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Tim Kovach & Ken Conca

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ENVIRONMENTAL PRIORITIES IN POST-CONFLICT RECOVERY: EFFICACY OF THE NEEDS-ASSESSMENT PROCESS

TIM KOVACH AND KEN CONCA

Abstract

Donors have converged upon an increasingly institutionalised process of promoting post-conflict recovery. The hallmarks of this process are a Post-Conflict Needs Assessment (PCNA), a Poverty Reduction Strategy Paper (PRSP), and a UN Development Assistance Framework (UNDAF). This paper examines the ability of this multi-stage process to address environmental issues. While research demonstrates that environmental governance and natural resource management are key challenges facing war-torn societies, they are often subordinated to other agendas or disappear from consideration entirely. We analyse PCNAs, PRSPs, and UNDAFs for seven cases (Afghanistan, Georgia, Haiti, Iraq, Liberia, Somalia, and Sudan) and compare them to baseline environmental assessments. We ask which types of environmental and natural resource issues garner the most attention and test whether the PCNA–PRSP–UNDAF chain sustains a consistent focus. We find that topics related to infrastructure and environmental governance are most likely to be flagged in PCNAs. In contrast, 'environmental services' and mining-related issues are far less likely to be identified. These oversights are problematic given the importance of good natural resource management for reconciliation and recovery, the centrality of environmental services to the livelihoods of poor people, and the role of the mining sector in fostering conflict.

Keywords: conflict, post-conflict, environment, environmental policy, recovery, development assistance, needs assessment, impact assessment

Introduction: Environmental Challenges in War-torn Societies

Conditions for addressing the multiple challenges of post-conflict societies are rarely ideal, given the destruction, displacement, mistrust, and breakdown of institutions that accompany violent conflict and cast a shadow over its aftermath. The stakes are high because ceasefires and peace agreements often fail, leading to a high rate of conflict recidivism (Walter 2015). Environmental governance and natural resource management are key elements of post-conflict recovery, for several reasons. Natural resources are often implicated in conflict, either as a cause of tensions or as a revenue stream that enables or incentivises continued fighting (Le Billon 2001). Moreover, civil conflicts since 1945 involving natural resources have been considerably more likely to relapse (Rustad & Binningsbø 2012). Thus, (re)establishing the rule of law and fair, orderly processes for resource access and extraction can be crucial to sustaining peace.

Even when resources are not central to the violence problem, many people's livelihoods are tied directly to them, meaning that good practices can be a boon to recovery while

bad practices may generate significant tensions (Conca & Wallace 2009). The disruption of settled agriculture during wartime typically leads to enhanced extractive pressures on the resource base, which may also be a source of contention. Even if such perils can be avoided, recovery efforts that ignore environmental constraints — by damaging critical ecosystem services; overtaxing forests, fisheries and other renewable resources; or failing to assess environmental impacts in reconstruction and resettlement — are unlikely to endure or produce desired results. Housing built hastily on floodplains will not survive the next major flood, and wells tapping contaminated water supplies may create more problems than they solve (Conca & Van Breda 2016). Accordingly, decisions on environmental management and natural resource governance can significantly affect the prospects for peace and recovery.

To be effective, much of the difficult work of reconciliation and recovery must be performed by the people and institutions in post-conflict societies. Still, donor assistance can be a key variable. Well-timed aid can be crucial for reconstruction, economic recovery, and social cohesion (Collier & Hoeffler 2004; Fearon et al. 2009). International support may give legitimacy to peace agreements or send important signals to investors (Garriga & Phillips 2014). Partnerships with external actors may be useful for policy reform, implementation, monitoring and assessment. In contrast, aid that is poorly timed, poorly coordinated, or creates the wrong incentives may be irrelevant, or worse.

To enhance effectiveness and leverage international assistance, donors in the past decade have built an increasingly institutionalised process of identifying needs and coordinating efforts. The hallmarks of this process are threefold. First, the Post-Conflict Needs Assessment (PCNA) seeks to provide a snapshot of the most urgent needs for recovery and a set of priority actions tied to those needs. Second, development of an economic recovery strategy, often taking advantage of the Poverty Reduction Strategy Papers (PRSPs) that the International Monetary Fund (IMF) prepares with borrowers, charts an economic course for recovery and creates commitments by both the host government and international financial institutions. Third, a UN Development Assistance Fund (UNDAF) is often used to pool and coordinate donor commitments, as well as to iron out an understanding with the host government as to what aid will be forthcoming and under what conditions. These three tools are not always used in a standardised order or coordinated manner. In some of the cases we discuss below, a UNDAF was not put into motion until several years after a PCNA was conducted, and PRSPs sometimes followed rather than preceded the UNDAF process. In other cases, either a PRSP or UNDAF is missing entirely. Nevertheless, the use of these tools reflects the move toward a more standardised approach by the donor community to needs assessment and planning in post-conflict recovery.

This paper examines the environmental dimension of this increasingly institutionalised process of needs assessment and recovery planning. Our goal is to examine — across country cases and over time within those cases — the donor community's track record in identifying environmental needs, in voicing priorities from among those needs, and in sustaining a consistent environmental message across the stages of this process. To do this, we examine the environmental content of donor assessments across seven cases for which we have adequate documentation. We compare the environmental content at each of the three stages to baseline environmental information (most often compiled by the UN Environment Programme, UNEP).

We find that there is significant variation in the extent to which environmental issues flagged in baseline assessments are captured at each of the recovery-planning stages.

Although results vary across the cases, in general we find much stronger visibility for two particular types of environmental concerns: governance and infrastructure. We observe a much weaker focus on environmental services (e.g., ecosystem health, fisheries, coastal zone issues, and biodiversity) — despite their importance to the livelihoods of a significant portion of the population in each case. Similarly, we note a dearth of attention to mining-related issues, in spite of their combustibility as a conflict-triggering or conflict-sustaining factor. These findings raise important questions and concerns about the ability of the recovery process to 'see' environmental issues that may be directly linked to social conflict, community resilience, or sustainable livelihoods.

