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# Case for a Moratorium on Gene Drives

*Helena Paul, EcoNexus & Jim Thomas, ETC Group*

**As the COP again addresses the topic of Synthetic Biology, over 160 civil society organisations representing millions of farmers, workers and consumers around the world are urgently calling for a moratorium on development and release of gene drives – a new deliberate extinction technology that poses potentially irreversible threats to biodiversity.**

Gene drives spread a genetically-engineered trait through a species using the new 'gene-editing' tool (known as CRISPR-Cas9) that ensures the new trait is passed on to nearly all future generations of a species. This means it will become dominant in wild populations over just a few generations.

Because gene drives can be used to spread infertility and eradicate a population, proponents claim they could serve to eradicate invasive species from the wild for conservation purposes, insects such as mosquitos that carry diseases, or weed species, to remove them from farmers' fields. They could also be developed for military purposes as bioweapons, or even used to suppress food harvests.

So far gene drives have been tried in mice, fruit flies, mosquitos, yeast and nematodes. While some developers estimate that they are at least a decade away from being ready for environmental release,[1] others are proposing field trials of gene drive organisms as early as 2020.[2]

## Why does the CBD need to agree on a moratorium?

**No procedure for assessing gene drives:** There is currently no internationally agreed process for the effective governance of transboundary effects arising from the release of a gene drive. The procedures in the Cartagena Protocol on Biosafety are designed to cover intended movement across borders, and focus on containing and controlling genetic traits. Gene drives are intended to spread and will not respect borders. This means that transboundary effects across multiple countries are inevitable.

Worse still, we have little capacity to predict the cascade of ecological effects a gene drive could unleash. There are no processes in place for monitoring their impacts and no proven containment processes for them.

**Social, environmental and security concerns:** As an aggressive technique that can spread sterility and mutations, gene drives could also have serious impacts on food security and livelihoods. They might also be used as weapons, e.g.: to deliberately to take control of agriculture, destroy food production, or speed up the spread of diseases in a human population.

Due to the governance gap, the fundamental uncertainties and the serious ecological and societal effects that a release could cause, we need coordinated global oversight based on precaution. Until then a moratorium on the release of genetically engineered gene drives is clearly the right CBD response.

**CBD COP 13 - The Case for a Moratorium on Gene Drives** and other resources at http://www.synbiowatch.org/gene-drives/

1 Personal Communication with Dr Kevin Esvelt, MIT "Sculpting Evolution" Group. Sept 2016.

2 GBIRd project (Genetic Biocontrol of Invasive Rodents) led by Island Conservation International – details at http://www.islandconservation.org/program-coordinator/.

# Women will Award Governments that recognize their role and rights in Biodiversity in Cancun!

*Mrinalini Rai, Global Forest Coalition*

There is an increasing recognition about gender equality and empowerment of women as being essential for sustainable development and it is addressed in Goal 5 on gender equality as one of the 17 *Sustainable Development Goals* (SDGs)[1] that would realize a new development paradigm in eradication of poverty by leaving no one behind. However, this aspiration of women is yet to be fully realized and brought to action.

Gender is also present in other relevant international environmental agreements, including the climate change[2] and biodiversity diversity[3] conventions. The COP of the Climate Convention just adopted an ambitious new decision on gender that adds new provisions to increase women's participation, striving toward gender balance on delegations, and giving more attention and resources toward the ultimate goal of gender equality in the climate regime.[4]

COP12 adopted decision XII/7 containing the *2015-2020 Gender Plan for Action.*[5] This plan puts forth actions by the Secretariat to stimulate and facilitate the promotion of gender equality in its work, and sets out actions for Parties to mainstream gender into their activities under the Convention. Yet, until now, too many draft decisions for COP13 lack a clear gender perspective. Moreover, an analysis undertaken by IUCN of all *National Biodiversity Strategies and Action Plans* (NBSAPs) available through the Convention's search portal received by the CBD from 1993 to May 2016, showed that only 56 per cent of all NBSAPs (143 of 254)[6] contain at least one-reference to "gender" and/or "women", while the remaining 44 per cent do not contain any mention of either "gender" or "women".

