotspots and areas of civil strife. Investments addressing land degradation, including deforestation and desertification, offer direct routes to support the food and livelihood security of populations living in marginal environments. Approximately 3 billion people reside in areas with land degradation hotspots, with serious implications for food and water security, aggravated by climate change. Projects in the GEF portfolio are increasingly addressing these links.

Many GEF operations are also exposed to conflict risk. Half of GEF recipients (77 countries) experienced armed conflict since the GEF's inception in 1991, and over one-third of GEF recipients (61 countries) proposed and implemented GEF projects while armed conflict was ongoing somewhere in the country. Nearly one-third of all GEF funding has been invested in projects during years when recipient countries experienced conflict.

For all of these reasons, addressing environmental security in an explicit, consistent and integrated manner is essential to delivering global environmental benefits, including the long-term sustainability of project investments. Based on this rationale, STAP recommends the GEF should:

1. Explicitly address environmental security in project and program design. Expressing the benefits of GEF investment in terms of environmental security, as a component of broader human security, can link global environment benefits to the more immediate concerns of employment and livelihoods, equity, social stability and effective governance.
2. Assess conflict risk routinely among investment risks beyond the scope of GEF intervention. GEF agencies, including UNDP, UN Environment, and the World Bank, routinely carry out such analyses in their non-GEF financed portfolios. The GEF should consider how to make best use of these protocols when designing relevant projects.
3. Evaluate the relationships between environmental change and vulnerability within GEF interventions through the use of tools such as Resilience, Adaptation Pathways and Transformation Assessment (RAPTA). The aim should be to mainstream project-level analysis on how environmental change affects the vulnerabilities of different stakeholder groups, and how project interventions might mitigate or reverse these trends.
4. Contribute to conflict prevention through environmental cooperation. In all projects where conflict risk is salient, even if not immediate, there are opportunities for the GEF to contribute actively to conflict prevention, not only by mitigating the vulnerabilities affecting particular stakeholder groups but also by strengthening institutions of environmental cooperation and equitable resource governance.

Environmental security: dimensions and priorities

1. What is the issue?

Environmental security views ecological processes and natural resources as sources or catalysts for conflict and as barriers or limits to human well-being, and conversely as a means to mitigate or resolve insecurity.¹ Environmental security is understood as a foundation of human security more broadly, essential to sustainable livelihoods, health, and well-being among households and communities, and therefore central to achieving the mandate of the Global Environment Facility (GEF). However, lack of clarity over the many dimensions of the challenge, appropriate entry points for GEF engagement and metrics for assessing effectiveness have hindered progress. This paper distinguishes four dimensions of environmental security and recommends those where the GEF might respond to analysis provided by others, as distinct from those where the GEF can itself play a leading role.

