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SCIENCE & TECHNOLOGY

THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

ENVIRONMENTAL SECURITY

Notes of a meeting held on Thursday 5th June 2008
at the LSE

Speakers: **Dr Chad Briggs**: *LeHigh University, USA and Institute for Environmental Security, The Hague. Former Fulbright Scholar to Corvinus University, Hungary.*

Dr Paul Berkman: *Bren School of Environmental Science and Management, University of California – Santa Barbara, Current Fulbright Distinguished Scholar to the Scott Polar Research Institute, Cambridge University.*

Chad Briggs (see linked slideshow)

A little background to the Institute for Environmental Security, which is an international network of environmental researchers working on various environmental issues.

Environmental security (ES) is one of the areas where academia and policy interface: the key issue is how to translate scientific data into policy and regulation. There's been a resurgence of interest in ES in recent years for various reasons, but we need to ensure (first) that we don't fall back into old definitions and (second) that we bring it down to the state/community level, looking at human security and population issues.

Background: emergence of environmental security in the 1960s – in field of public health and environmental impacts of e.g. nuclear war (Sagan & nuclear winter – possibly the first time that anyone talked about anthropogenic climate change?) However, the end of the Cold War was where the concepts of ES made more of a public impact, in terms of using ES to try to redefine security & international security in a way that made sense to people who'd worked in the Cold War but where it was becoming impossible to rely on Cold War constructs in terms of how the world could be analysed.

In the 1990s, the focus of ES was very much state-based, examining (for example) how states would break into conflict with one another. The root cause was generally seen as being overpopulation, giving rise to environmental scarcity (see diagram on slide). However many criticised this 'Toronto School' model, noting that not everything ends in conflict and not all political conflicts end in violence. Other critics asked why it was only demographic shifts that were making the difference – economic linkages were also important, (e.g.) high levels of consumption in developed countries being one of the causes of environmental scarcity in the developing world. A related question was whether the tragedy of the commons model holds well. Some scarcity can also lead to co-operation, not only violence. However the underlying issue is stability: if environmental change is acute enough, things start falling apart: people are unable to cope and this one of the causes of radical politics. This sort of instability in the international system is what spills over – and even if it doesn't, we have some sort of responsibility to people who live in these countries.

Interest in ES dropped off from mid 1990s, but in the past few years there have been some real focal points which have driven a resurgent interest, notably climate change. Great impetus for international action on the ozone layer had to do with the ability of people to show satellite images of the ozone hold over the Antarctic. This was the smoking gun that got people motivated: changes in the Greenland ice sheet is a current focal point (also Katrina, Asian tsunami, Cyclone Nargis). Visual images of flooding in

Europe also help people make connections between global environmental change and local impacts. Once people can see that, it's easier to make the argument that the impacts of national sovereignty doesn't stop at the borders.

But let's be clear about what we mean by vulnerability: environmental changes can often come very suddenly or without warning, so we need to be able to identify which societies are vulnerable, at which points they are vulnerable and to which environmental risk.

Risk exposure is the measure that's traditionally used; what is the probabilistic risk that a group of people are going to be exposed to a particular risk in a particular time frame? Good methodologies exist for assessing this, but the impacts of those risks will depend on the makeup of society, the different networks that are set up and the different politics of that region.

Resilience: what is the ability of people to return to their normal state following an abnormal event? Depends very much on social networks, etc: the response to tornadoes in Florida was different from the response to Katrina because in contrast to Florida, New Orleans was a very divided society.

Sensitivity is often a geographical component of this risk: Malibu may fall into the sea or go up in flames: it is highly sensitive, but its population is very resilient. Guatemala may be similarly sensitive to landslides but not resilient. Sensitivity is difficult to address in the short term: it has to do with issues such as urban planning, but the key point is that increased sensitivity is often directly related to increased vulnerability.

Fragility: the point at which there could be a particular limit state for a society. A society is an emergent state – a number of networks that get together to produce the goods and benefits it needs. There may be a limit state beyond which a society cannot get back to its example. It's not simply natural disasters that can push fragility: this can be done purposefully (Punic wars where the earth was salted by retreating troops, genocide).

