Green Workshop Paper: Understanding Green Using an Ecosystem Metaphor

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Introduction

One way to better understand and characterize the global strategic environment ("Green") is through the biological metaphor of an "ecosystem."[1] By viewing the strategic environment ("Green") as an ecosystem that contains "Blue" and "Red" actors (such as the United States and terrorists), we can use insights from biological sciences to study how Green actors (such as nations or non-state communities and networks) and phenomena (such as population trends and political movements) coexist and coevolve with Blue and Red. Other metaphors, frameworks, and models for better understanding and characterizing the Green environment will be captured in the Green Workshop.

The ecosystem metaphor emphasizes the concepts of interdependence, co-evolution, and emergence. These concepts may help describe the system dynamics and relationships that bring about the kind of change that creates systemic (i.e., societal) dislocations that lead to instability and possibly violence. Within this interconnecting environment, agents in the ecosystem are said to coevolve with each other, where all three (Blue, Green, and Red) change and adapt to the activities and influences of the other. In this view, Green, Blue, and Red may be jointly described as an ecosystem with attributes of interacting and coupled complex adaptive systems.

> "Blue" and "Red" represent both agents and phenomena; they are sub-systems of "Green" and dynamically interact in co-evolutionary ways within the larger ecosystem of "Green"

> ➢ **We seek to identify major drivers of change or evolution in the global ecosystem and, where possible, harness the complexity of dynamic relationships and meaningful correlations so that we can better understand the underlying nature and character of the systems that impact the relationships between Blue and Red.**

After the workshop, this paper will be revised and ultimately combined with other papers from Blue and Red workshops, leading to a synthesis in which the nature and character of the dynamic between Blue and Red is assessed in the context of Green. The synthesis paper will serve as our anchor in conducting net assessments, and will illustrate areas of competitive advantage and criteria under which U.S. strategies and policies are likely, on balance, to be effective in producing outcomes that advantage "Blue" and disadvantage "Red."

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[1] "Ecosystems embody the concept that living organisms continually interact with each other and with the environment to produce complex systems with emergent properties, such that 'the whole is greater than the sum of its parts' and 'everything is connected'," from "Ecosystem," Encyclopedia of the Earth, available online: *http://www.eoearth.org/view/article/152248/.*

Our Concept of Green Using the Ecosystems Metaphor

The strategic environment we face today is characterized by systemic complexity, reflecting a dynamic interaction of a number of different actors and phenomena. Green exhibits the properties of emergence, such as novelty and irreducibility arising from complex interactions among smaller or simpler entities in a complex system. Contrast this view with the traditional formulation of net assessment developed for a closed, two-body system (i.e., the Cold War between state actors) that was understood to be reductionist, mechanical, deterministic, and exhibited the properties of equilibria. In this Cold War-era of net assessments, Green was relatively a non-factor.

Why does Green matter?

Gaining a richer understanding of the ecosystem dynamics and its connectivity to the cycle of terrorism is one of our primary goals. We specifically want to better understand the evolution in Green that serve as catalysts for violent instability, political unrest, and economic disruption that may facilitate and enable terrorist behaviors. Understanding the interaction of Blue and Red within Green is increasingly necessary for effective policy formulation in today's complex strategic environment.[2] To accomplish this, we will utilize techniques drawn from strategic foresight practitioners (professional futurists) and systems theory, a conceptual approach that enables the mapping of the dynamics and interactions within and across natural environments (ecosystems), economies, industries, organizational cultures, and even families using our biologically-inspired ecosystems metaphor.

Driving Questions for the Ecosystem Metaphor

1. Who are the key players?

Green is conceived of as an ecosystem in which actors and phenomena dynamically interact, sometimes cooperating, sometimes competing in ways that impact the interests, values, and culture of actors. Relevant features of Green probably include actors such as individuals, groups, countries, and non-governmental organizations; and include phenomena such as alliances, forms of governance, religious structures, cultures, socio-economic factors, and geography to name a few.

2. What is the character of the strategic environment?

We have difficulty in visualizing a system of interdependent parts enabled by an interconnected environment that enables and potentially empowers successful terrorism behaviors. Nevertheless, we seek to better understand this environment, probably best characterized as a complex, interactive, interdependent, and co-evolutionary system. In so doing, we hope to better understand how Red and Blue co-evolve and dynamically interact within this ecosystem and what this may tell us about zones of conflict and opportunities to diminish violent opposition.

3. What are Green's internal dynamics?

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[2] Systems theory also postulates that the behavior of actors within a system is so heavily influenced on the structure of that system that eliminating individuals within that system do not end an actor's efforts. This is because the system that gave rise to that behavior remains; only by changing the structure of the system can a problem behavior be eliminated or reduced.