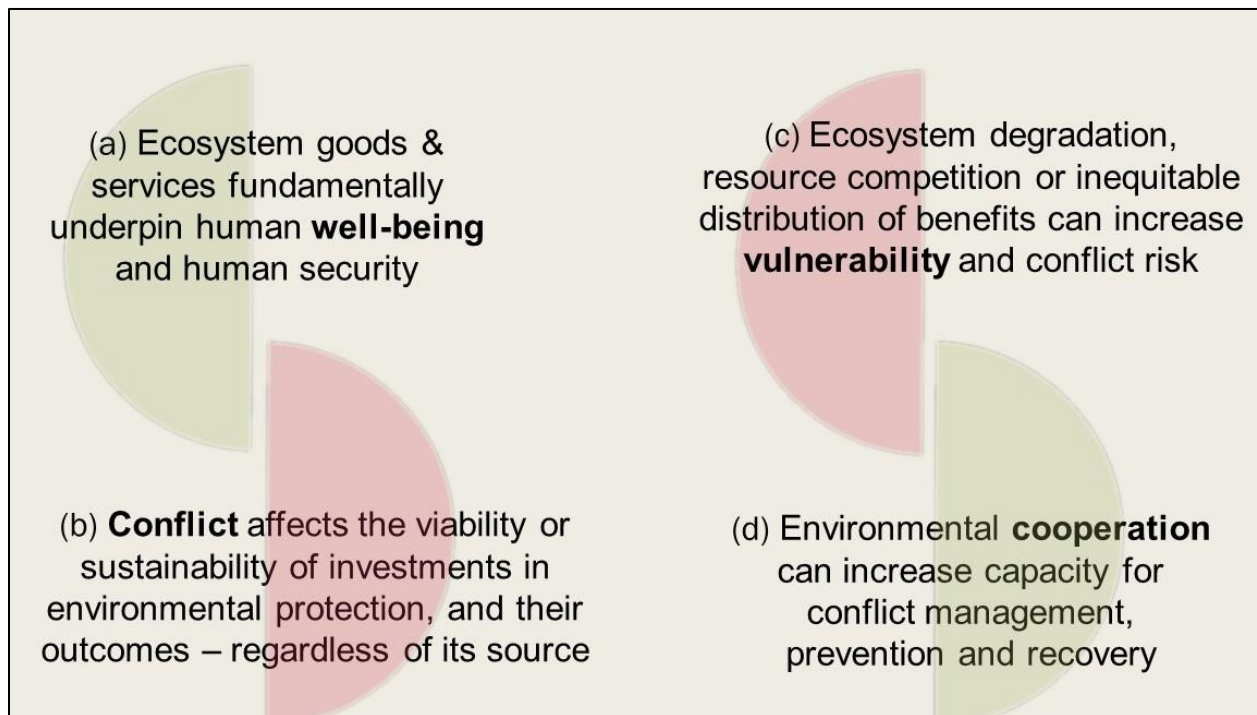
The latest annual Risk Report of the World Economic Forum cites the highest risks, by impact and probability, as extreme weather events, natural disasters and failure of climate-change mitigation and adaptation. Large-scale involuntary migration, water crises, and biodiversity loss and ecosystem collapse follow closely behind. “Profound social instability” was identified as the risk factor most highly connected to the range of global trends.²

In its report to the 5th GEF Assembly (2014), the Scientific and Technical Advisory Panel (STAP) noted the importance of action to “enable improved human well-being, health, security, livelihoods and social equity at the same time as environmental benefits” and recommended increased attention to environmental security.³

UN Environment describes environmental security as a “conceptual envelope” including a variety of issues involving the role that the environment and natural resources can play across the peace and security continuum, including environmental causes and drivers of conflict, environmental impacts of conflict, environmental recovery and post-conflict peacebuilding.⁴ In this paper, the scope of security and insecurity is by no means limited to violent conflict or its absence, but includes as well the roots of sustainable livelihoods, health, and well-being among households and communities—the environmental dimension of what the UNDP and others have termed “human security.”⁵

Seen in these terms, the importance of environmental security to the GEF mandate is very clear, and in many domains the GEF is already deeply engaged through its programmatic and project investments. To date, however, the GEF does not appear to have addressed environmental security in an integrated manner across its program areas.⁶ One reason may be the lack of a common framework or language to differentiate the various dimensions of environmental security and, thus, evaluate the case for different strategies of engagement. To address this gap, four dimensions of particular salience for the GEF are used to structure the analysis in this paper. These four dimensions cover both positive benefits, linking the environment and human security, and negative impacts or risks (see Figure 1).

Figure 1. Four dimensions of environmental security from the perspective of the GEF



2. What does the science say?

a) *Ecosystem goods and services fundamentally underpin human well-being and human security.*

Human beings depend on the earth's ecosystems and the services they provide. These include *provisioning services* such as food and clean water, *regulating services* such as disease and climate regulation, *cultural services* such as spiritual fulfillment and aesthetic enjoyment, and *supporting services* such as primary production and soil formation. The degradation of these services often causes significant harm to human well-being which, in the framework of the Millennium Ecosystem Assessment, explicitly includes human security.⁷

Global trade networks have made the links between environmental resources and livelihoods less visible for many. Despite this, the risks of environmental degradation to human well-being and security have become globalized due to the dramatic growth of the human enterprise since the Industrial Revolution, threatening the "safe operating space for humanity."⁸ This notion, first codified in the Planetary Boundaries framework, has since been adapted to incorporate dimensions of social equity and justice, described as the "safe and just operating space for humanity."⁹ Others have incorporated dimensions such as nutrition and health, income, and access to education embedded in the Sustainable Development Goals.¹⁰

