

No Environmental Release of Gene Drive Organisms

October, 2022

Gene drive technology uses new genetic engineering techniques including CRISPR/Cas9 to forcibly spread genetically engineered traits, including lethal ones, throughout entire populations and species of organisms. Once released into the environment, gene drive organisms cannot be recalled nor controlled thus preempting and overriding the ability of nations, Indigenous Peoples, local communities and future generations to take their own decisions.

Gene drives work against natural rules of inheritance forcing nearly 100% instead of the usual 50% of offspring to inherit their genetically engineered traits. Whereas existing bio-safety systems are designed to limit the spread and persistence of living modified organisms to mitigate against adverse impacts, gene drives are intended to spread genetic modifications to alter species and ecosystems. This would undermine the integrity of the UN Cartagena Protocol and international and national biosafety systems, including the procedures for Advanced Informed Agreement (AIA) of countries and Free, Prior and Informed consent (FPIC) of Indigenous Peoples and local communities.

Current levels of scientific understanding are not sufficient to predict the potential impacts on biodiversity at the many different layers of all the complex ecosystems in time and space that gene drive organisms would interfere with. Gene drives open the door to wide-scale genetic engineering of wild species, which is at odds with the conservation goals of a global biodiversity framework and raises fundamental ethical questions regarding the role of humanity in natural evolution.

The land of local communities and of Indigenous peoples is being targeted for the first releases of gene drive organisms. Inclusive and participatory processes of technology assessment that include multi-disciplinary expertise and respect for diverse knowledge systems are needed to address and to avert the range of potential risks, including adverse environmental, socio-economic, cultural and ethical impacts.

International rules governing gene drives will be up for debate in December 2022 at the UN Convention on Biological Diversity. The International Union for Conservation of Nature (IUCN) has recently committed itself to an inclusive and participatory process to determine its policy on gene drives by 2024. We still have a chance to take action!