So what is the end state we should use to look at environmental security issues? Health is a multi-factoral indicator, meaning that often health measures can be indicative of deeper problems in society – World Bank uses TB levels as a multifactoral indicator, for example. Epidemiological methods are pretty robust, can work at multiple levels, are closely linked to UN millennium goals, and can't be used for political ends. There is a well-established research community, but it isn't engaged very much by those people working on environmental issues. However even information at the grass roots level can raise wider issues: the simple fact of reporting abnormal ratios of male/female birth ratios in Native American population in one particular location gave rise to a good deal of research into dioxins and other persistent pollutants.

Conflict itself will also cause environmental changes: we need to move away from the linear Toronto school line of causality beginning with environmental change and ending up with conflict. Also the effects can be epigenetic: new research suggests that stresses, whatever the cause, can be tracked through the generations. However, responses to environmental disasters are not always negative – but what makes the difference between disaster leading to societal breakdown and disaster leading to people pulling together? The combination of variables is difficult to pin down, but unless we try we'll have problems pinning down future hotspots.

We need to differentiate between disaster and conflict – disasters 'tax' resilience, conflicts are directly targeted at resilience (sowing landmines, direct destruction of agricultural lands).

Mitigation is easier, cheaper and less messy than that adaptation that has to happen after disaster/conflict. However it's complicated by the different nature of evidence used by academia and policy. If the academic and policy community don't engage in the proper format, the data is often taken into administrative processes but the uncertainty is stripped away. So the judgements that are made are not transparent to the uncertainty inherent in the data. We need to be more certain about where the

uncertainty is, who is making the judgements and what the transparency there is behind those judgements.

Discussion of Chad Briggs' presentation

Politicians are interested in environmental security: Margaret Beckett was talking about it when foreign secretary in 2006, and the recently published UK National Security Strategy talks about issues around environmental security. However the question has moved on from 'is it safe?' to 'is it safe enough?', and the key point is that politicians have to be involved in deciding what 'enough' is, in the same way as they're involved in deciding the limits on stem cells and the time limits on abortion.

The review of evolution of concept of 'environmental security' was very useful. It was good to see that environmental determinism (the links that say conflict is due to the environment or scarcity) is discredited, though the UK 2008 National Defence Plan remained in that light, so we have work to do to get it right. The roots of conflicts are political, not environmental, and the emphasis on the social aspects of resilience under circumstances of stress (like the old concept of social adaptive capacity) are spot-on. Experience shows that there is room for 'environmental peacemaking', i.e.. scarcity can bring cooperation. However the focus on 'stability as good' may be overdone. It is possible that situations in which stability exists can highlight unequal distributions of power, so when we are talking about stability, we should ask 'stability for whom?', i.e. stability for the US may mean instability (and insecurity) for entire communities in Lebanon. Therefore we must examine the power plays that underlie transboundary environmental interaction. Other concepts that were not mentioned (because of limited time), but that are relevant: water security, energy security, and the politics of international cooperation or international relations. Bearing in mind that not all forms of cooperation are 'pretty' (i.e. cooperation itself is not the goal, and when set by the more powerful may be more coercive and simply mask tensions that will surface at a later time).

A second theme of the discussion was around the role of evidence and the relationship between science and policymaking. A degree of translation has to occur between policy and academia, but there is sometimes a lack of recognition that things are going to happen to the evidence once it is taken up by the policy process. When is something 'backed up by scientific information' and when was it a judgement call based on the evidence that was available at the time? In large part the setting of limits is a political process (e.g. limits to perchlorate in water). This comes back to the first question, which is a political one, about how we evaluate what is important and what isn't. The problem is that scientists who are best able to do this work are the ones who establish the context on this: scientists are also citizens and part of society and shouldn't divide their identities. Policy relevant evidence is evidence used in context of, and application to, policy – and scientists have a responsibility to help that translation process or there will be many things lost in translation. But there needs to be rigour and clarity because we haven't been trying to delineate clearly enough what the roles are.

However let's not look at this from the single direction of evidence flowing into policy: in the case of environmental security, the politicians are leading and looking for the experts to provide the evidence to support their arguments. Politicians can see that there are problems which need to be tackled, but the interconnections elude them and they need 'science' to enlighten them (hence the many references to interconnections in the National Security Strategy). Organisations also (not just individuals) have a problem with interconnectedness: NATO, OSCE, all seem to work on their own. There does need to be the dialogue – and politicians may effectively set out a hypothesis that scientists may or may not ultimately agree with. And the process of interpreting research into policy is a complex one: at what stage does the translation process work best? An example is the Arctic: a good deal of research that has been happening for a lot of years suddenly has policy relevance.