> There is significant variation in the extent to which environmental issues flagged in baseline assessments are captured at each of the recovery-planning stages.

The paper begins with a brief overview of the institutionalisation of the post-conflict needs-assessment and recovery-planning process, as well as environmental considerations and controversies therein. We then examine a series of cases that have deployed the tools of PCNA, PRSP and UNDAF. This analysis is structured as follows: first we examine the extent to which the needs assessments in each case captured key prevailing environmental issues that were identified separately in baseline environmental assessments. We then look at compatibility of content among the needs assessments (PCNAs), economic policy planning (as reflected in PRSPs), and donor assistance commitments (as reflected in UNDAFs), in terms of the environmental issues they flag or omit. Next, we discuss the consequences of these findings for the post-conflict peacebuilding community. Finally, we identify the policy implications of our results and areas for further research.

Post-Conflict Needs Assessment and Donor Coordination for Recovery: Evolution, Challenges and Environmental Considerations

When the main parties to a violent conflict have reached agreement to mollify hostilities, the international community typically views that country as engaged in post-conflict peacebuilding. The United Nations has made a strong institutional commitment to the concept of peacebuilding, defined as 'activities undertaken on the far side of conflict to reassemble the foundations of peace and provide the tools for building on those foundations something that is more than just the absence of war' (United Nations [UN] 2000, 3). The UN Peacebuilding Commission identifies the core tasks of peacebuilding in the early period following conflict as the restoration of law and public order, political transition, economic recovery, the restoration of basic government functionality, and the provisioning of basic services (UN Peacebuilding Support Office [UNPBSO] 2010).

In the real world of conflict, war-torn societies rarely reflect a neat continuum marked by distinct stages of relief, recovery, and development (Maxwell et al. 2010). In practice, 'post-conflict' can be a misnomer: violence, lawlessness and impunity may still be rampant, and conflict recurrence remains a major challenge. Indeed, some of the cases we examine entered the process of assessment and planning for recovery long before they could in any sense be characterised as 'post-conflict'. Consider Afghanistan: parties signed the Bonn Agreement in December 2001, but armed conflict endures nearly 15 years later. Despite such complexity, the effort to standardise the progression from relief to recovery to development continues to mark much of aid programming and staffing. This push emanates from several sources, including organisational needs and prefer-

ences, the perception that aid can be a key peacebuilding tool, and the need for coordination among parties.

Post-Conflict Needs Assessment

The first step in this process has been a more systematic approach to PCNA. In 2002 the UN Development Group (UNDG) and the UN Secretary-General's Executive Committee on Humanitarian Assistance (ECHA) established a joint working group to address a perceived gap between relief efforts and development planning. Among its recommendations, the working group called for 'a system-wide assessment of need' and 'a shared, coherent strategy' among the various UN actors in cases of transitional assistance (UNDG 2004, 7, 35). In 2007, the UNDG 'endorsed the concept and methodology of PCNA and agreed to use it as a primary entry point' for peacebuilding efforts (UNDG 2007, 3). According to UNDG, PCNAs have been undertaken, are ongoing, or are in preparation in 12 countries (UNDG n.d.).

A review of early experience with PCNAs noted several common challenges including 'the absence or limited legitimacy of a national government, low national implementing capacities, ongoing violence and lack of security, limited opportunities for stakeholder consultation, a short time frame for needs assessment, and extremely politicized national and international agendas' (Leonhard & Hahn 2004, 3). With regard to the environmental content of PCNAs, the review flagged, among other problems, the tendency of 'cross-cutting' issues such as gender and the environment to get lost given the heavily sectoral approach used in the process. Environmental protection and natural resource management would often be addressed in general terms, but were rarely given detailed treatment in the thematic 'clusters' making up the bulk of the assessment. This in turn meant less attention for funding or implementation. A 2009 guidance note by UNEP and the World Bank addressing environmental content in PCNAs stressed several themes, including the importance of assessing conflict risks and peacebuilding opportunities related to the environment; the need to evaluate national capabilities; the importance of deploying the technical expertise needed to do assessments properly; and the importance of addressing the environment as a 'cluster', as opposed to simply a cross-cutting issue. The guidance note also stressed the need to incorporate these recommendations early in the PCNA process (UNEP 2009).

Poverty Reduction Strategy Papers

A second step in post-conflict recovery planning has been the use of PRSPs to identify domestic economic policy commitments and international aid requirements. PRSPs are economic planning documents prepared by governments in consultation with the IMF. They identify macroeconomic and development policies and associated financing needs for a targeted planning horizon. PRSPs have been completed for 67 countries since 2000, including more than a dozen embroiled in or emerging from periods of significant violent conflict (IMF 2015). These reports play an important role in signalling both government policies and international institutional commitments to investors (Garriga & Phillips 2014). They are also controversial because they have become an instrument of aid conditionality. Since 2000, the World Bank has required countries to complete a PRSP in order to qualify for development assistance, and they are also needed to be eligible for concessional terms on IMF loans and for debt relief. PRSPs have also been criticised for ignoring political processes in favour of a technocratic approach to economic planning (Dijkstra 2011).

With specific regard to environmental considerations, PRSPs have been the target of frequent criticism (Dalal-Clayton & Sadler 2005, 167). A 2003 review of sub-Saharan African PRSPs found a tendency to examine forestry in a 'rather modest and unsystematic manner', that poverty–forestry linkages were not examined, and that references to forests in PRSPs were typically lost in subsequent progress reports (Oksanen et al. 2003, 123). A 2009 World Bank study found that attention to the environment in PRSPs was improving but highly variable, with weak attention to investments in natural capital and monitoring (Griebenow & Kishore 2009).