Women play a key role in biodiversity management and protection but their meaningful participation and contributions are seldom acknowledged or recognised in national biodiversity policies. That is why a large group of women's organizations participating in COP13 has decided to recognize and award parties that are clearly championing gender equality and a gender perspective in their interventions and in the national biodiversity strategies and action plans (NBSAPs).

Therefore, throughout the COP women's groups will award a flower pin to parties' that recognise women's empowerment and gender dimensions, as a symbol that demonstrates their commitment to gender.

A new fact sheet on *Gender Perspectives on Biodiversity*[7] produced by the Secretariat reiterates the fact that women constitute 43% of the total agricultural labor force in developing countries and produce a large part of the world's food crops; female household member generate about 4 times more forest income then male members; and though fishing is typically seen as a male occupation, women are predominantly involved in post capture activities, including subsistence harvesting. But despite the valuable contributions that women make in biodiversity conservation, gender often remains overlooked in decision-making on access to and the use of biodiversity resources, more when it concerns the rights, access and benefit to indigenous women. The C*ommunity Conservation Resilience Initiative* in one of its recommendation[8] identified the need to promote and strengthen women's participation and leadership in all levels of biodiversity-related policy-making.

We all agree that gender-differentiated practices followed by men and women all collectively contribute towards biodiversity conservation and resilience, but throughout the world, gender inequality exists when it comes to land and other productive resources and it is also intimately related to women's poverty and exclusion.

Five years is a very ambitious timeline to achieve actions proposed in mainstreaming gender and as such there already need to be inclusion of sex-disaggregated data, gender-sensitive indicators and gender analysis not only in NBSAPs but also in their implementation and in biodiversity-related activities carried out by Parties. Political will is not enough, of the 196 world leaders, only 20 are women.[9] A gender-responsive approach needs to be a strategic priority to build a strong foundation to move towards the agenda forward - one that is inclusive, human rights based and builds on the needs and aspiration of women. This includes States putting in place financial

investments in national expenditure to support community conservation initiatives taken by women, and also contributions to international aid.

We need to go beyond equality, to truly achieve gender perspective; it is time to address equity.

1 https://sustainabledevelopment.un.org/?menu=1300

2 http://unfccc.int/files/meetings/marrakech_nov_2016/application/pdf/auv_cop22_i15_gender_and_climate_change_rev.pdf

3 https://www.cbd.int/gender/about/GenderMainstreaming.shtml

4 http://sdg.iisd.org/commentary/guest-articles/the-cop-18-gender-decision-a-step-towards-gender-equality-in-the-climate-regime/

5 https://www.cbd.int/gender/action-plan/

6 UNEP/CBD/COP/13/8/Add.3; https://www.cbd.int/doc/meetings/cop/cop-13/official/cop-13-08-add3-en.pdf

7 https://www.cbd.int/gender/doc/fs-gender-perspectives-en.pdf

8 http://globalforestcoalition.org/ccri-durban/

9 https://www.cbd.int/gender/doc/fs_gender_long.pdf

COP 13 – item 15

# Deep Sea Mining: Mining the last frontier?

*Jorunn Vallestad, FOE Norway*

In the depths of the oceans we find ecosystems and species most of us can hardly imagine. So far, these fragile ecosystems thousands of meters under sea level have been more or less untouched by humans, but now more and more companies have realized the value of the minerals found here.

While COP13 proceeds, you can use the new tool *Deep Sea Mining Watch*[1] to follow some of the vessels prospecting, and already in early 2019 the Canadian company *Nautilus Minerals* is planning to start the first seabed mining operation in the world.

The plan is to use remote-controlled bulldozer-like vehicles to churn up the sea floor, suck up the finely grained particles and filter out what is wanted.

Marine scientists fear that unique biological communities will be destroyed, species yet to be identified become extinct, and fragile ecosystems take centuries to recover after being mined. In addition you have the question of what to do with the left over mining waste.

