

- **Geoengineering**
- **ABS under litigation in India**
- **FAO forest definition & plantations**

## Geoengineering

*Lili Fuhr, Heinrich Böll Foundation*

**Mainstream politics is ill-equipped to imagine fundamental change. But last December in Paris, 196 governments agreed on the need to limit global warming to 1.5°C above pre-industrial levels – an objective that holds the promise of delivering precisely such a transformation. However, many climate scientists and increasingly more policy makers are arguing that the only way that this ambitious goal can be achieved will be through large-scale technological interventions to control the global thermostat.**

Proponents of these geoengineering technologies argue that conventional adaptation and mitigation measures are simply not reducing emissions fast enough to prevent dangerous warming. The *Intergovernmental Panel on Climate Change* seems to agree. In its fifth assessment report, it builds its scenarios for meeting the Paris climate goals around the concept of “negative emissions” – that is, the ability to suck excess carbon dioxide out of the atmosphere. The supposed saviour technology, BECCS (Bioenergy with CCS), suggests to produce large amounts of biomass from; those plants would then be converted into fuel via burning or refining, with the resulting carbon emissions being captured and sequestered. The effects of the EU’s biofuel policy on food prices and land grabbing offers a bitter taste of what that would might mean for people and ecosystems. Using BECCS to limit global warming to 2°C would require a land area at least twice the size of India and maybe more...

*Solar Radiation Management* (SRM) – the other type of geoengineering - aims to control the amount of sunlight that reaches the Earth, for example by pumping sulphates or other aerosols into the stratosphere which would reflect more sunlight back into space. But blasting sulphates into the stratosphere does not reduce CO<sub>2</sub> concentrations; it merely delays the impact for as long as the spraying continues. Moreover, sulphate injections in the Northern hemisphere could cause serious drought in the Africa’s Sahel region, owing to dramatic reductions in

precipitation, while some African countries would experience more precipitation. The effect on the Asian monsoon system could be even more pronounced. In short, SRM could severely damage the livelihoods of millions of people.

The Parties to the CBD have shown remarkable foresight when they adopted Decision X/33, 8 (w) in 2010 and established a moratorium on all geoengineering technologies. Climate-related geoengineering will be considered at COP 13 under Agenda item 17. The draft recommendations (UNEP/CBD/COP/13/2/Rev.1 page 137) basically reaffirm that precautionary approach and parties are well advised to adopt that decision. However, they need to remain alert since the Post-Paris Brave New Climate World sees Geoengineering as the “lesser evil” and the CBD as a decision-making body that can easily be ignored when “more important” challenges (such as climate change) have to be addressed.

They will ask: If geo-engineering can’t save us, what can? The CBD has a big range of expertise to offer on that issue, specifically when it comes to sustainable land use practices. Here is one concrete example of what that could mean for the climate: The *Stockholm Environment Institute* has calculated that we could sequester 220 to 330 gigatonnes of CO<sub>2</sub> globally by restoring and protecting natural ecosystems as an important contribution to repaying our land carbon debt.

### Geo-engineering solutions are not the only alternative.

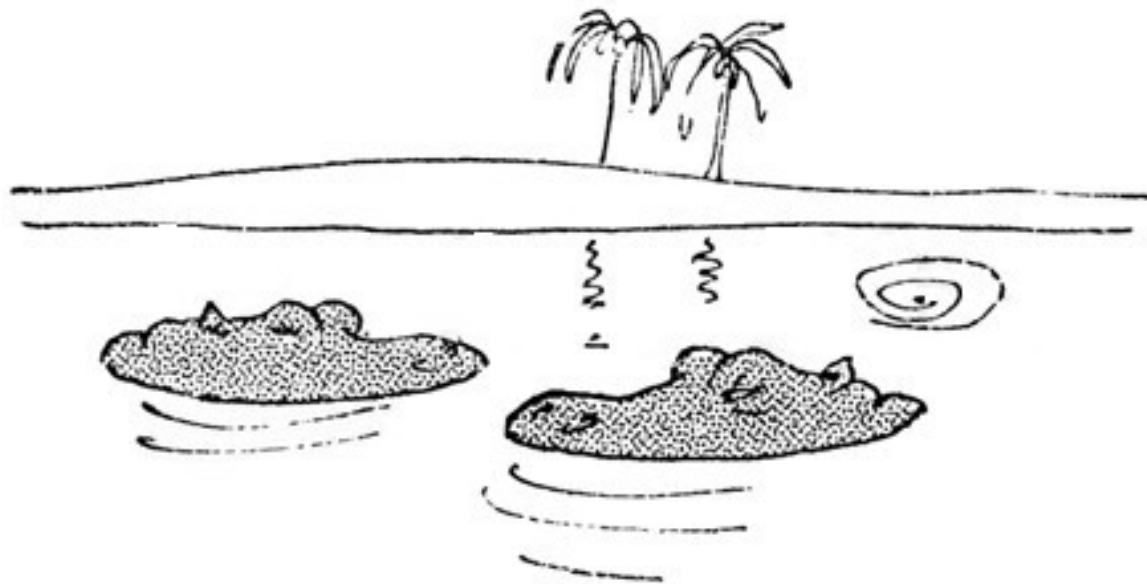
They are a response to the inability of mainstream economics and politics to address the climate challenge. Instead of trying to devise ways to maintain business as usual – an impossible and destructive goal – we must prove our ability to imagine and achieve radical change. If we fail, we should not be surprised if, just a few years from now, the planetary thermostat is under the control of a handful of states or military and scientific interests. Studies and policy recommendations on the impacts on biodiversity and associated livelihoods caused by any geoengineering intervention are, and should remain, under the mandate of CBD and its bodies. Parties to the CBD need to send a strong message to their climate counterparts that they need to do their homework properly and look at real solutions that work for ecosystems and people instead of offering quick technofixes.