UN Development Assistance Frameworks

A third key step in the process is donor coordination. Coordination centres on the creation of a 'development assistance framework', which, in turn, enables the creation of multi-donor trust funds. This stage of post-conflict recovery planning draws upon the UNDAF, which is 'the strategic programme framework that describes the collective response of the UN system to national development priorities' (UNDG 2010, 3). With the establishment of the UN's 'Delivering as One' initiative, the UNDAF has become the central document for each of the eight 'One Programme' pilot countries, and there has been a general move in recent years to link the UNDAF process more systematically to both the Millennium Development Goals (and now the Sustainable Development Goals) and the PRSP process. The international community typically finances implementation of UNDAF recommendations through one or more Multi-Donor Trust Funds (MDTFs), which pool funds from multiple donors and distribute them to support defined international priorities. The UN created the first MDTF in Iraq in 2003, which contributed to the establishment of the United Nations Multi-Partner Trust Fund Office (MPTF Office) in 2006. As of the summer of 2013, the MPTF Office was managing 63 MDTFs, which encompassed $7 billion in contributions from 94 donors (UN et al. 2013).

Environmental sustainability is one of the five 'programming principles' for the UNDAF process. In 2008 the UN's Joint Inspection Unit identified several 'serious difficulties' experienced by UN system organisations in integrating 'environmental platforms' into the UNDAF process (Inomata 2008, 16–17). These included a tendency to reflect donor priorities, limited attention to compliance with multilateral environmental agreements, and a failure to incorporate 'non-resident organisations' such as UNEP, International Atomic Energy Agency (IEA), International Maritime Organization (IMO), the World Meteorological Organization (WMO), and the various environmental treaty secretariats. A 2009 UNDG guidance note offered staff preparing UNDAFs a 'plan of engagement' for 'mainstreaming' environmental sustainability considerations, including 15 entry points across the UNDAF preparation process (UNDG 2009).

Methodology

To answer our questions about the ability of the PCNA–PRSP–UNDAF policy chain to identify key environmental issues and sustain a consistent focus on them, we use a quantified and comparative case study approach. We undertake two forms of comparison — across different country cases emerging from violent conflict, and within-case comparison that moves down the policy chain for a single country, from PCNA to PRSP to UNDAF. To select cases for analysis, we consulted the Uppsala Conflict Data Program (UCDP), which identifies 33 countries that experienced at

Table 1: Availability of Assessment Studies and Planning Documents, by Country

Country	Baseline Environmental Assessment	Joint Needs Assessment (PCNA)	Poverty Reduction Strategy Paper (PRSP)	UN Development Assistance Framework (UNDAF)	Note
Afghanistan	Jan 2003	Jan 2002	May 2008	Oct 2009	
Georgia	Dec 2011*	Oct 2008	Aug 2003	June 2010	PRSP pre-dates PCNA
Haiti	April 2010**	July 2004	March 2008	Feb 2011	
Iraq	April 2003 Dec 2007	Oct 2003		May 2010	No PRSP
Liberia	Feb 2004	Feb 2004	July 2008	May 2007	UNDAF pre-dates PRSP
Somalia	Dec 2005	Jan 2008		Jan 2011	No PRSP
Sudan	June 2007	Mar 2005	Jan 2004	May 2012	PRSP pre-dates PCNA

*State of the Environment report used in the absence of a UNEP assessment.
**State of the Environment report used to complement UNEP assessment.
Source: Compiled by authors.

least one year of armed conflict since 1990. Of these, we culled 14 countries for which we had a post-conflict or post-disaster environmental assessment report to use as a 'baseline' assessment of environmental conditions (discussed below).[1] Of these 14, we use seven as cases here (Afghanistan, Georgia, Haiti, Iraq, Liberia, Somalia, and Sudan), because each has also completed a PCNA. Each also has an UNDAF, and five of the seven have PRSPs.

Table 1 summarises the documents we use for the seven cases. Note that just two of the seven cases, Afghanistan and Haiti, follow the preferred sequence, from PCNA to PRSP to UNDAF.[2] Thus, our analysis examines the congruence between the reports in each case, but does not assume that a particular sequential logic links them.

Assessing the environmental content of these reports requires having a baseline of environmental conditions against which they can be compared. Accordingly, we reviewed post-conflict or post-disaster environmental assessments performed by UNEP. The agency has conducted 26 such assessments since the early 1990s. These reports are not always comprehensive studies of environmental conditions following conflict; they are done in varying degrees of detail, often under less-than-ideal conditions, and sometimes must tread carefully around sensitive political issues (Conca & Wallace 2009). It is also possible that they may have had some impact on how a subsequent PCNA, PRSP or UNDAF was performed. However, UNEP is not involved with PRSPs, and has played a limited role in the UNDAF process.[3] And while UNEP has grown more involved in the PCNA process over time, the PCNAs we examine predate this period. None of the PCNAs in our seven cases cite or refer to the UNEP post-conflict environmental assessments we use, and only two (Iraq and Afghanistan) reference any form of input from UNEP staff. Indeed, in a majority of our cases, the environmental assessment was completed around the same time or even after the studies we assess. Thus, we consider the UNEP assessments to be both the best available source and a reasonable approximation of an independent baseline to capture environmental conditions at the moment of interest.

Table 2: Categorisation of Post-Conflict Environmental and Natural Resource Issues

Issue category	Examples
Water & sanitation	Access to clean water; water quality; water infrastructure
Pollution control & solid waste management	Solid waste management; unregulated dumping; state of pollution control systems and processes
Energy & electricity	Electricity generating capacity; use of biomass fuels; state of energy distribution infrastructure
Forests	Loss of forest cover; illegal logging; impacts on soil and water
Biodiversity & conservation	Loss of habitat; poaching; excessive harvesting; extent and status of protected areas
Land, land use, agriculture & livestock	Land tenure; land use changes; agricultural productivity declines; state of pastureland; soil erosion and soil management practices; irrigation systems
Mining	Artisanal mining practices; pollution issues
Ecosystem health	Status of key ecosystems; environmental services; conversion processes
Fisheries and coastal zones	Wetlands, mangroves; illegal fishing; state of fisheries; coastal pollution
Urban	Air quality; housing; environmental public health
Displaced people	Impacts of displacement and return
Legacy of violent conflict	Land mines, unexploded ordnance; targeting of resources/environment
Governance & institutions	Environmental monitoring, enforcement; capacity; legal & governance frameworks

Source: Compiled by authors.