Separate item – the International Network for Energy & Environmental Security Foresight

The emerging International Network for Energy & Environmental Security Foresight was mentioned. Its purpose is to mimic the nature of the challenge: to get away from a command & control hierarchical structure to something that is more about building a capacity for developing anticipatory foresight of the security consequences of the interactions between energy and the environment, using modern systems

for collaboration to bring together knowledge across many different domains. Energy and the environment have traditionally been kept apart, but this network will begin to put them together using information that is already in the public domain. It is a transparent and an international approach whose key theme is that all of the work has to be in a non-institutional space: no one organisation owns the activity, which will evolve into a multi-state network where the owners are the users themselves. The network is in its very early stages, and participants were encouraged to join.

Paul Berkman (see linked slideshow)

The recent Ilulissat Declaration: some of the main issues the five Arctic nations are concerned with are:

- potential exploitation of resources,
- their sovereignty rights & jurisdiction (which largely underpin any future discussion in the Arctic),
- the international legal framework that applies to the Arctic Ocean (the UN Convention on the Law of the Sea, which the USA has yet to ratify), and
- the orderly settlement of any possible overlapping claims.

However at the same time that they talk about an international legal framework, they also talk about national implementation of that framework: two things at the same time – and that there's no need to develop an international legal regime. NB The law of the sea is a wonderful thing: negotiated in the 1950s: a very robust, forward-looking concept that has many of the capacities of the systems we heard discussed earlier.

Observable change in Arctic ice cover gives rise to predictions that in the next 40-60 years the Arctic ocean will be summer ice-free: a very significant environmental state change. As a consequence the 8 Arctic nations are concerned about the effects on their economies. Russia has a huge economic presence in the Arctic, so in terms of security the nations are concerned with the impact of this environmental state change on their economy. There are also wild claims about the amount of undiscovered oil in the world which exists under the Arctic Oceans; potential new trade routes: even including a polar route, which would affect the Panama Canal if it's less economic to widen the latter to accommodate some of the larger supertankers. However there could also economic benefits from changes in the ecosystem with change in ice cover: the ocean could become more productive.

All of these are areas of potential conflict in Arctic Ocean: energy (including potential pollution impacts), fisheries, trade, tourism, and even harvesting freshwater from a melting Greenland. In part the Arctic Nations have begun to provide for discussions on these issues – largely scientific, but specifically not dealing with matters related to military security. So while science is well discussed, the more difficult activities and the real security issues (e.g. ballistic-carrying submarines circling the North Pole) are not discussed.

Five Arctic nations have historically defined regions of the Arctic as their territory: and have begun proposing claims to the deep-sea areas. They are now petitioning the UN under UNCLOS to adjudicate their proposals. Traditionally continental shelves are shallow and broad, but this isn't the case in the Arctic, where the bathymetry means that the nations are making claims on the deep sea, which is considered to be international space.

So the dynamic that is emerging is a geopolitical statechange: from five claimant nations with their territorial claims, to a donut where the centre of the donut is international space. An important point is that all of the articles in the law of the sea have the word 'peace' in them, but the word is noticeably missing from the Ilulissat Declaration.

Moving to the concept of international spaces – in order to look at a planetary-scale process such as climate change form the point of view of management strategies, we need to look at international spaces because they occupy 75% of the earth's area. The Antarctic Treaty, Treaty on extraterrestrial activities, and UNCLOS are the three treaties dealing with international spaces.

Development of international spaces: establishment phase was relatively flat until the OPEC oil embargo, when oil reserves were discovered. Problem: how to include suddenly interested nations in the Antarctic Treaty? Over the next 15 years the number of entrants to the Antarctic Treaty rose 500-fold, until the Protocol to the Treaty was defined which stated that no resource extraction would take place except for scientific purposes – after which the number of nations joining levelled off. Paul's hypothesis is that the Arctic is at the beginning of the accommodation phase, and needs to work out how to work through all these different interests within the overarching framing of the law of the sea. All of this has to be done defining the use of Arctic for peaceful purposes only – until this is resolved, any commercial activities that take place there will be unsustainable.

Discussion of Paul Berkman's presentation

The recent Oban meeting convened by the FCO is relevant – it's clear why Britain is in the Antarctic treaty because we have had territorial claims prior to the treaty, but we need to be clear why Britain has an interest in the Arctic. Britain has observer status at the Arctic Council (latest observer is China), and in spite of some disagreements with other Arctic Council members it also has an economic interest in maritime and resources aspects of the Arctic.