These frameworks are important not only for understanding the general linkages between ecosystems and human well-being and security, but also for identifying policy priorities to reduce vulnerabilities and build capacity for adaptation and system transformation at finer scales.¹¹ For example, researchers applied the "safe and just" inclusive sustainable development framework to South Africa, combining 20 indicators and boundaries for environmental stress and social deprivation. Results indicate that the country exceeds its environmental boundaries for biodiversity loss, marine harvesting, freshwater use,

and climate change, and that social deprivation was most severe in the areas of safety, income, and employment,¹² which are significant factors in conflict risk. Further downscaling can be done to analyze and communicate socio-economic and ecological boundaries from a city's perspective.¹³

b) Conflict affects the viability or sustainability of investments in environmental protection and their outcomes, regardless of its source.

Violent conflict often results in direct and indirect environmental damage, with associated risks for human health, livelihoods and ecosystem services.¹⁴ There are also examples where war hinders resource extraction because it makes certain areas inaccessible to commerce, with the unintended effect of protecting the resource base such as forest cover or marine fish stocks – though this effect is often reversed once commercial exploitation resumes.¹⁵ In other cases, once conflict is underway, high-value resources such as gems, oil, and timber become a source of finance for combatant forces. Indeed, at least 18 civil wars since 1990 have been financed by the illegal exploitation of such resources.¹⁶ Wildlife is the fourth largest illegal trade after the trafficking of drugs, people, and arms.¹⁷

Following armed conflict, land, timber, and minerals are often in high demand as resources for recovery and reconstruction. If not managed equitably to support livelihoods, jobs, basic services, etc., then renewal of conflict is likely. In the absence of equitable governance institutions, otherwise manageable resource competition can escalate into broader social conflict. In fact, a retrospective analysis of intrastate conflicts over the past sixty years indicated that conflicts associated with natural resources are twice as likely to relapse into renewed conflict within the first five years.¹⁸ Despite this, of the more than 800 peace agreements since 1945, fewer than 15% address terms related to “natural resources.”¹⁹ Fortunately, in recent decades, these trends have improved. While roughly half of all peace agreements concluded between 1989 and 2004 (51 out of 94) contain direct provisions on natural resources, all major agreements from 2005 to 2014 contain such provisions.²⁰

Even where natural resources play no role or only a minor role as a source of tension in spurring conflict, the threat of violence or insecurity at the sub-national level can undermine the feasibility of project implementation, no matter the focus. International aid to fragile states is more than twice as volatile as aid to non-fragile states. This factor alone—quite apart from the direct impact of conflict—accounts for an estimated loss in efficiency of 2.5 percent of Gross Domestic Product for recipient countries.²¹ Development agencies working in fragile and conflict-prone settings are often poorly equipped to cope with the particular challenges of achieving sustainable outcomes in these settings.²²

c) Ecosystem degradation, resource competition, or inequitable distribution of benefits increase vulnerability and conflict risk.

Environmental degradation is a cause of human insecurity and in many cases serves to aggravate other sources of social division based on factors such as ethnicity, class, religion or economic position.²³ Currently, there are over 1800 resource-related conflicts worldwide,²⁴ many caused by extractive activity that polluted or damaged the land, air, water, forests and livelihoods of communities. Such conditions may contribute to sustained social conflict, often with sporadic violence, and in some cases, control over natural resources is a central driver of armed conflict.²⁵

A comprehensive study of internal armed conflicts over the period 1946-2006 found a significant proportion were linked to natural resources: 39 percent in the Middle East and North Africa, 44 percent in Sub-Saharan Africa, 56 percent in South Asia, and 60 percent in East Asia and the Pacific. Of these, conflicts over natural resource distribution, for example, access and use rights, or distribution of revenue, showed the steadiest increase.²⁶