In reviewing the UNEP assessments, we categorised the priority concerns they identified into 13 categories (Table 2). In coding, we allowed for specific issues in specific cases to tally in multiple categories, reflecting the interdependency among different types of environmental issues. Thus, problems related to water pollution could be flagged in both the 'water & sanitation' and 'pollution control & solid waste management' categories; deforestation triggering loss of habitat could be logged in both 'forests' and 'biodiversity & conservation'.

To generate data, we deployed two independent readers for each PCNA, PRSP and UNDAF document, training them to tag and code each reference to an environmental or natural resource issue. We then reviewed these tagged passages to separate significant and substantive identifications of an issue from superficial references. The latter include very brief and/or highly general statements such as a passing reference to a country's 'endowment with natural resources' (in Sudan's 2004 PRSP), or the claim that 'water use efficiency and quality could also improve' (in Iraq's 2003 PCNA). With this coded data in hand, we are able to address two sets of questions. The first set involves congruence: which of the environmental problems identified by UNEP were also identified in that country's PCNA? Are there particular types of issues that are more or less likely to be captured in the PCNA? What is the range of success among the PCNAs — do some country cases do a better job of capturing the priority issues?

Our second set of questions examines whether issues captured in a PCNA also turn up in PRSPs and UNDAFs. Which issues or types of issues manage to 'stay the course' across this chain of policy tools, and which fall out in economic policy planning (PRSP) or donor aid strategising (UNDAF)? For example, do issues of economic priority such as forests and mining retain more attention than, say, 'ecosystem' issues such as sanitation or the health of local fisheries, which may have lesser market impact but greater impact on local livelihoods? We also test whether subsequent stages capture issues that were missed by the PCNA.

We do not utilise a strict quantitative methodology based on the number of times a specific issue is mentioned because instances of mentioning are not always 'like units'. A single detailed reference to an issue may be far more significant than half-a-dozen allusions in passing.[4] Given such discrepancies, we find the quantitative data useful primarily to gauge the broad pattern of what gains attention and what does not; an interpretive reading of a specific issue, based on the substantive content of the full set of coded statements, proves more useful in illustrating the patterns found. We report our results accordingly: first, we examine our questions using the data on the presence or absence of coded issues in the reports.

The Cases

Table 3 presents summary armed-conflict data for our seven cases. Each has had at least one episode of violent conflict involving the state in a significant incompatibility with either another state or a domestic contender. Five of the seven have had multiple such conflicts, and all except Haiti reached an intensity level of 'war' (defined by UCDP as at least 1,000 battle deaths in a calendar year) during at least one conflict. All seven have also experienced episodes of non-state conflict and one-sided violence.[5] Thus, despite important differences, each of our seven cases has experienced at least a decade of significant violent conflict since the end of the Cold War. Four (Afghanistan, Iraq, Sudan, and Somalia) are locked into near-continuous violence that continues to the present day, even as specific conflict episodes may come to be resolved.

Obviously, given the different types and intensities of violence, as well as the very different social and natural landscapes in which it has occurred, the environmental impacts of these conflicts have varied substantially in type, extent, and severity. Nonetheless, prior studies have identified several recurring themes about both the direct and indirect impacts of war on the environment. Conca and Wallace (2009) identified five recurring categories of impact, including the effects of human displacement; toxic hazards; the conflict–deforestation link; landmines and unexploded ordnance (UXO); and a cluster of problems around water supplies, sanitation, waste disposal, and public health. They also identified a series of indirect pathways to impact, including the compounding of pre-existing environmental problems, the impact on environmental governance and institutions, and the ways that conflict can enable or necessitate unsustainable behaviour.

These patterns are seen in the cases analysed here. In four of the seven, conflict left a major legacy of landmines and UXO throughout the country, significantly hampering recovery and reconstruction. Each of the conflicts also contributed indirectly to a host of environmental problems, with effects that in many instances exceeded the direct toll of the fighting. For example, poor environmental governance, both purposeful

Table 3: Conflict Summaries

	War and minor conflict			Non-state conflict			One-sided violence		
	No. of conflicts	Dates of at least one active conflict	'Best estimate' of total conflict deaths	No. of conflicts	Dates of at least one active conflict	'Best estimate' of total conflict deaths	No. of conflicts	Dates of at least one active conflict	'Best estimate' of total conflict deaths
Afghanistan	2	1974–	170,384	15	1989–1992; 1994–1997; 2002–2004; 2006; 2010–2011	1,685	3	1997–2001; 2004–	7,729
Georgia	3	1991–2008	3,272	2	1997–1998	64	1	1993–1995	128
Haiti	1	1989–2004	492	1	1991	40	1	1991–2005	252
Iraq	5	1946–1961; 1959–1988; 1990–1991; 2003	80,253	9	1992–1997; 2000; 2003–2004; 2007; 2014	6,882	6	1990–1996; 1999; 2004–	13,598
Liberia	1	1980–2003	3,825	5	1990–1992; 1994–1996	2,962	7	1990–2003	16,311
Somalia	2	1960–1964; 1981–1982	28,473	58	1990; 1992–2006; 2008–2012	10,714	4	1989–2012	1,600
Sudan	3	1971–	52,665	45	1990–1999; 2001–	18,528	7	1989–	18,006

Note: In estimating conflict deaths, Uppsala provides figures for a lower bound, higher bound, and 'best estimate'.
Source: Uppsala Conflict Data Program: http://ucdp.uu.se/.

and unintentional, decimated wide swathes of Liberia's forests. Under President Charles Taylor, the Forest Development Authority encouraged rampant logging to finance military endeavours in Liberia and neighbouring Sierra Leone. Lack of human, financial, and logistical resources made it impossible to secure the country's protected areas from harm caused by those displaced by violence or exploiting the institutional vacuum, leaving many areas subject to illegal logging and mining (UNEP 2004).