The properties and functions of complex adaptive systems may inform our effort to increase understanding and articulation of which aspects of the system that most impact Blue and Red and vice versa. How can these features of the system be leveraged to advantage or disadvantage in the terrorism/counterterrorism competition?

Potential additional questions stemming from Green that we may pose in our final synthesis paper, weaving concepts from Green, Blue, and Red together:

➢ What conditions in the Green ecosystem affect – positively or negatively – strategic interactions and relationships between Blue and Red?

➢ Given the interdependent and dynamic relationships of Blue, Red, and Green actors and phenomena, what conditions in the strategic ecosystem can be influenced by Blue or Red to serve their own interests?

➢ What factors in the strategic ecosystem of Green have an impact on the conditions that favor Red or Blue?

➢ What have we left out or missed in our understanding of terrorism in light of emerging relationships among actors and dynamic interactions with phenomena in the strategic ecosystem?

Characterizing the Ecosystem
The nature of the competition between Blue and Red in the context of Green as described in this paper is probably more a matter of influence, persuasion, and collaboration than command and control.

- "Beating" Red in a Cold War context typically was thought of as an end-state imposed primarily through actions or policies intended to influence and manipulate policy and decisions in the Soviet Union.
- "Beating" Red in a CT context is increasingly thought of as best/most viably being effected through shaping Green in a way that provides sustainable advantage for Blue (i.e. indirect competition), noting that the direct approach has proven effective in certain circumstances.

> We postulate that addressing the underlying catalysts, root issues, and dynamics in the strategic ecosystem that enable and empower terrorist activity is probably more effective in the long term than simply eliminating the individuals exhibiting terrorist behavior.

- Both terrorism and counterterrorism may simply be understood as tools or methods employed to create or protect broader political, societal, or economic outcomes in a complex, interactive, interdependent, and co-evolutionary system.

The Green Workshop will explore many different systems comprised of actors and phenomena that interact in ways potentially best described as an ecosystem. A key example is the phenomena globalization, which impacts the dynamics of relationships among Blue and Red actors in the ecosystem.

Globalization
The strategic environment is characterized, shaped, and defined in large part by the results of globalization. One example of globalization, from an economic perspective, is the speed of transactions where information technology has flattened the interface between physical and virtual reality, and compressed time. There are disruptive qualities – along with many benefits – to globalization. Paradoxically, the interdependent nature of globalization creates both exposures to new categories of risk that are systemic in nature, but also new opportunities for collaboration and cooperation to minimize risk. Potential downsides of globalization include increased levels of inequality (i.e., winners and losers, potentially catalyzing violent instability).

Some strains on the nation-state system that arise from globalization
The system of nation states is intended to pursue and preserve interests, governed by norms and interests that result in cooperation and competition. It sets up a system of in-groups and out-groups by a complex but widely understood system of national boundaries and governments enforced by militaries. Globalization strains this system as interests of individuals and groups in societies around the globe can increasingly be pursued outside of the traditional structures, institutions, and boundaries of the nation state. New, agile, and flexible alternatives can now address issues at the individual level, creating a highly-satisfying and personally tailored lifestyle that does not necessarily include (nor necessarily exclude) consideration of the slower-moving and larger apparatus of state-provisioned services and utilities (utilities in the sociological sense).

Fragility of global systems
For business, the environment is a globally interconnected milieu of social, economic, and political factors that impact the interdependent, complex, and systemic nature of the institutions undergirding stability (adapted from *World Economic Forum*).[3] The view of an interdependent, global system invites concern about risks that are "systemic in nature, causing breakdowns of entire systems and not only their component parts" (p. 11).

- The World Economic Forum's *Global Risks 2014* report posits that "global risks are best addressed collaboratively" (p. 42) given the "evolution of interdependencies between risks" (p. 9). However, lack of commitment to basic principles that reinforce "global cooperation and a sense of a shared global interest" lead to instability (*Institute for Public Policy Research, "The Third Wave of Globalization," 2012*).

Conclusion
The Green Workshop will seek to explore these topics, through the elicitation of unique, new, and "adjacent space" thinking. The concepts presented in this paper are merely guideposts along the way, the background and foundation for the beginning of better understanding and characterizing Green. Importantly, we are hoping to be surprised by the innovative thoughts and as yet unexplored approaches to counterterrorism that the illustrious group of Participants can provide.

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[3] The World Economic Forum's *Global Risks 2014* is derived from inputs of 700 leaders across the globe, and includes contributions from major firms such as March, Swiss Re, Zurich Insurance Group, National University of Singapore, Oxford University, and the University of Pennsylvania.