Mediating factors related to rural incomes, land tenure, governance, strength and inclusiveness of resource management institutions, and gender equity²⁷ are often critical in influencing whether changes in the availability of resources foster adaptations – or spur conflict and exodus. While rarely the simple or sole cause of conflict and insecurity, environmental change (including climate change) is increasingly characterized as a “risk multiplier.”²⁸ For example, severe and prolonged drought in Syria and the Greater Fertile Crescent in 2006 spurred massive rural to urban migration and was a contributing factor to the ongoing conflict.²⁹ In most cases, while natural resources may be linked to the root cause, by the time the conflict has escalated to violence, the drivers are mixed with a range of factors. This means that efforts to remedy the natural resource drivers need to complement efforts to address the political context and associated stresses.³⁰

In other instances, even where violent conflict does not occur, longer-term environmental trends often act as stressors on rural livelihoods and increase the vulnerability of natural resource-dependent communities to social, economic, or environmental shocks. In dryland zones, for example, climate change and related climate variability, water scarcity and land degradation now frequently combine as factors leading to involuntary mass migration.³¹

d) Environmental cooperation can increase capacity for conflict management, prevention, and recovery.

Managing shared natural resources sustainably and equitably can motivate greater cooperation within and among communities.³² It can also help build institutions that moderate and reduce the disruptive impacts of conflict or aid post-conflict reconciliation and rebuilding.³³ This occurs at:

- local levels, as in the interaction of farmers and herders who may share mutually dependent and symbiotic relations, which can lead to cooperation during times of prolonged drought;³⁴
- within countries at significant scale, such as the national movement of community-managed forest institutions in Nepal that sustained ties of mutual support despite the breakdown of state institutions during the period of civil war;³⁵ and
- at the transboundary scale, as illustrated by the Indus Waters Treaty, which has moderated competition between India and Pakistan for six decades, despite ongoing tension.³⁶

In developing countries where access to, and use of, renewable resources essential to rural livelihoods are highly contested, improving cooperation in their management is increasingly seen as an important element in strategies for conflict prevention, confidence building, and longer-term social-ecological resilience.³⁷ Where traditional or customary institutions for resource tenure, management, and conflict resolution enjoy legitimacy in the eyes of local resource users, efforts to recognize these and manage their relationship to statutory institutions of the state are critical. This is especially the case in post-conflict settings, where sources of legal authority may have eroded and reconstruction efforts often disregard traditional institutions.³⁸

For environmental challenges that are inherently transboundary, investing in capacity for conflict management and mediation support is integral to long-term success.³⁹ For example, this applies to:

- shared river basins, where the allocation of water flows, upstream watershed protection, pollution control, and management of aquatic biodiversity all depend on joint action across multiple jurisdictions, often with sharply competing economic interests;
- forest and other terrestrial conservation efforts, including transboundary parks, which now number more than 250, spanning 460 million hectares,⁴⁰ and

- climate change mitigation and adaptation, where the distribution of costs and benefits among states and communities is a leading source of tension and an obstacle to accelerated progress.⁴¹

Moreover, coordinated efforts can yield massive efficiency gains, even accounting for the significant transactions costs. A study of conservation planning in the Mediterranean Basin, for example, concluded that a coordinated approach among states would cost 45% less than a collection of national plans and save an estimated \$67 billion over 10 years.⁴²

3. Why is this important to the GEF?

Environmental security **underpins the rationale for investment** in global environmental benefits. It is essential to maintain the earth's life-supporting ecosystems generating water, food, and clean air. The environment is better protected when activities to generate global environmental benefits – as in the GEF mandate – are analyzed to ensure that negative social and economic impacts are either minimized or mitigated. Reducing environmental security risks also depends fundamentally on improving resource governance and social resilience to natural resource shocks and stresses. The environment is better protected in the absence of both domestic and cross-border conflicts and in the presence of stable, effective governance. GEF investment to achieve global environmental benefits depends on effective management of environmental security risks as an element of human security.