Environment in the Recovery-Planning Process: Content of PCNAs

Tables 4 and 5 present summary data from our content analysis of the PCNAs, by issue area and country case. A large proportion of environmental concerns flagged in the environmental assessments did not register in the PCNAs. Slightly less than half (46%) of the 296 case-specific environmental observations across the seven country cases from the UNEP reports appear. As Table 4 indicates, there is significant variability in which types of issues make it into the PCNAs. PCNAs in these cases are best at capturing

Table 4: Environmental Issues Captured in the PCNAs, by Issue Area

	Flagged	Omitted	% flagged
TOTAL across 7 cases	**133**	**163**	**45**
Energy & electricity	12	18	67
Water & sanitation	17	26	65
Displaced people	8	13	62
Pollution control & solid waste	11	18	61
Governance & institutions	19	32	59
Legacy of violent conflict	7	12	58
Forests	11	20	55
Urban	9	17	53
Land & agriculture	21	44	48
Ecosystem health	7	21	33
Biodiversity & conservation	6	34	18
Mining	2	14	14
Fisheries & coastal zones	3	21	14

Table 5: Environmental Issues Captured in the PCNAs, by Country Case

	Afghanistan	Georgia	Haiti	Iraq	Liberia	Somalia	Sudan
N	39	38	46	39	40	38	50
Flagged	23	10	22	13	28	22	15
Omitted	16	28	24	26	12	16	35
% flagged	59.0%	26.3%	47.8%	33.3%	70.0%	57.9%	30.0%
Environmental assessment predates PCNA?	no	no	no	yes	no	yes	no

infrastructure issues (water, energy, and solid waste), the challenges of displaced people, and governance issues. They are also relatively good at capturing forestry issues, which played a central role in several of the conflicts examined, and urban issues.

In contrast, the PCNAs were much less effective in capturing two classes of issues. The first can be thought of as environmental services (including ecosystem health, fisheries, coastal zones, biodiversity and conservation). The second is mining-related issues. As discussed below, these are significant omissions given the tight coupling of both sets of issues with livelihoods, community resilience, distributive conflicts around natural resources, and the role of extractive activities as a financing mechanism in several of the conflicts.

Table 5 presents data disaggregated by country case; again, we find significant variability, even allowing that it may be appropriate to leave lesser priorities out of a PCNA. Three PCNAs (Liberia, Afghanistan, and Somalia) captured more than half of the UNEP-flagged issues; three others (Iraq, Georgia, and Sudan) caught one-third or less. We also note no clear trend of improvement over time (with the large caveat that all seven reports were performed within eight years). The two highest-scoring assessments are among the three oldest. We also note that two of the three highest-scoring are in instances where lingering violence might have precluded comprehensive assessment.

Environment in the Recovery-Planning Process: Content of PRSPs and UNDAFs

One important policy question is the ability of the recovery process to sustain a focus on key environmental issues as it moves from needs assessment to economic planning and donor commitments. For five of our cases we can compare PCNA content to a PRSP (the IMF has not produced a PRSP for Iraq or Somalia); UNDAFs are available for all seven.

Turning first to the PRSPs, Table 6 presents results by country. We note four logical possibilities: an issue flagged in our environmental baseline may be captured by both PCNA and PRSP, by PCNA but not PRSP, by PRSP but not PCNA, or may be omitted from both reports. Again, we see significant variability, with the environmental coverage matching up relatively well in three of the five cases (Liberia, Afghanistan, Haiti); in the other two (Georgia and Sudan), the PCNAs and PRSPs capture in common less than 20% of baseline-flagged environmental issues.

Table 6: Comparison of Environmental Issues Captured in PCNA and PRSP, by Country Case

	Afghanistan	Georgia	Haiti	Liberia	Sudan
N	39	38	46	40	50
% in both PCNA and PRSP	51.3	18.4	45.7	60.0	18.0
% in PRSP only	12.8	26.3	26.1	10.0	14.0
% in PCNA only	7.7	7.9	2.2	10.0	12.0
% omitted by both	28.2	47.4	26.1	20.0	56.0

Table 7: Comparison of Environmental Issues Captured in PCNA and PRSP, by Issue Area

	N	% in both reports	% PCNA only	% PRSP only	% both omitted
Total across five cases	213	38.0	08.0	17.8	36.2
Energy & electricity	14	64.3	00.0	14.3	21.4
Governance & institutions	24	62.5	04.2	16.7	16.7
Urban	12	58.3	00.0	08.3	33.3
Water & sanitation	18	50.0	5.6	22.2	22.2
Pollution control & solid waste	12	50.0	8.3	16.7	25.0
Land & agriculture	29	41.4	10.3	31.0	17.2
Displaced people	10	40.0	20.0	00.0	40.0
Forests	16	37.5	18.8	31.3	12.5
Ecosystem health	16	31.3	00.0	18.8	50.0
Biodiversity & conservation	26	19.2	03.8	07.7	69.2
Mining	13	15.4	00.0	00.0	84.6
Legacy of violent conflict	7	14.3	42.9	00.0	42.9
Fisheries & coastal zones	16	00.0	12.5	37.5	50.0

If there is a systematic bias in what the process can see, however, it will be found in contrasting how well different issue areas turn up across the full set of cases. Table 7 indicates significant variation across issue areas. As with PCNAs, we find relative under-reporting of both environmental services and mining-related issues in PRSPs, in contrast with relatively good coverage on infrastructure and governance. We also note some evidence of an urban bias, in the sense that urban issues were among the most likely to be seen and named by both reports.

We find relative under-reporting of both environmental services and mining-related issues in PRSPs, in contrast with relatively good coverage on infrastructure and governance.

Unpacking these differences, a key policy question becomes whether the separate assessment processes see different environmental challenges. Here, a striking pattern is the tendency of the PRSPs to capture more than the PCNAs. In contrast to our original suspicions, we see that for 11 of our 13 issue categories, the PRSP captured more that was missed by the PCNA than vice versa. This suggests the importance of using these tools in concert, rather than thinking of them as a stepwise chain of action.

