



Science, Technology & Innovation for the Sustainable Development Goals

Multi-stakeholder Forum on Science, Technology and Innovation for the SDGs

New York, 5-6 June 2018

Meeting Summary for side event

“Implications of emerging biotechnologies in the context of biologic diversity: multi-stakeholder perspectives on the risks and trade-offs”

Conference Room A, New York, 6 June 2018, 13:15-14:30

1. Objective of the side event (1 para)

The objective of this side event was to host a conversation that included diverse viewpoints to discuss proposed uses of new genetic technologies like CRISPR gene editing to conserve biological diversity. Our goal for the discussion was to address how governance decisions should be made about these technologies, and raise awareness of the risks and benefits at an international forum.

2. Organizers & Participation

- Organizers:
 - i. *Natalie Kofler* - Yale Institute for Biospheric Studies - Editing Nature
 - ii. *Lea Witkowsky, Susan Jenkins* - Innovative Genomics Institute at UC Berkeley
 - iii. *Donovan Guttieres* - UN Major Group for Children and Youth
- Panelists
 - i. *Andrew Newhouse* - American Chestnut Research & Restoration Project, State University of New York, College of Environmental Science and Forestry
 - ii. *John Malone*- Genetics and Genomics Group & the Institute of Systems Genomics at the University of Connecticut; Member, Global Young Academy’s Biodiversity for Survival via Biomedicine (Bio2Bio) Group
 - iii. *Devora Najjar* - Sculpting Evolution Group for evolutionary and ecological engineering, MIT Media Lab
 - iv. *Jim Thomas* - Co-Executive Director Action Group on Erosion, Technology and Concentration
 - v. *Swetha Stotra Bhashyam* - Steering Committee of the Global Youth Biodiversity Network & SDG 15 Global Focal Point for the UN Major Group for Children and Youth
- Participation
 - i. Approximately 23 participants in the audience (based on live polling)
 - ii. Polling showed that participants were from the following places:
 1. North America (USA) – 10
 2. North America (Canada) – 1
 3. Pacific Islands – 1
 4. Europe – 4
 5. North Africa – 1
 6. Southern Asia – 1
 7. Eastern Asia – 1

3. Major issues discussed in the session (in bullet form)

- How the technology works and applications under consideration
- How to include the perspectives of local communities in decision-making
- We discussed fears about gene editing for conservation based on histories surrounding nuclear energy research and genetically modified organisms
- Regulatory challenges of gene edited organisms released into the environment
- Urgency of biological diversity loss and potential benefits of the technology for environmental conservation.
- Concerns about corporate control and private/military interests in the technology
- Importance of input from youth and consideration of the needs of future generations that will inherit biological diversity or loss thereof, as well as the unintended consequences of environmental gene editing.

4. Main outcome

There is an urgent need for continued conversation that is inclusive of diverse perspectives. If a full spectrum of perspectives and positions are not included, policy makers risk increasing the likelihood of unintended consequences or impairing the realization of potential technology benefits. We generally observed that the audience was open to further exploration of the risks and benefits of using gene editing technologies for biodiversity conservation and a recognition that these will be highly context-dependent decisions. Compared to past conversations about these technologies there was more discussion about nuanced uses and methods of implementing ecotechnologies with community authority in decision making.

5. Key recommendations for action (in bullet form)

- Policy decisions regarding the use and development of genetic ecotechnologies must include neutral fora for deliberation that integrate diverse perspectives and positions.
- A shift is needed in how the conversation is framed. Discussions must focus on the underlying value systems that shape perspectives (distrust of technology, techno-optimism, the human relationship with nature) and effort must be given to find shared values (i.e. the protection of biodiversity, recognition of the need to care for our planet, the value of diverse perspectives).
- Any resulting policies must reconcile the tension between addressing the root causes versus addressing the symptoms of biodiversity loss.
- Deliberation must occur now before genetic ecotechnologies are deployed.