

Environmental Security

By Mignonne CHAN



Author Mignonne Chan

Defining Environmental Security

Environmental security is an academic discipline evolving since the 1980s following the end of the Cold War. There has been a growing recognition that environmental degradation, inequitable access to natural resources and cross-border movement of hazardous materials increase the probability of conflict and thereby pose a risk to human, and even national, security. It is particularly relevant for those studying resource scarcity and conflict in the developing world. The United Nations' Millennium Project created a synthesis definition; environmental security is environmental viability for life support, with three subelements:

- preventing or repairing military damage to the environment,
- preventing or responding to environmentally caused conflict, and
- protecting the environment due to its inherent moral value.

Scope of Environmental Security

Some cases were identified as threats to stability and peace: transboundary pollution, health risks and involuntary migration due to water scarcity, inequitable access to land resources, and uncontrolled stocks of obsolete pesticides or other forms of hazardous pollution.

Many recent climate-modeling results indicate that climate change has made "extreme" weather more common. Carbon dioxide (CO₂) from cars, industries and power plants traps heat near the earth's surface. "Extreme" weather includes windstorms, heat waves, drought, landslides, storms with extreme rain or snow, and dust storms.

Climate change has also had an impact on national security, such as the case in the Arctic. National security policies are now being declared and nuclear-capable states are adjusting their strategic deployments in the Arctic Ocean. The North Pole is being transformed from a sea-ice cap to a seasonally ice-free sea. With the diminishing ice cover, there is new global interest in the extensive energy, shipping, fishing and tourism prospects in the Arctic Ocean. A range of states, including the major Arctic powers, are increasingly asserting their sovereignty seawards. Risks of political, economic and cultural instabilities are inherent consequences.

By the very end of the Bush presidency, the United States issued a presidential directive on Arctic region policy, in which the Bush administration underlined that Washington has broad and fundamental national security interests as well as fundamental homeland security interests in the Arctic. The Obama administration has emphasized two policy dimensions: (1) the importance of cooperation with Russia in the Arctic, and (2) environmental security and sustainable development in the region. Assertive Russian statements and symbolic action – such as the planting of the Russian flag on the seabed at the North Pole – as well as the restart of strategic bomber flights close to the

territory of other Arctic nations have contributed to media headlines.

US Admiral James Stavridis, also NATO's supreme allied commander in Europe, wrote in the foreword to a recently published paper by Andrew Berkman:

"For now, the disputes in the north have been dealt with peacefully, but climate change could alter the equilibrium over the coming years in the race of temptation for exploitation of the more readily accessible nature of resources....The cascading interests and broad implications stemming from the effects of climate change should cause today's global leaders to take stock, and unify their efforts to ensure the Arctic remains a zone of cooperation – rather than proceed down the icy slope towards a zone of competition, or worse a zone of conflict."

Legal Framework for Global Governance: Multilateral Environmental Agreements

There have been several human endeavors undertaken to construct legally binding, environment-related multilateral conventions or treaties during the past two decades. This reflects a recognition of the global nature of environmental issues. Climate change has made greenhouse gas (GHG) emissions from one country have an impact on the rest of the world. Chronic organic pollutants derived from one country could become widely spread geographically. International trade in hazardous chemicals could turn some regions into "danger zones" whereas others could be insulated from negative consequences. Global standards relating to certain aspects of the environment are attempts towards creating a "level playing field" and minimizing the negative impacts of a degraded environment. The standard setting is not to be compromised by lower standards in another country where cross-border leaks could penetrate through water, land and air, or indirectly through products.

Hannah Stoddart and Peter Janoska constructed the "Global Environmental League Tables" in February 2010 to postulate the ranking of countries' commitments to multilateral environmental agreements (MEAs). They have looked into six key MEAs, which I shall detail later as a useful reference point. It is noteworthy that Asia's scorecards stand out in their six ranking categories. India, Japan and South Korea should pride themselves on being in the premier league, immediately followed by China, Indonesia and the Philippines with Division One. The United States' below-average rank, Division Four, could unveil some of the challenges in global consensus-building in advancing environmental security.