Figure 1 presents a graphical representation that makes it possible to see patterns of emphasis across sub-clusters of issue areas. The X-axis measures the fit between the PCNA and PRSP for each issue area, while the Y-axis measures the fit between the PRSP and the original environmental baseline assessment we used. An issue area that had high

Figure 1: PRSP Fit with PCNA and with Environmental Baseline Assessments, by Issue Area.
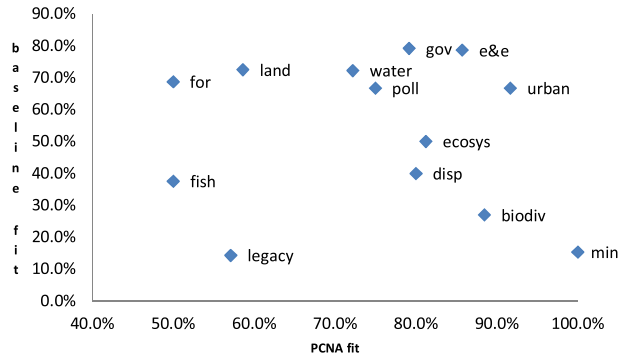
Note: Baseline fit = percentage of issues in baseline assessment that are also captured by the PRSP.
Source: Compiled from data in Table 7.

congruence between PRSP and PCNA and which also tracked closely the initial assessment will plot toward the upper-right, scoring well on both axes. This data representation allows us to see four distinct clusters among the issue areas:

- Upper-right quadrant: Areas where both reports do a reasonably good job of reflecting the environmental baseline issues. These include infrastructural sectors (water, electricity, pollution control), urban issues, and governance.

- Upper-left quadrant: Areas where the PRSP does better than the PCNA in reflecting the environmental baseline. These include forestry and land/agricultural issues.

- Lower-left quadrant: Areas where the PCNA corresponds more closely to baseline environmental assessment than does the PRSP. These including legacy-of-conflict and coastal/fisheries issues.

- Lower-right quadrant: Areas where both reports omit a significant proportion of the baseline-flagged environmental issues. These include mining, ecosystems, biodiversity, and displaced people.Figure 1: PRSP Fit with PCNA and with Environmental Baseline Assessments, by Issue Area.Note: Baseline fit = percentage of issues in baseline assessment that are also captured by the PRSP.

The implications of such clustering are that, for some issue areas, using PCNA and PRSP in tandem prevents some challenges from slipping through the cracks of recovery policy — but that there is also a systematic tendency to miss other key issue areas in both reports.

Turning from economic policy and the PRSP to donor commitments and the UNDAF (Tables 8 and 9 and Figure 2), we find strikingly little overlap between a PCNA and its corresponding UNDAF. Some of this may be because the UNDAF is typically shorter and more general (with the UNDAF reform process pushing them further in this direction).

**Table 8: Comparison of Environmental Issues Captured in PCNA and UNDAF, by Country Case**

	Afghanistan	Georgia	Haiti	Iraq	Liberia	Somalia	Sudan
N	39	38	46	39	40	38	50
% in both PCNA and UNDAF	12.8	7.9	21.7	7.6	20.0	0.0	0.0
% in UNDAF only	2.6	0.0	4.3	17.9	0.0	10.5	6.0
% in PCNA only	46.2	18.4	26.1	15.4	50.0	57.9	30.0
% omitted from both	38.5	73.7	47.8	59.0	30.0	31.6	64.0

Table 9: Comparison of Environmental Issues Captured in PCNA and UNDAF, by Issue Area

		Percentage of observations that UNEP made in a given issue area that are also found in …			
	N	… both the PCNA and the UNDAF	… the PCNA only	… the UN-DAF only	… neither PCNA nor UNDAF
Governance & institutions	32	37.5	21.9	9.4	31.3
Ecosystem health	21	14.3	9.5	23.8	52.4
Urban	17	11.8	41.2	0.0	47.1
Water & sanitation	26	11.5	53.8	3.8	30.8
Land & agriculture	44	9.1	38.6	4.5	47.7
Legacy of violent conflict	12	8.3	33.3	16.7	41.7
Displaced people	13	7.7	53.8	7.7	30.8
Pollution control & solid waste	18	5.6	55.6	0.0	38.9
Forests	20	5.0	50.0	5.0	40.0
Biodiversity & conservation	34	2.9	14.7	0.0	82.4
Energy & electricity	18	0.0	66.7	0.0	33.3
Mining	14	0.0	14.3	7.1	78.6
Fisheries & coastal zones	21	0.0	14.3	4.8	81.0

However, the shared tendency of the PCNAs and PRSPs to emphasise infrastructure and governance while de-emphasising environmental services and mining is not found when comparing PCNAs to UNDAFs. Only for the governance and institutions category did both documents identify more than 20% of issues in the baseline assessments (Table 9). In four categories — mining and the three 'environmental service' areas of

Figure 2: UNDAF Fit with PCNA and with Environmental Baseline Assessments, by Issue Area.
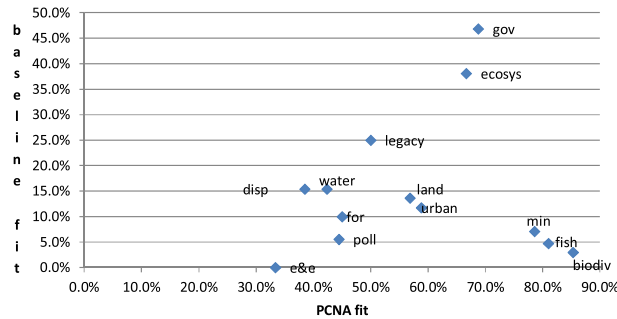
Note: Baseline fit = percentage of issues in baseline assessment that are also captured by the UNDAF. Source: Compiled from data in Table 7.

fisheries/coastal zones, biodiversity/conservation, and ecosystem health — more than half of the issues flagged in the baseline environmental assessments were omitted from both reports. Moreover, unlike the PRSPs, the UNDAFs are not 'recapturing' issues that were omitted from the corresponding PCNA: in 12 of our 13 issue clusters (all but ecosystem health), the PCNA had a closer match to the environmental baseline assessment than did the UNDAF. Figure 2 utilises the same 'quadrants' logic as Figure 1 to compare how PCNAs and UNDAFs reflect the environmental baseline issues. Unlike Figure 1 for PRSPs, there is no upper-left or upper-right quadrant here, as no issue area had a greater than 50% fit between UNDAF and environmental baseline. Again, we note that mining and some ecosystem issues cluster toward the lower-right quadrant, indicating weak capture in both PCNA and UNDAF.