Environmental security is also **relevant to all focal areas** within the GEF mandate. The international waters portfolio has given most explicit attention to investment in institutions for transboundary cooperation, in international river basins as well as large marine ecosystems. The biodiversity portfolio not only addresses direct threats to food security and well-being⁴³ but also must grapple with the indirect consequences of conservation efforts. These include the risks of “green militarization”—the expansion of armed enforcement of conservation zones—which can raise the likelihood of conflict with local communities.⁴⁴ This is especially concerning, as studies indicate there is significant overlap between biodiversity hotspots and areas of civil strife.⁴⁵

GEF investments to address land degradation, including deforestation and desertification, offer some of the most direct routes to support the food and livelihood security of populations living in marginal environments. Critically, about 30 percent of total global land area is considered degraded, with approximately 3 billion people residing in areas with land degradation hotspots.⁴⁶ These have serious implications for food and water security, aggravated by climate change.⁴⁷ Both climate adaptation and mitigation efforts, moreover, can inadvertently spur new conflicts—for example over land tenure, access to benefits, or mining of green energy minerals—if these risks are not explicitly managed.⁴⁸

Investments in chemicals and waste, similarly, require careful attention to the social distribution of costs and benefits. Political scientists refer to ‘environmental racism’ to describe the disproportionate burden of environmental harms carried by poor, often ethnic-minority, communities. For example, the export—or dumping—of electronic waste from rich, industrialized countries into Africa has been justified as legitimate recycling; yet the toxic dumps and burning of plastic coatings to copper wires is a major health hazard both to humans and the environment.⁴⁹ Newer areas of GEF engagement, such as sustainable cities, require attention to the interplay between rapid urbanization and the shrinking land base for food production, alongside other risks and opportunities for human security.⁵⁰

Many **GEF operations are exposed to conflict risk**. An analysis commissioned by STAP⁵¹ indicates that half of GEF recipients (77 countries) experienced armed conflict⁵² since the GEF’s inception in 1991, and over one-third of GEF recipients (61 countries) proposed and implemented GEF projects while armed conflict was ongoing somewhere in the country. Nearly one-third of all GEF funding has been invested in

projects during years of active conflict somewhere in the recipient countries. Some projects are also implemented in sub-national areas that have emerged from protracted violent conflicts or are susceptible to relapse. In the case of land degradation projects, the situation is especially acute: an estimated 73 percent of countries with GEF land degradation projects are conflict-affected, and 66 percent of individual GEF land degradation project sites in Africa were near, or directly in, the area of one or more conflict events.⁵³

For all of these reasons, addressing environmental security in an explicit, consistent and integrated manner is essential to delivering global environmental benefits – including the long-term sustainability of project investments.

4. How should the GEF Respond?

A review of the multi-agency Environment and Security initiative⁵⁴ notes, “the environment and security nexus has been evident in all post-conflict and transition countries” and “tackling the security risks that stem from environmental factors . . . requires a multi-dimensional approach that is difficult for a single organization to achieve.” There is scope for GEF investment in each of the four dimensions described above in Figure 1, with particular emphasis on capability development in addressing ecosystem degradation to reduce vulnerability, and in building environmental cooperation.

The STAP recommends that the GEF consider the following actions – some of which could be done in the near term, while others may require additional time and effort.

a) Explicitly address environmental security

Making environmental security explicit can enable the GEF to do its job more effectively by expanding both the scope of partnerships and the level of stakeholder commitment to programmatic success. If the GEF’s investment were expressed in terms of environmental security (as a component of broader human security) this would make a clearer link to the more immediate concerns of employment and livelihoods, equity, social stability and effective governance. In the near term, this could be done by incorporating conflict sensitivity, mitigation, and risk reduction into the project theory of change, in cases where interventions aim to reduce social and economic vulnerabilities linked to environmental change. This is additional to the consideration of generic conflict risk outside the scope of intervention. Doing so could potentially leverage greater support for the GEF mission as well, particularly when donor governments, development agencies, and foundations have sound evidence to link their environmental investments to human well-being outcomes. Substantial guidance, including from GEF agencies, provides tools for assessing and articulating these links.⁵⁵ In the longer term, the GEF might consider developing environmental security indicators to monitor progress.

b) Assess conflict risk routinely among investment risks beyond the scope of GEF interventions