### Some facts....

In **agriculture**, pollution produced by nutrients used as fertilizers continues to have significant effects. Indicators of agricultural land biodiversity continue to deteriorate, although the rate of deterioration is slowing down.

**Deforestation** in several tropical areas of the world continues to increase and fragmentation and degradation of habitats such as grasslands, wetlands and river basins continue.

The number of **invasive alien species** continues to grow worldwide and also increase their impacts on biodiversity. Very few of the programs aimed at eradicating invasive species from land areas have been successful.



**“ I KEEP THINKING IT’S TUESDAY.”**

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# ABS under litigation in India

*Shalini Bhutani & Kanchi Kohli*

India's national law to give effect to the CBD is the Biological Diversity (BD) Act, 2002. It began to be implemented after the BD Rules were issued in 2004.

The maximum number of cases before legal fora through 2004-2016 are on ABS.

India ratified the Nagoya Protocol in October 2012 and became a Party to the Protocol in October 2014. Shortly after, on 21 November 2014 the National Biodiversity Authority (NBA) issued Guidelines on Access to Biological Resources and Associated Knowledge and Benefit Sharing Regulations, 2014. In the course of enforcing these, the state biodiversity boards (SBBs) in India are facing many legal challenges.

Five key legal points with respect to ABS have emerged from cases being fought out in different courts and tribunals in the country. These are briefly discussed below.

## 1. Indian companies

The BD Act requires Indians to give prior intimation to SBBs for obtaining bioresources for certain purposes including commercial utilisation. Indian companies resist being brought under the ABS regime. They often seek the court's intervention for relief in the form of making the ABS Guidelines applicable only to non-Indian entities.

## 2. 'Biological Resources'

If something falls within the legal definition of 'biological resource' the accessor/user becomes liable to share benefits. Sometimes SBBs try to bring certain things like 'waste paper' under the ambit of 'biological resources'. Sometimes the local biodiversity management committee (BMC) try to get natural resources like coal classified as a bioresource. While the Madhya Pradesh SBB supported the contention of the BMC, the Environment Ministry and the NBA disagreed with this position. The latter two submitted that neither the CBD nor the BD Act had ever been conceived to regulate fossil fuels.

## 3. 'Commercial Utilisation'

Companies use the argument that they are an industry, which is not covered under Section 2(f) of the BD Act. The said provision lays down that '(c)ommercial utilisation' means end user of biological resources for commercial utilization such as drugs, industrial enzymes, food flavours, fragrance, cosmetics, emulsifiers, oleoresins, colours, extracts and genes used for improving crops and livestock through genetic intervention, but does not include conventional breeding or traditional practices in use in any agriculture, horticulture, poultry, dairy farming, animal husbandry or bee keeping.

## 4. Jurisdiction of an SBB

As per Section 22 of the BD Act each State Government is to mandatorily set up an SBB for the purposes of this Act. In situations where the petitioner companies source bioresources from other states, they do not want to have to disclose that to the SBB of the host state in which they are operating. The Court held, for instance in cases from Uttarakhand that the petitioners are bound to give the desired information to Uttarakhand SBB, in respect of the raw materials that they have obtained from within the territorial boundary of Uttarakhand. The courts have directed that the Uttarakhand SBB could not compel the accessor companies to give desired information in respect of the bioresources obtained from outside Uttarakhand.