Environment in the Recovery-Planning Process: Continuity across All Stages

Given the disjointed time sequence in several cases, it makes little sense to treat the PCNA–PRSP–UNDAF process as an idealised sequence of steps. Nonetheless, it is useful to examine the performance of this reporting chain, since this is clearly the direction in which the standardisation of post-conflict recovery policy is moving. Thus, it is useful to ask which issue areas are more or less visible across the entire chain. To assess this, we used a simple scoring technique, based on the number of times each country-specific, issue-specific observation was captured in each of the three reporting stages. For example, in the Liberian case, there were six specific issues flagged in the UNEP baseline assessment that fit our category of land, land use, agriculture, and livestock. Of these, one was captured in all three reports, three others were captured in two reports, one was captured in only one report, and one was omitted across all three reports. The maximum possible score in this instance would be (6 observations) × (3 reports) = 18, and the actual score would be $(1 × 3) + (3 × 2) + (1 × 1) + (1 × 0) = 10$. Applying this rubric to each issue in each country case, and then aggregating all observations by issue area, yields the results in Table 10. Governance/institutions, urban issues, and infrastructural issues (water/sanitation, energy/electricity, and pollution control/solid waste) had the strongest presence across the reporting chain, along with a few issues of natural resource management (forests and land issues). In contrast, the 'environmental service' categories, along with mining-related issues, had much lower visibility.

Table 10: Environmental Performance of the Reporting Chain, by Issue Area

	Number of possible observations per report*	Score**	Maximum possible score	Score as % of maximum
Governance & institutions	24	46	72	64%
Water & sanitation	18	27	54	50%
Energy & electricity	14	20	42	48%
Forests	16	22	48	46%
Land & agriculture	29	40	87	46%
Pollution control & solid waste	12	16	36	44%
Urban	12	16	36	44%
Displaced people	10	12	30	40%
Ecosystem health	16	17	48	35%
Legacy of violent conflict	7	6	21	29%
Biodiversity & conservation	26	14	78	18%
Fisheries & coastal zones	16	8	48	17%
Mining	13	4	39	10%

*Excludes those cases lacking a PRSP (Iraq, Somalia).
**Each specific observation in an issue are was scored as follows: 3 points if all three reports (PCNA, PRSP and UNDAF) for that country case flagged the issue; 2 points if any two reports flagged the issue; one point if only one report flagged; and zero if omitted from all three reports.

Table 11: Environmental Performance of the Report Chain, by Country Case

	Afghanistan	Georgia	Haiti	Liberia	Sudan
N	39	38	46	40	50
% captured by all 3	12.8	7.9	19.6	20.0	0.0
% captured by any 2	41.0	10.5	30.4	40.0	20.0
% captured by 1 only	17.9	34.2	26.1	20.0	26.0
% omitted by all 3	28.2	47.4	23.9	20.0	54.0

It is also possible to examine the performance of the reporting chain by country case. As seen in Table 11, there was significant variability. In Afghanistan, Haiti, and Liberia, half or more of all possible observations were captured in two or more reports, whereas in Georgia and Sudan, 80% or more were either captured by a single report or omitted entirely.

Discussion

The preceding analysis yields four key observations with important policy implications. First, our analysis reveals selective attention to the environmental challenges facing war-torn societies as they emerge from periods of conflict. In particular, infrastructure issues, such as water, sanitation and hygiene (WASH) and electricity systems, and environmental governance concerns registered far more often than questions about environmental services or mining-related effects. For example, UNEP's assessment of Afghanistan's post-conflict environment devoted considerable attention to the combined impacts of a prolonged drought and conflict on the Sistan basin along the country's border with Iran (UNEP 2003, 140). None of the three post-conflict documents we examined for Afghanistan flags these issues or needs, even though they emphasised the importance of rebuilding irrigation infrastructure and developing hydropower resources.

> Our analysis reveals selective attention to the environmental challenges facing war-torn societies as they emerge from periods of conflict.

The under-emphasis of environmental services may reflect the relative visibility of different types of issues, urban bias, or the use of a shorter time horizon of concern. Understandably, national governments and donor organisations prioritise tangible, humanitarian concerns — saving lives and restoring vital services — over less tangible concerns such as soil productivity. But visibility does not equate with importance for sustainable livelihoods. Renewable resource systems are tightly coupled with most people's survival strategies in the wake of conflict, particularly in rural areas that may already be under-emphasised in needs assessments. Our findings raise serious concerns about the relative invisibility of this family of environmental concerns to the needs-assessment process.

Less clear is the reason for the relative absence of mining-related effects in the documents we analysed. In several cases — particularly Iraq, Liberia, and Sudan — the international community has recognised that extractive sectors were intricately connected to the violence. Sudan provides a stark example of this failure. In its post-conflict environmental assessment, UNEP documented the links between the oil industry and Sudan's political and environmental challenges. The agency identified reducing the environmental impact of the oil industry as one of three key areas where the environment could support peacebuilding and conflict resolution. It also determined that the industry's environmental impacts would grow with increased production, creating the 'potential to catalyze conflict in the future' (UNEP 2007, 78). Noting 'chronic serious environmental problems', UNEP warned that the environmental toll of the industry could undermine support for the government and drive tensions at the local level (UNEP 2007, 146). These concerns are not captured in the PCNA, PRSP or UNDAF. Moreover, the step that most consistently addressed mining-related issues, the PRSP, does so largely from the narrow perspective of restarting the mining sector to generate export income and tax revenues. Afghanistan's PRSP, for example, frequently notes the benefits of mining, with little if any attention to potential consequences of corruption, deforestation, soil and water pollution, and ecosystem disruption (Global Witness 2012). Taken together, the emphasis on infrastructure and governance, combined with de-emphasis on ecosystems and the effects of mining, construct urban areas as zones of environmental management and service restoration while rural areas are implicitly framed as zones of resource extraction for economic recovery.