At the IUCN World congress this year there was massive support to ban the practice of dumping mining waste at sea from land based mining. This is a practice that most countries have moved away from, because of the environmental impacts. Only a few countries still allows it, most notably Norway, where opposition is also strong to save the fjords from mining waste.[2]

By allowing deep sea mining, you also increase the pressure for dumping of mining waste to be allowed from vessels at sea, as this will be the cheapest and simplest solution for the mining companies to get rid of their waste.

Deep sea mining, if allowed, will be a huge set back in the work to protect the marine environment from harm caused by the mining industry. Currently there are no international regulations governing deep sea mining, and the only sensible thing to do would be to put in place an international moratorium.

1 https://deepseaminingwatch.msi.ucsb.edu/#B0002

2 http://savethefjords.com/

Read more at https://www.iucn.org/sites/dev/files/import/downloads/mining_brochureprint_8june__3_.pdf

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***Submissions** are welcome from all civil society groups.*
***Email:** lorch@ifrik.org*

# What are ICCAs?

*Grazia Borrini-Feyerabend & M Taghi Farvar*

At all times and in all world cultures it is possible to find a phenomenon that is so strong and natural to be nearly invisible. This phenomenon is **the association - unique, profoundly rich, at times visceral - that ties a specific community or people to its own territory, to the land, the water and the natural resources on which and of which it lives.**

Since the beginning of the second millennium, this phenomenon has been purposefully singled out as one of the essential features of humanity, in jeopardy because of current social and ecological change. It has thus been offered a name: when the community-territory association is combined with **effective local governance** and **conservation of nature**, the name that has been proposed is **ICCA.**

ICCAs are defined by three characteristics:

- a s**trong and profound bond** between a territory, area or species' habitat and an indigenous people or local community;
- the concerned people or community being the key player in **making and enforcing decisions** (i.e., in governing) the territory, area or species' habitat;
- the management decisions and efforts of the concerned people or community leading to the **conservation of nature** and its associated cultural values.

## Synthetic Biology and related side events

Monday - 18:15

Key Issues for Implementing Biosafety

Monday - 18:15

The Financialization of Nature, Climate and Geoengineering

Tuesday - 13:15

Synthetic Biology, Justice and Precaution: The Way Forward

Tuesday - 18:15

Crispr Gene Drives: The Implications of Extintiction Technologies and Species-Scale Engineering

Besides the bond with territory, ICCAs thus highlight the presence of a **local governance institution** (e.g. a council of elders, a village general assembly) that takes responsibility to develop some rules of access and use for the natural commons, and makes sure such rules are respected.

While the abbreviation **ICCA** can be used across languages and cultures to describe the **"territories and areas conserved by indigenous peoples and local communities,"** in specific locations around the world very different terms are used. **Wilayah adat, himas, agdals, territorios de vida, territorios del buen vivir, tagal, qoroq-e bumi, yerli qorukh, faritra ifempivelomana, ancestral domains, country, community conserved area, sacred natural site, locally-managed marine area…** and many other terms represent unique meanings for unique peoples and communities. The ICCA abbreviation hopes to encompass but should never be used to submerge the diversity of such terms, which is a value in itself.

Conservationists and governments know that appropriate recognition and support to ICCAs can deliver **lasting patterns of conservation** that depend on local integrity and capacities rather than on external fluxes of expertise and funding. That they can sustain l**ivelihoods, peace and security, and cultural identity and pride.** That they are a non-market based mechanism to mitigate and help to adapt to climate change. And that they contribute to most **sustainable development goals.** For their custodian indigenous peoples and local communities, however, ICCAs remain essential for the enjoyment of **collective rights and responsibility to land, water and natural resources** and to the respect for their traditional knowledge, practices and institutions.

These are possibly the crucial reasons why, today, hundreds of indigenous peoples' and community organisations and civil society supporters and individuals, have joined forces in the **ICCA Consortium** - an organisation developed to defend ICCAs against their many and pervasive threats, and to foster their appropriate recognition and support around the world.