Letter: Gene Drive and Trust in Science

Lobbying and propaganda around gene drive technologies threaten to erode public trust in science.

By Christophe Boëte

In a recent paper, Emerson et al. present five principles for gene drive research that they argue should be adopted by its sponsors and supporters: 1) advancing quality science to promote the public good; 2) the promotion of stewardship, safety, and good governance principles; 3) transparency and accountability; 4) engaging thoughtfully with affected communities, stakeholders, and publics; and 5) fostering opportunities to strengthen capacity and education.[1] Emerson et al. report that 13 organizations, including Bill & Melinda Gates Foundation and the U.S. Foundation for the National Institutes of Health (FNIH), have made a commitment to honor the five principles.

It is commendable that the list of Guiding Principles for the sponsors and supporters of Gene Drive Research (GPGDR) has been developed. However, it must be noted that it is a voluntarily undertaken code of ethical and scientific conduct. It has no legal weight behind it and its signatories are not accountable to any public, government, or international body if they violate it. That lack of accountability became obvious with the release of a large number of documents and emails under a Freedom of Information Act (FOIA) request by Edward Hammond/Third World Network and in response to an Access to Information request filed in Canada by ETC Group. These emails and documents are available at Gene Drive Files (http://genedrivefiles.synbiowatch.org) and they highlight the efforts by the Gates foundation and the FNIH to influence UN agencies' support of gene drive research. While advocates of gene drive use could consider this as the coordination of scientists around a technology and its potential outcomes, this clearly reveals inconsistency between the public stance of these two powerful organizations and their private lobbying activities. For instance, in violation of the Principle of Transparency of the GPGDR, the FNIH has been working with Emerging Ag (a consulting firm providing communications and public affairs services that is funded by the Gates Foundation) to engage in 'behind closed doors' lobbying of UN agencies. The FNIH's lobbying goal is to "fight back the gene drive moratorium proponents before the next Convention on Biological Diversity CBD meeting in 2018" (see the 28 March 2017 email from the current Science Director of the FNIH to several scientists).[2] Needless to say, it is very troubling that two key signatories of the GPGDR were engaged in coordinated 'behind closed doors' efforts to influence UN agencies. Their covert efforts seem to aim at thwarting the democratic will of various organizations that have called for a moratorium on gene drive research and use (http://www.synbiowatch.org/gene-drives/gene-drives-moratorium).

Such covert activities are likely to suggest to the public that funders and supporters of gene drive research are not interested in genuine public engagement or respectful of democratic decision-making, but mainly committed to securing the public's consent for their agenda. FNIH is already collaborating with the New Partnership for Africa's Development (NEPAD) and the International Life Sciences Institute (ILSI) to organize workshops about gene drive communication in Africa.[3] This coordination is likely to reinforce that negative impression and calls into question its commitment to the GPGDR. ISLI's history is indeed loaded with conflicts of interest at the EU level and it has financial links with companies that are interested in gene drive for crop or pest control in agriculture.[4] Moreover, since 2006 the World Health Organization has banned ILSI's from direct involvement in its activities.[5]

It is unclear if within the community of sponsors and supporters of gene drive research GPGDR has credibility. Furthermore, the largest financial supporters of gene drive research, the Defense Advanced Research Projects Agency (DARPA) and Target Malaria (the most important consortium developing gene drive for the control of malaria vectors in Africa) are not signatories of the document. Concerning DARPA, one might fear that its role of financial investor in

gene file could also mean a worrying limitation of freedom in the flow of information released by scientists as revealed in a note from the gene drive files where "DARPA would like to vet our script to the press before it goes to press." Target Malaria is at the forefront of research and communication about gene drive. It was even involved in a series of workshops organized by the FNIH and the WHO in order to elaborate recommendations for the "Pathway to Deployment of Gene Drive Mosquitoes as a Promising Tool for Elimination of Malaria in Sub-Saharan Africa."[6] During these, the scientific panelists were required to provide their opinion about the use of gene drive mosquitoes as a public health tool based solely on evidence-based science. Given the revelations about the 'closed door' lobbying by FNIH, now the public and members of the larger scientific community have legitimate reasons for worrying that some of the scientists at the workshop may have been involved in or influenced by FNIH's covert agenda. In fact, even if there was no impropriety, the FNIH's involvement in the workshop may have created the appearance of bias in favor of gene drives.

So, several important questions must be asked: How much has public trust in science been eroded by these efforts to ensure that gene drive research continues? How can scientists and the publics debate the soundness of gene drive use? How can scientists build public trust when key institutional actors are intent on ensuring that gene drive research will continue? Clearly, it is time for UN agencies to organize a debate with independent, uninfluenced, honest and transparent partners who are willing to provide their honest appraisal of the technology and disclose any conflicts of interest and who have not participated in any covert lobbying efforts to influence public opinion.

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Endnotes

1. Emerson, C. et al. (2017) Principles for gene drive research. Science. 358 (6367), pp. 1135-1136 DOI: 10.1126/science.aap9026
2. Footnote 5 at: http://genedrive-files.synbiowatch.org/2017/12/01/gates_foundation_pr/. Obtained by Edward Hammond / Third World Network from North Carolina State University by North Carolina Public Records Law request of 7 August 2017.
3. ILSI Research Foundation (2016) Environmental risk assessment of gene drives. http://ilsirf.org/what-we-do/genedrives/
4. Boëte, C. (2018) Public engagement and communication: who is in charge? EMBO rep, 19: 1–2. doi:10.15252/embr.201745379
5. Heilprin, J. (2006) WHO to rely less on U.S. research. Washington DC: Associated Press.
6. James, S et al. (2018) Pathway to deployment of gene drive mosquitoes as a potential biocontrol tool for elimination of malaria in Sub-Saharan Africa: Recommendations of a scientific working group. The American Journal of Tropical Medicine and Hygiene, 98 (6)_Suppl, 1 – 49. DOI: 10.4269/ajtmh.18-0083