Second, our analysis reveals considerable variation across country cases in the salience and framing of environmental challenges. In its 2009 guidance note, UNEP argued that in earlier PCNAs, particularly for Iraq and Liberia, environmental issues 'failed to have a significant profile when interventions and budgets were crafted', in part because they were treated as cross-cutting issues rather than as a specific cluster (UNEP 2009, 9). All seven PCNAs in our analysis predate this guidance note (Table 1), limiting our ability to assess improvement over time. The high variability across cases, however, suggests that creating an environmental cluster within the needs-assessment process is unlikely by itself to ensure adequate consistency of coverage. In several of our cases — notably Sudan, Iraq, and Afghanistan — the baseline environmental assessments show quite clearly that large numbers of people, particularly in rural areas, were relying heavily on renewable natural resources and environmental services, and that resource-related and environmental grievances were linked to conflict dynamics. Clustering by itself seems unlikely to capture these livelihood-related or conflict linkages.

Third, despite well-taken criticisms regarding the environmental content of PRSPs, we found them to capture a somewhat higher proportion of environmental baseline issues (56%) than the PCNAs (46%). In particular, the PRSPs paid closer attention to environmental services, including forests, fisheries and coastal zones. These trends are particularly clear in the Haiti PRSP, which documents a variety of environmental challenges including deforestation ('annual harvesting of firewood is producing a shortfall manifested in a gradual decrease in plant cover'), soil erosion ('it is estimated that each year roughly 1,600 MT/ha/year are lost to erosion'), and fisheries ('[fishing] is characterized by overexploitation of surface fishery resources owing to the substandard equipment of fishermen') (Republic of Haiti 2008, 59, 60).

Some of this greater attention is a product of the PRSPs' emphasis on sector-specific reforms. However, we also flagged multiple instances in which the PRSPs step away from macroeconomic rationale and provide a fairly nuanced explanation of environmental issues. While some of the standard critiques of PRSPs ring true, these documents also demonstrate an understanding of the indelible connection between the economy and the environment. The policy implication is the importance of connecting the content of these largely separate analytic tools in a more systematic and sequenced way.

Finally, we note the disjuncture between the UNDAFs and the other tools. Some of this gap stems from explicit pressures to streamline their content. Also, in all but one of our cases (Liberia), the UNDAF is the final document produced. UNDAFs' content may reflect an emergent division of labour in the international community, with UN bodies disproportionately tied to a specific subset of priorities for the peacebuilding process. Whereas the PCNA and the PRSP involve a variety of different international actors, the UNDAF spells out the specific in-country priorities for the UN family of agencies. The UN tends to take the lead in certain sectors, such as gender mainstreaming and disaster risk reduction. Nevertheless, the results raise warning flags about poor continuity.

Conclusion

While our results provide a useful first glance at how and to what extent the international community is able to see environmental challenges in the post-conflict peacebuilding process, they also point to the need for further study. Looking at more recent cases as their materials become available will help to address whether the process is improving with learning and experience. Process-tracing along the analytic chain, through partici-

pant observation and key informant interviews, would identify opportunities and barriers to improving continuity along the multiple steps. Bringing the activities of bilateral donors into the analysis is also important, to provide contrasting examples of success and failure in spotting and sustaining the gaze on environmental challenges.

Despite the preliminary nature of this work and the need for further analysis, the implications are clear. Post-conflict needs assessment is only one step in a complex process of mobilising assistance for recovery from conflict. To be effective, PCNAs must not only capture environmental considerations adequately, but also see those insights carried forward into subsequent steps in recovery planning, including economic policy planning, donor coordination, and funding assistance frameworks. Our findings raise concerns that this has not happened to the extent necessary for sound post-conflict environmental governance and natural resource management. Our analysis suggests that, on the whole, the international community has struggled to adequately account for key post-conflict environmental issues, failed to see certain kinds of issues, and did not sustain a consistent gaze through the stages of planning and policy for recovery. Given the ways that natural resources and environmental services are entwined with both the risks of conflict and the opportunities for peacebuilding, there is a clear need to continue conducting baseline environmental assessments in the early aftermath of conflict, to link these more systematically to post-conflict needs assessment, and to make sure that certain types of environmental challenges do not disappear from the analysis.

> **On the whole, the international community has struggled to adequately account for key post-conflict environmental issues.**

TIM KOVACH is an independent researcher, based in Cleveland, Ohio.

KEN CONCA is Professor of International Relations in the School of International Service at American University, Washington.

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Endnotes

[1] In one instance (Georgia) we substitute a national 'state of the environment' report in the absence of a UNEP post-conflict assessment, and in another (Haiti) we use a state of the environment report to complement the UNEP assessment.

[2] In two cases, Georgia and Sudan, the PRSP was completed prior to the PCNA. We keep these cases in our analysis because the environmental baseline study for each indicates that the most pressing environmental needs are long-term, cumulative issues rather than those tied to the particular moment of conflict. In two other cases, Iraq and Somalia, there is no PRSP on which to draw. We keep

these cases in our analysis for the PCNA and UNDAF stages. In Liberia, all three tools were used but out of sequence, with the UNDAF preceding the PRSP.

[3] UNEP's website reports that it has 'been an active member' of a UNDAF country team in seven instances, none of which are among our cases. See United Nations Environment Programme, '*United Nations Development Assistance Framework (UNDAF)*', *available at* http://www.unep.org/roe/UNDAF/tabid/54609/Default.aspx, accessed 27 July 2015.

[4] We did, however, record each tagged passage in the text as either substantial or superficial, allowing us to get a crude sense of the depth of content for different issues.

[5] Non-state conflict is 'the use of armed force between two organized armed groups, neither of which is the government of a state, which results in at least 25 battle-related deaths in a year'. One-sided violence is 'the use of armed force by the government of a state or by a formally organized group against civilians which results in at least 25 deaths in a year'. One-sided violence excludes extrajudicial killings in government facilities. See UCDP, 'Definitions,' available at http://www.pcr.uu.se/research/ucdp/definitions, accessed 10 August 2015.

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