Analysis of generic conflict risk, meaning the risk of conflict emanating from sources beyond the scope of GEF interventions, should be integrated as a routine element of GEF project design and implementation, preferably from the stage of project identification (PIF). If a project does not fully appreciate the specific context of post-conflict or fragile states when it is designed, it is more likely to fall short of achieving consistent results.⁵⁶ GEF agencies, including UNDP, UN Environment, and the World Bank, routinely carry out such analysis in their non-GEF financed portfolios. For example, UNDP’s Bureau for Crisis Prevention & Recovery uses a [Conflict-related Development Analysis \(CDA\)](#) which provides guidance on conducting conflict analysis and applying the findings of analysis for a range of purposes. Similarly, the World Bank has developed a [Pilot Toolkit for Measuring and Monitoring in](#)

[Fragility, Conflict, and Violence \(FCV\) Environments](#), designed to assist World Bank Group teams—and by extension support dialogue with partners and clients—to measure progress in affected countries.

In the near term, similar protocols could be adapted to the GEF project cycle. Recent years have seen a significant expansion of effort, including World Bank measures to make country strategies more ‘fragility focused,’ based on evidence that conflict prevention is a rational and cost-effective strategy for countries at risk of violence and for the international community.⁵⁷ Similarly, UNDP has consolidated expertise in conflict prevention, governance and peacebuilding to respond to threats identified as contributing to fragility and instability.⁵⁸ Over the long term, the GEF Secretariat could work with the agencies, in partnership with independent, specialized research bodies, such as the International Crisis Group⁵⁹, to develop methodologies for undertaking more detailed analyses of conflict risk for GEF projects, drawing upon the pilot experiences of GEF agencies.

c) Strengthen analysis of factors linking environmental change and vulnerability within GEF interventions

Beyond the more generic consideration of conflict risk addressed above, the GEF should develop and apply a suite of tools (or adapt existing tools, such as the Resilience, Adaptation Pathways and Transformation Assessment [RAPTA] framework – see Box 1) to mainstream project-level analysis on how environmental change affects the vulnerabilities of different stakeholder groups, and how project interventions may mitigate or reverse these trends. Given the importance of “mediating factors” in determining exposure to risk, adaptive capacity and ultimate conflict risk, the GEF should strengthen attention to these aspects. These include a focus on institutions governing access rights and management authority in regard to land, water, forests and other natural resources; grievance and dispute resolution mechanisms; access to policy processes and decision-making regarding the distribution of environmental benefits and harms, including pollution; and cultural, legal, or political factors affecting gender equity and the status of ethnic or religious minorities. This approach could be tested in one or more of the GEF-7 Impact Programs.

Currently, many GEF projects identify competition for resources and the potential for conflict as contextual factors at the project identification stage. Addressing these issues more directly could improve the likelihood of projects meeting their long-term objectives. Specifically, the GEF should consider how best to:

- Support the capacity of national and regional agencies to incorporate environmental security considerations into existing procedures for environmental impact assessment, particularly with regard to large-scale infrastructure or policy investments.⁶⁰
- Tailor stakeholder analysis and multi-stakeholder dialogues to guide participatory processes in project design and implementation. These should consider the differential impacts of project interventions on key stakeholder groups and foster opportunities for social learning and adaptive co-management.⁶¹ (See Box 1.)
- Integrate capacity building for disaster preparedness and contingency planning into project investments where this offers opportunities to mitigate environmental damage, e.g. exploitation of biodiversity hotspots or release of chemical pollution, and to build more resilient livelihoods and reduce conflict risk.⁶²

d) Contribute to conflict prevention through environmental cooperation

In all projects where conflict risk is salient (even if not immediate), there are opportunities for the GEF to contribute actively to conflict prevention, not only by mitigating the vulnerabilities affecting particular stakeholder groups but also by strengthening institutions of environmental cooperation and equitable resource governance.⁶³ The GEF has long been active in this domain, particularly in international waters, addressing the shared interests of many states in both freshwater and marine resources.⁶⁴ Similar opportunities exist in areas such as international safeguards addressing chemicals and waste, land restoration and biodiversity protection and in multi-focal area projects and programs addressing food and livelihood security in marginal landscapes. Ultimately, projects where groups can come together to address a shared environmental threat offer opportunities for dialogue and confidence building that can reduce the risk of destructive social conflict (including the risk of violence) and potentially benefit other areas of cooperation. For example, this type of cooperation is central to “peace parks,” transboundary protected areas designed to support both conservation and conflict prevention. It is also emerging as a core element of multi-focal area projects addressing food security through improved land and water governance in conflict-sensitive environments.