## 5. 'Prescribed Form'

The question arose whether Form I issued by the Central Government would be the appropriate form for providing details on access asked for by SBBs? Even though the Government of Uttarakhand had not made rules or given any 'prescribed form', upon reading of the legal obligation under Section 7, the Court concluded that accessors are bound to give information to SBB. The absence of a prescribed form by the State Government does not absolve the accessor from sharing benefits. Interestingly, the Court left it to the discretion of the petitioner companies to supply the desired information in any form that they wanted.

# Tree plantations must be defined separately from forests

Amanda Tas & Wally Menne

The current FAO 'forest' definition fails to distinguish between genuine forests and areas planted with trees for industrial production. The definition (2000) reads: "*Land with tree crown cover (or equivalent stocking level) of more than 10 percent and area of more than 0.5 hectares (ha). The trees should be able to reach a minimum height of 5 metres (m) at maturity in situ.*"

This vague definition carries serious ramifications; influencing global economic, environmental and social policies, including by agencies of the UN such as the UNFCCC and the World Bank. In turn, these agencies support the expansion of tree plantations, to offset industrial greenhouse gas emissions, rather than reducing emissions at source. Their policies encourage land-grabbing and land-use changes that destroy biodiversity and damage soil and water resources, and seldom benefit indigenous peoples and local communities.

As a result of the definition, the FAO calculates global changes in 'forest cover', using a simplistic 'one-size-fits-all' approach. This allows virtually any group of trees or non-trees, including deforested areas and clear cut plantations, to be counted as 'forests'. Inconsistent and confusing statistics have resulted that now 'muddy the water' when predicting the long-term impacts of forest loss and tree plantation expansion in relation to social, economic and climatic changes.

Forests are complex, dynamic, natural tree-dominated ecosystems, which have evolved over thousands of years through processes also influenced by the integral ecological niche of forest-dependent peoples. Yet, the FAO views forests as crude sources of wood and carbon that can be traded in global markets.

A tree plantation is an area of land purposely planted with trees by people, for the production of wood or commodities such as rubber, coffee, nuts, etc., with the intention of producing utility materials, foodstuffs, or fuel. Tree monocultures, usually of a single alien (often invasive) species, are devoid of other life forms apart from diseases, pests and weeds, which necessitate the intensive use of toxic agrochemicals. Creating them destroys biodiverse

vegetation including grasslands and forests. They desiccate peat swamps and wetlands, leading to frequent and widespread fires that cause irreversible ecological damage.

By combining forests and plantations into one definition the FAO has promoted the expansion of industrial tree plantations, and, the contribution of forests in producing soil, water, oxygen, food and habitat for innumerable species is overshadowed.

Industrial tree plantations cause negative impacts that forests do not, while forests provide services that plantations cannot.

A better forest definition for FAO could be: "*A forest is a complex natural ecosystem, dominated by indigenous trees, with a large degree of biodiversity, where most of the trees have regenerated without influence from humans. The structure and composition is mainly determined by natural events.*"

This could also include habitat restoration of semi-natural or planted forests. Some tree and animal species must be reintroduced together, especially in the tropics where many trees are pollinated not by wind, but by insects, birds or bats.

The FAO should make a clear distinction between what is ecologically a forest, and what is not; compiling comprehensive lists of the defining characteristics of forests in comparison to those of tree plantations. This separation would enable more accurate and useful forest and plantation resource assessments to be produced, benefiting both governments and UN agencies.

The FAO must take responsibility for the ecological and social harm caused by its biased and irresponsible 'forest' definition if their true intention is to end deforestation, reverse climate change and create a sustainable global economy that can benefit everyone.

See also [http://wrm.org.uy/highlighted\\_post/support-the-letter-urging-fao-to-revise-its-forest-definition](http://wrm.org.uy/highlighted_post/support-the-letter-urging-fao-to-revise-its-forest-definition), <https://www.rainforest-rescue.org/petitions/1013/tell-the-united-nations-plantations-are-crops-not-forests> and [http://www.theecologist.org/blogs\\_and\\_comments/commentators/2680451/fao\\_a\\_plantation\\_is\\_not\\_a\\_forest.html](http://www.theecologist.org/blogs_and_comments/commentators/2680451/fao_a_plantation_is_not_a_forest.html)