

“New and Emerging Issues” at the Convention on Biological Diversity

**Exploring responses to scientific
uncertainties**

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Co-production of:

- soft international law
&
- knowledge and
imaginaries of
synthetic biology and
biofuels

Methods:

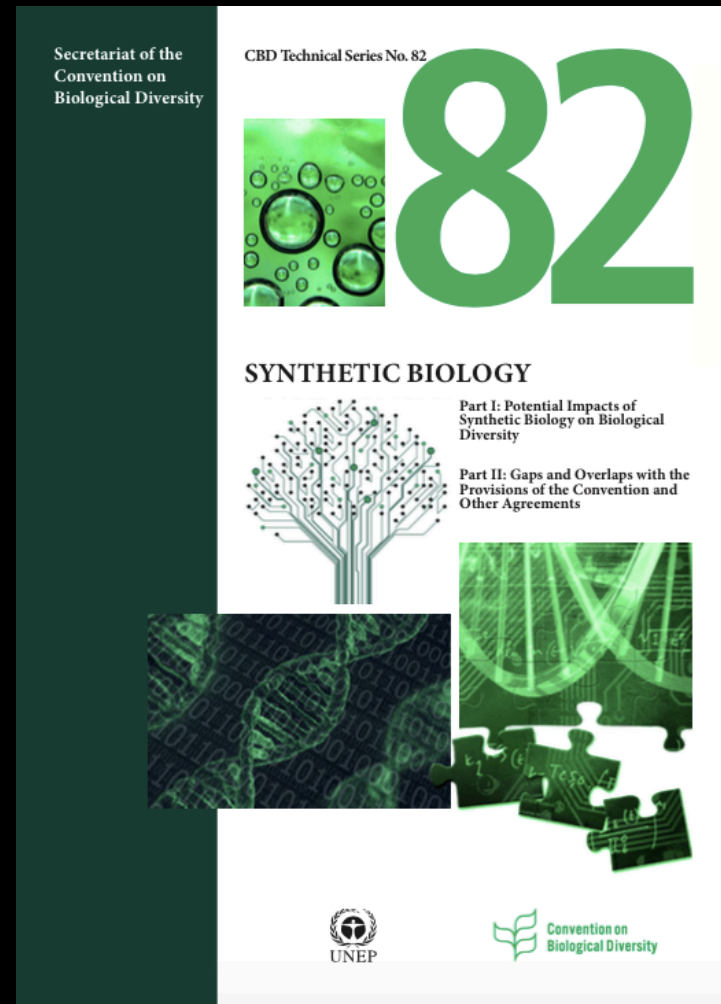
- textual analysis
- semi-structured interviews
- participant observation of negotiating events
- observant participation in treaty processes

Methods: Participant observation

- Conference of the Parties (COP)
- Subsidiary Body on Scientific, Technical, and Technological Advice (SBSTTA)



Methods: Observant participation



New & Emerging Issues

- 2006 - Decision VIII/10 – “identify new and emerging issues relating to the conservation and sustainable use of biodiversity”
- 2007 – Biofuels suggested as first NEI; added to CBD agenda in 2008
- 2010 – Synthetic biology introduced through biofuel negotiations
- today – Synthetic biology still under negotiation as a stand-alone NEI

biofuels



direct land use change



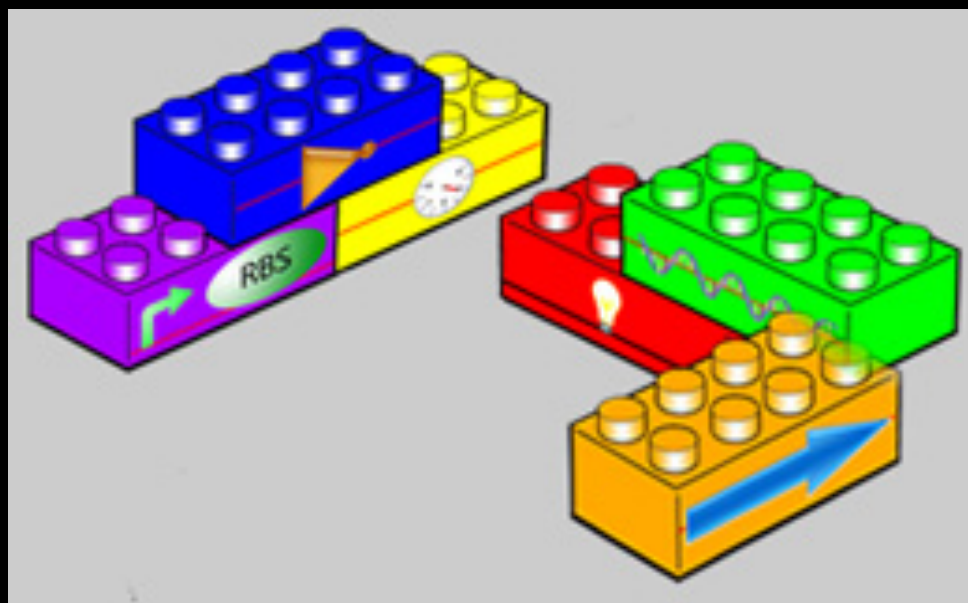


indirect land use change

synthetic biology



syntheticbiology.org, MIT / Harvard





evolve

....You Can Make Them All By Brewing

Resveratrol



Skin Aging



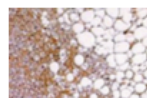
Citrus



Stevia



Adiposity



Mogroside



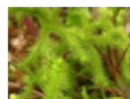
Nootkatone



Frankincense



Huperzine



UV blockers



Cocoa



Propolis



Agarwood



Indigo



Sandalwood



Carmines



Breast Milk



Vanillin



Unavailable



We use modern,
more efficient
ways to get to
the same place ...



Saffron



Mint



Taxol



biofuels: scientific uncertainties

- *Risk* – Harms, Probability
- *Uncertainty* – Harms, [Probability?]
- *Ambiguity* – [Meaning of harms?]
- *Ignorance* – [Harms?]

Decision X/37: “gaps in scientific knowledge and concerns that exist regarding those gaps”

biofuels: indeterminacies

- Secretariat: indirect land use change as the “difficult and complex” but also a “key issue regarding sustainability of biofuels production and use with regard to biodiversity”
- Brazil: “not only highly uncertain but also unobservable, unverifiable and reliant on assumed economic and social contexts in the modeling”

Framing uncertainties

- simplifying uncertainties
- excluding indeterminacies



synthetic biology: responding to the unknown

- Decision IX/27, para. 12: Criteria for New and Emerging Issues
 - criteria b: “new evidence of significant impacts on biodiversity”
- Decision XII/24: “there is currently insufficient information available to finalize an analysis” ... “awaits the completion of a robust analysis using the criteria”

Responding to the unknown

- precautionary approach/principle as boundary object
- hoping that technical processes will resolve unknowns



Ad Hoc Technical Expert Group on Synthetic Biology

- work towards an operational definition of synthetic biology
- identify if other instruments adequately regulate
- identify the potential benefits and risks



Suggestions for NEI

- plurality of expertise
- explicit analysis of unknowns
- apply Winickoff et al. (2003) “certainty-consensus continuum”

...NEI to trigger precautionary response:

- broaden range of issues considered
- engage plurality of perspectives
- interrogate full range of alternatives

acknowledgements

- Rutgers NSF IGERT “Renewable and Sustainable Fuel Solutions for the 21st Century” (IGERT DGE 0903675)
- Collaborative Event Ethnography: NSF award nos. 1027194 and 1027201, and the CBD COP 10 Collaborative Event Ethnography team
- CBD Secretariat staff