Effective support requires understanding the regional political and economic drivers that influence competition and cooperation and leveraging this understanding in the design and strengthening of regional institutions.⁶⁵ Similar principles may be applied to sub-national interventions in fragile states or potential conflict hotspots, with a focus on areas where the protection or restoration of global environmental benefits may also contribute to strengthened governance or adaptive capacity among populations at risk.⁶⁶ GEF investments in areas such as climate adaptation have seen increased emphasis on capacity building.⁶⁷

In the short term, the GEF could improve the collection, sharing, analysis, and visualization of environmental security data generated by GEF projects to identify priorities for more systemic risk monitoring. This could include opportunities for enhanced sharing of environmental security data between neighboring countries. This type of information could potentially be incorporated into the revised Project Management Information System (PMIS) to share data across the GEF Partnership.

In addition, there may be scope for GEF investment to address, through the work of GEF agencies or external partners, gaps in existing systems of monitoring and foresight assessment, such as “environmental security hotspots” specifically assessing the links between environmental resource trends and conflict risk at global and regional scales.

Over the long term, investing in the capacity to monitor resource trends, to increase transparency and access to environmental information, along with measures to enable proactive stakeholder engagement in assessing risks and developing shared action plans, can build patterns of cooperation that may prove critical when crises emerge. Where investments are planned in a post-conflict setting, they may be explicitly designed to contribute to peacebuilding, leveraging the expertise of agencies with specialized capabilities in this domain.

Box 1: Addressing environmental security within the Resilience, Adaptation Pathways and Transformation Assessment (RAPTA) framework

The RAPTA framework applies resilience thinking for sustainability goals amidst a “context of uncertainty, plural values, and conflicting interests.” Its suitability as a foundation for incorporating environmental security concerns stems from the approach to structuring analysis as well as the process of engagement. Regarding the analysis, key elements include:

Theory of change. This considers the drivers of change and intended outcomes, which may include variables that increase or mitigate conflict risk. Demands consideration of the need for incremental adaptation versus transformational change.

System description. This recognizes "multiple conflicting perspectives," with an expectation to "identify conflict resolution processes and assess levels of public trust in the governance system, its openness to criticism and the ability to change laws if circumstances require it."

System assessment. This includes identification of risks, thresholds, and controlling variables, and can integrate conflict risk assessment; intended to be regularly revisited and revised.

Options and pathways. These pursue the desired change, recognizing that transformational change is "likely to generate conflict," that there may be conflicts between interventions, and that each will require adaptation in implementation.

Regarding process, the framework emphasizes the role of multi-stakeholder engagement and governance throughout the stages of project identification, design, implementation, evaluation and learning. Key elements include:

Stakeholder analysis focused on entry points for change. This asks: Who are relevant stakeholders? What are the potential barriers and opportunities for engagement (including gender power dynamics)? How should each be engaged?

Project governance arrangements linked to the broader governance context. This recognizes that "the greater the level of change to the social-ecological system, the more attention must be paid to issues of power, decision-making and accountability."

Attention to adaptive learning and ethics. This asks: How has the project team made the RAPTA process transparent and conducive to learning? What mechanisms enable flexibility to deal with uncertainty, and alternative ideas? What measures ensure ethical engagement?

Consideration of the requirements for dialogue. This includes the role and skill level of facilitator and the potential need for specialized skills in conflict management, particularly where transformational change entails disrupting existing relationships.

Focus on capacity for learning. This integrates monitoring, assessment and knowledge management into processes of stakeholder engagement, with the intention of fostering self-assessment, awareness, and capacity for implementation, including capacity to mobilize collective action in support of project goals.

See: O’Connell et al. 2016. Designing projects in a rapidly changing world: Guidelines for embedding resilience, adaptation and transformation into sustainable development projects. GEF: Washington, DC.

<http://www.stagef.org/rapta-guidelines>

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