No doubt, Asia should not be complacent, as they cautioned, in that the gap between ratification and implementation could be wide. In many cases, environmental standards are compromised and pollution is becoming an increasing problem. Indonesia, for instance, scores highly even though it has the highest deforestation rate of



Fogbow over the ocean, with drifting ice (Beaufort Sea, Alaska, United States)

any single country in the world. If and when emissions from deforestation are taken into account, Indonesia could be the third largest GHG emitter in the world.

The following six key MEAs, which Stoddart and Janoska used, could serve as illustrations of where we stand so far in the elaboration of environmental security:

1. Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals & Pesticides in International Trade (also known as the Rotterdam Convention/PIC)

The convention was signed on October 9, 1998, and entered into force on February 24, 2004. The aim is to promote shared responsibility and cooperative efforts among signatories in the international trade of certain hazardous chemicals so as to protect human health and the environment from potential harm and to contribute to their environmentally sound use. Several substances are identified as hazardous chemicals and signatories can decide whether to allow or ban the importation of the listed chemicals. Exporting countries are obliged to ensure that producers within their jurisdiction comply with proper-use labeling, including directions on safe handling, and inform purchasers of any known restrictions or bans.

2. Convention on Persistent Organic Pollutants (the Stockholm Convention/POPS)

The convention was signed on May 22, 2001, and entered into force on February 13, 2005, with 169 parties and 152 ratifications. The aim is to protect human health and the environment from persistent organic pollutants. The convention is meant to guard human health from chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms and are toxic to humans and wildlife.

3. Cartagena Protocol on Biosafety to the Convention on Biological Diversity (the Cartagena Protocol on Biosafety)

The protocol was signed on January 29, 2000, and entered into force on November 11, 2003, with 193 parties and 168 ratifications. It aims to ensure an adequate level of protection in the safe transfer, handling and use of modified living organisms resulting from biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health and specifically focusing on transboundary movements. The protocol contains reference to a precautionary approach and reaffirms the precaution language in Principle 15 of the Rio Declaration on Environment and Development which allows countries to ban imports of a genetically modified organism (GMO) if they feel there is not enough scientific evidence to prove that the product is safe.

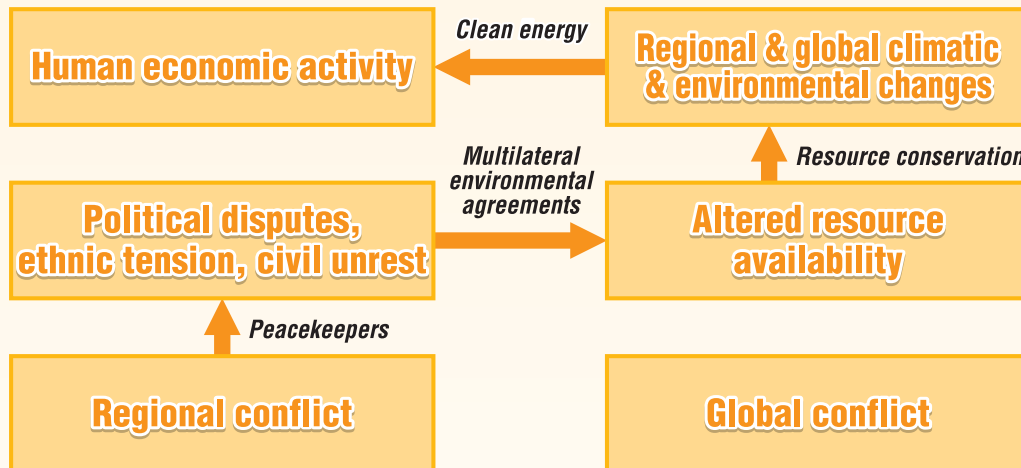
4. UNCLOS – United Nations Convention on the Law of the Sea (the Law of the Sea Convention or the Law of the Sea Treaty)

It was signed on October 12, 1982, entered into force on November 16, 1994, with 157 parties and 138 ratifications. It defines the rights and responsibilities of nations in their use of the world's oceans, establishing guidelines for businesses, the environment and the management of marine natural resources.

