

# Vulnerability and Impact Assessments: Integrated Security Analysis through an Environmental Lens Dispatch no. 5 (10)

Understanding how threats posed to and by the environment are linked to state, communal and human security is a complex undertaking. However, by using an integrated security approach greater specificity in applications can be achieved. This follows the large number of tools available in the area of environmental, risk and vulnerability assessments that can help us unpack this relationship. This brief discusses how, apart from providing policy- and decisions-makers with environmental information, these assessment tools can also inform security analysis.

## Environmental Impact Assessment (EIA)

Back in the 1960s, practices for environmental assessments began to be developed as a result of an increasing environmental awareness at the time. Today, most developed states, quite a few developing countries, international organisations and corporate businesses have national or local requirements, methods and practices for environmental impact assessments (EIAs). While traditionally oriented to national practices, these assessment tools have increasingly come to be tailored to fit different security organisations such as NATO and the United Nations as well, recognising their strategic, operational and tactical benefits beyond merely providing environmental information.

*In Somalia, UNSOA (the United Nations Support Office to AMISOM) provides the African Union Mission in Somalia (AMISOM) with logistic support. One source of instability fuelling the conflict in the Horn of Africa is the charcoal industry. In addition to causing deforestation, illegal charcoal exports to the Gulf states are a major source of income for rebel groups, such as Al Shabab. An EIA undertaken by UNSOA revealed the environmental security implications of AMISOM using charcoal. AMISOM forces found that, by buying charcoal from local suppliers, they could gain a certain leverage of security by doing business with what are presumed to be rebel fractions. Hence they preferred to use charcoal although in the long term this went counter to the wider mission goals.*

## Strategic Environmental Assessment (SEA)

Strategic environmental assessment (SEA) is a tool for integrating environmental considerations into policies, plans and programmes. What makes an SEA different from an EIA is that it is intended to influence development planning, decision-making and implementation processes at the strategic

level, rather than project-level planning, as EIAs do. The SEA concept has mainly evolved from the recognition that many sustainability concerns can only be resolved by addressing them at the strategic level, long before any project is commenced and a traditional EIA has been initiated.

*SEA approaches have been tailored to fit different military organisations such as the UK Ministry of Defence and the Swedish Armed Forces (SwAF). Prior to SwAF deployment to MINUSMA (the UN Multidimensional Integrated Stabilization Mission in Mali), an SEA screening was performed. It revealed that local resource conflicts over land use and water were widespread. This kind of information that SEAs produce is important especially in regions at risk of an aggregate social and environmental footprint. That happens when refugees, local populations, humanitarian agencies and peacekeepers are situated at the same place, placing a potentially unsustainable strain on e.g. a water-scarce region, with security implications as a result.*

## Rapid Environmental Assessment (REA)

Rapid environmental impact assessment (REA) was developed to define and prioritise potential environmental impacts in disaster situations. It is adapted for rapid response situations (e.g. through the use of checklists) with a focus or priority on the identification of the most critical issues. The REA does not replace an EIA but is supposed to fill the gap until a full EIA is appropriate or possible to conduct.

*In the Upper Nile region in South Sudan, violent tensions over scarce resources such as fuel wood, water and grazing areas between refugees from Sudan and the local population were reported to the humanitarian system. An REA was performed that mapped the extent of the problem and proposed solutions, including Community Based Natural Resources Management activities.*



### Vulnerability Assessment (VA)

A vulnerability assessment (VA) is the process of identifying, quantifying, and prioritising vulnerabilities in a system. It often starts from a natural hazard or a contextual, social perspective. Some researchers also stress the mechanisms by which socio-economic and biophysical processes together shape vulnerability. This perspective places greater emphasis on how vulnerability plays out on, and across, multiple geographic and temporal scales. VA relates closely to human security since a common denominator for most VAs is that they comprise three dimensions—exposure of people, places and ecosystems to stresses, perturbations, and shocks; sensitivity, i.e. the degree to which people, places and ecosystems are affected by stress or perturbation; and resilience, the ability of the exposed people, places and ecosystems to recover from the stress and to buffer themselves against and adapt to future stresses and perturbations. The concept of vulnerability is also related to concepts including hazards, risk, adaptation, adaptive capacity and coping capacity.

*A vulnerability assessment performed in Mali, in support of Swedish development assistance, concluded that one of the more important threats to livelihood security in Mali are climate-related. Climatic variability has led to several large-scale disasters such as droughts and floods, and impacts food security and migration patterns, which in turn may relate to the overall conflict dynamic between different fighting groups.*

### Environmental Vulnerability Assessment (EVA)

Environmental vulnerability assessment (EVA) is a tool that has been developed in particular to inform decision-making and pre-deployment planning of SwAF peace support operations. The purpose is to identify vulnerabilities that should be taken into consideration prior to deploying to a certain region. It is performed rapidly, usually at the outset of the intelligence collection cycle, and is based on quality-assessed sources of data. EVAs include an assessment of the causes of differential impacts, together with responses that will prevent, reduce or offset adverse consequences. The main drivers of vulnerability are identified and then assessed to determine who and what may be exposed to hazards, and when the exposure is likely to occur. The level of sensitivity for each impact is analysed, together with the capacity to cope with these impacts and other stresses.

*EVAs developed for countries such as Mali, South Sudan, the Central African Republic, the Democratic Republic of Congo and Libya have addressed the security implications of a wide range of topics such as access to water, solid and sanitary waste management, energy infrastructure, corruption, wildlife crime, cultural and historical resources and land use. Most recently, EVAs for areas controlled by the Islamic State in Iraq and Syria (ISIS) have reviewed the tactical use of hydropower dams and wheat stocks for controlling and instilling fear among the population as well as control over oil fields as sources of funding for the insurgency.*

### Understanding Security Challenges Requires an Integrated Approach

Environmental and human security issues are fundamentally interconnected. Numerous militaries have tools to assess environmental risk and vulnerability that reflect this. Recognising the multiple environmental and security interdependencies and assessing them accordingly offers a number of benefits, including identifying security issues related to environmental factors, fully realising the potential of long-term trends analysis, avoiding unintended consequences, saving money and time, and producing better results thanks to greater community buy-in among the people and communities affected.

### Further Reading

Liljedahl, Birgitta, Waleij, Annica, Attwood, Joe, Martinsson, Erik, Martinsson, Emil. 2013. Environmental impact assessment UNSOA (United Nations Support Office for AMISOM) AMISOM Camps, Mogadishu, Somalia. FOI/UNEP. FOI-S-4673-SE. Stockholm: FOI.

Egziabher, Amare Gebre, Cue, Wendy, Waleij, Annica, Chado Tshering, Lino, Charles, Ali, Ajak, Mojok, Stephen, Akol, William. 2012. Joint (UNHCR, UNEP, OCHA, Government of South Sudan) Mission Report Maban Camps, Upper Nile State, 16 to 22 November 2012. UNHCR/UNEP/OCHA/ Government of South Sudan.

Simonsson, L. 2005. *Vulnerability assessments of Mali*. Stockholm: Stockholm Environment Institute.



This brief was written by an interdisciplinary team of scientists at FOI, the Swedish Defence Research Agency. It could be read as a stand-alone document but can also be read in the context of connected briefs on integrated security of which this particular topic is a cohesive part.

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For further information on related activities of this project please consult [www.foi.se](http://www.foi.se).