Three other points were made. First, if we are talking about redefining environmental security, we do need to bring the military back to the table and involve them in discussions. Second, what are the implications of the difference between the EU's very strong acceptance of the precautionary principle vs. the US's risk assessment methodology? Third, there may be an axis between the EU and Canada in terms of defining human security, which is different from the US's definition of human security: we need to explore the potential effects of this.

Three things that could be done –
a) what is the evidence if you compare the outcomes of the Antarctic and Arctic treaties?
b) indigenous water rights can unsettle existing legal systems, which could be an emerging issue in the Arctic.
c) we're in an interesting time legally: conventions, codes, protocols, and the concept of human security is challenging the concept of a nation, and we need to think about how this translates to the Arctic.

Is the Arctic the goose that lays the golden egg? The problem however is that we're so interested in the loot that we could kill the goose. What is the point in fighting over a square kilometre of land when millions of tonnes of topsoil are being lost through erosion: it seems like an imbalanced assessment of the costs.

We're at the stage where we can look into the future: we have unprecedented capacity to look backwards in time and to use that information to predict what will happen. We're also beginning to look at the earth at a planetary scale. The opportunities for managing the planet involve areas that are beyond traditional national jurisdictions. We need economics, social science, law, and a host of different perspectives to come up with the types of solutions that are necessary. In the 1950s, the decision-making capacity was exclusively the jurisdiction of nation states – but now global civil society is involved. Global civil society has largely been involved in terms of trade and trade systems, but the move from nation states to global civil society have occurred at the same time as the rise of international spaces. Need to take a step back from the media maelstrom and consider the forward-looking issues. As we look at a global perspective, it's both a spatial and a temporal problem. Timescales aren't tactical (months to years) or strategic (years to decades), they're also long-term (decades to centuries).

Eisenhower was able to broker a discussion that brought together the US and Soviet Union to agree an arms treaty. Eisenhower will always be remembered as the architect of the treaty system which protected the Antarctic – and there is hope that someone (next president of USA?) could step up to the plate and broker a solution to the Arctic that's in the interest of humankind. In the absence of any serious discussion about security, it's laden with potential conflict. If we only have international law and national law, and national law dominates in terms of allocation of extracted resources, then it will subsume the effects of international laws. However if we are able to create an international 'enterprise'

which operates outside national laws, it could become a political force in its own right, generating resources from the Arctic for its own use. The challenge is to identify this 'enterprise' – is it a fund? An organisation?

What is the role of lawyers and jurists in dealing with transboundary resources? We certainly don't have all the answers at the moment, and it may be a better idea to really bottom out what the questions are, and then use existing techniques to deal with some of the questions that are emerging.

There's an opportunity to begin with this international space and focus outward, rather than the inward-looking focus that we have taken so far. If the Arctic nations choose to pursue their own interests at the expense of the international community, what's at stake is the entire UNCLOS, which is defined in terms of international governance. The claimant nations could gang together, divvy up the Arctic and tell the rest of the world to keep out, claiming that they were doing this for the benefit of all mankind. However China (for example) isn't going to sit still and let these few nations take that sort of decisions because it's disingenuous to suggest that those nations can manage the area peacefully when ballistic submarines are circulating under the sea ice. None of the Arctic nations would disagree with the use of the Arctic for peaceful purposes of common interest – but how do they practically implement this? Assigning territorial claim to the seabed would likely result in countries instrumenting and monitoring said seabed, which would probably create international discord.

There's a real opportunity in the UK, which is not a claimant nation, to serve as an independent arbiter with and for the international community for that discussion, to create the type of dialogue that would be necessary for peaceful use. The Arctic Council is a step along the way to create international collaboration, and the mechanism (as in the Antarctic) is science. We have an obligation to look to the future, to think about international spaces and governance solutions – to create opportunities for hope. The Arctic could be a poster child for international spaces.

Separate item – developing an Arctic strategy for the UK

The FCO is working with other government departments to ensure that Arctic issues are coordinated effectively where relevant, for example on issues such as climate change, oil & gas, fishing, tourism, science etc. The FCO is building a network of organisations interested in the Arctic and carrying out a strategic planning project in conjunction with other Government Departments. Participants were encouraged to come up with ideas and suggestions.

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