5. United Nations Agreement for the Implementation of the Provisions of UNCLOS relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks

It was signed on December 10, 1982, and entered into force on December 11, 2001, with 157 parties and 77 ratifications. It establishes principles for the conservation and management of those fish

Feedback loops to reduce environmental conflict



Source: "Appendix A: Feedback Loops to Reduce Environmental Conflict" from "Environmental Security: a Case Study of Climate Change," Elizabeth Chalecki, Pacific Institute for Studies in Development, Environment & Security, 2002

stocks and sets out that such management ought to be based on the precautionary approach and the best available scientific information. It aims to achieve this objective by providing a framework for cooperation in the conservation and management of those resources.

It establishes detailed minimum international standards for the conservation and management of straddling fish stocks; ensures that measures taken for the conservation and management of those stocks in areas under national jurisdiction and in the adjacent high seas are compatible and coherent; ensures that there are effective mechanisms for compliance and enforcement of those measures on the high seas; and recognizes the special requirements of developing states in relation to conservation and management as well as development and participation in fisheries for the two types of stocks mentioned above.

6. Protocol to the United Nations Framework Convention on Climate Change (the Kyoto Protocol)

The protocol was signed on November 12, 1997, and entered into force on February 16, 2005, with 191 parties and 190 ratifications. The protocol aims at combating global warming. It is an international environmental treaty with the goal of achieving stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. A major distinction between the protocol and the convention is that the latter encourages industrialized countries to stabilize GHG emissions whereas the former commits them to do so.

The Kyoto Protocol establishes GHG emission reductions for 37 industrialized countries. These targets amount to an average of 5% against 1990 levels over the five-year period of 2008-2012. In addition to the requirement of meeting targets through national measures, the Kyoto Protocol offers countries an additional means of achieving their targets by way of three market-based mechanisms: (1) Emission Trading Mechanism, (2) Clean Development Mechanism (CDM), and Joint Implementation (JI).

With the first commitment period set to expire in 2012, talks about closing the gap between its end and the beginning of a second commitment period to start in January 2013 have dominated the current conference. The Kyoto Protocol agreed that industrialized countries would take responsibility for GHG reductions since they are historically responsible for producing the bulk of CO₂ emissions. Developing countries are not subject to the same commitments. And on this issue, the United States would like to see change. The key debate hinges on historical responsibility versus current emissions. The Intergovernmental Panel on Climate Change (IPCC), the UN's scientific body, calls for 25%-40% reductions in GHG emissions and states that such a reduction offers a 50% chance of keeping a rise in the global temperature below 2 degrees.

The State of the World 2009: Into a Warming World, published by the Worldwatch Institute, is an important document of climate change, showing how we humans can manage and survive it. As IPCC Chairman R.K. Pachauri noted, the report "will undoubtedly influence the negotiations from different countries to look beyond the narrow and short-term concerns that are far too often the reason for inaction."

Immediate Challenge Ahead: Towards Global Management of Environmental Security

In human history, we have a proven track record that global governance on environmental security is feasible although the change of pace may not always be prudent enough to keep abreast of the shifting environmental challenges. More concerted efforts are indispensable to ensure that environmental security be secured and peace maintained with due global governance. **JS**

Dr. Mignonne Chan is assistant professor of the Graduate Institute of the Americas, Tamkang University, Taiwan. Dr. Chan served as senior advisor to the president at the National Security Council in Taiwan in May 2008-May 2010.