Synthetic biology at the Convention on Biological Diversity: tracing the knowledge politics

Deborah Scott
Rutgers University, Department of Geography

Introduction
My dissertation is on the production of global governance for biofuels and synthetic biology through the Convention on Biological Diversity’s (CBD) “New and Emerging Issues” mechanism. I examine the politics of knowledge in the CBD’s engagement: the sources and kinds of knowledge invoked; approaches to identifying and setting the scope of issues; and the framing and responses to uncertainties.

Background to the CBD
- 22 years old - Launched at the 1992 UN Conference on Environment and Development (Rio Convention).
- 194 State Parties - Near universal membership. Non-Party observing States: Andorra, the Holy See, and the USA.
- 3 objectives: conservation of biodiversity; sustainable use of its components; and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.
- 2 key bodies: SBSTTA - the Subsidiary Body on Scientific, Technical, and Technological Advice meets yearly. Develops “Recommendations” which are the basis for political negotiations at the COP.
- COP - the Conference of the Parties, the official political decision-making body, meets every two years. Primarily produces “soft law” Decisions, can develop protocols.
- 2 protocols: Cartagena Protocol on Biosafety
- Nagoya Protocol on Access and Benefit-Sharing of Genetic Resources

Methods
- Collaborative event ethnography - Worked with 16 other social scientists to study the CBD 10th Conference of the Parties (COP) in 2010.
- Participant observation of CBD negotiating events - Independently attended the 15th Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) in 2011 and the 11th COP in 2012.
- Embedded work at the CBD Secretariat - Intern at the CBD Secretariat in Montreal for three months in 2013, drafted two information documents on synthetic biology. Consultant for Secretariat in 2014, continued work on SBSTTA documents and assisted at SBSTTA 18.
- Semi-structured interviews - With CBD Secretariat staff, State delegates, civil society observers, and social and natural scientists and engineers.
- Textual analysis - Conducted legal and discursive analysis of materials produced by and for CBD processes.

With an ethnographic approach to policy-making processes, I investigate the sources and kinds of knowledge in CBD’s engagement: the sources and kinds of knowledge invoked; approaches to identifying and setting the scope of issues; and the framing and responses to uncertainties.

Synthetic Biology at the CBD
- 2006 COP 8 - “New and Emerging Issues” (NEI) mechanism established to allow novel and urgent issues to be added to the CBD’s agenda.
- 2008 COP 9 - Biofuels officially added to COP’s agenda.
- 2009 SBSTTA 13 - Civil society groups hold side event on synthetic biology.
- 2010 COP 10 - Decision on Biofuels and Biodiversity urges Parties and other Governments to apply the precautionary approach to the “field release of synthetic life, cell or genome into the environment.” Decision on New and Emerging Issues invites submissions on information on synthetic biology.
- 2012 SBSTTA 16 - Determination that information submitted was insufficient to decide if criteria for NEI were met.
- 2012 COP 11 - Decision on New and Emerging Issues urges Parties to take a precautionary approach when addressing threats of significant reduction or loss of biodiversity from synthetic biology. Secretariat free to gather relevant information beyond submissions.
- 2014 SBSTTA 18 - Determination that available information was insufficient to decide if synthetic biology meets criteria for NEI.

Politics of Knowledge in Synthetic Biology at the CBD
Establishing a knowledge base for decision-making
Developing an epistemic base for decision-making has involved:
- setting the scope of the Secretariat’s work
- timing - whether synthetic biology is “ready”
- inclusion of social, economic and cultural impacts of synthetic biology - debates about the reach of the CBD
- sources of information
- UN Secretariat’s limited access to journals
- peer-reviewed and gray literature - different concepts and assumptions, contention over what is appropriate to consider

Defining the issue
The absence of an agreed-upon definition of synthetic biology has led to different questions:
- the relationship with ‘conventional’ biotechnology
- what should be considered current and near-term products
- what can be counted as potential and current benefits
- what is currently regulated by the Cartagena Protocol on Biosafety
- whether something undefined can be regulated, even softly

Framing and responding to uncertainties
Just as dominant ways of knowing are co-produced with systems to govern the unknown (Jasanoff 2004; Scoones, 2009), just as dominant ways of knowing are co-produced with systems to govern the unknown (Jasanoff 2004; Scoones, 2009), adoption and regulation of synthetic biology is a case of co-production (Stirling, 2010). Knowledge has an integral role in international environmental law and policy, as “ways in which we know and represent the world…and inseparable from the ways in which we choose to live in it” (Jasanoff 2004, 2).

Discussion
Among CBD Parties, some treat information gathering and scope setting as technical rather than political choices, often pushing to narrow the kinds of knowledge and types of uncertainties recognized. Counterarguments insist on the treaty’s broad scope and commitment to including different kinds of knowledge. The “precautionary approach” is often invoked, but usually without indication of what this means in the case of synthetic biology.

The recent COP 12 outcome establishes an Ad Hoc Technical Expert Group to, among other tasks:
• exchange views on how to address the relationship of synthetic biology and biodiversity
• identify if current regulation of synthetic biology is adequate with regards to the CBD’s objectives
• work towards an operational definition of synthetic biology

This expert group will likely be the site of struggles over sources and kinds of knowledge, conflicting assumptions, and values. It may be helpful for these issues to be explicitly recognized as political matters, rather than treated as technicalities or ignored (Scoones 2009).

References

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Contacts
Deborah Scott, PhD Candidate  delhibu@rutgers.edu  732-465-0140

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