



"Biodiversity"

Frison, Christine

ABSTRACT

Since the beginning of the 20th Century, a complex web of national, regional and international regulatory instruments has developed to handle environmental degradation, so that it can be further used by humans today or in the future, not because Nature deserves, per se, not to be destroyed. However, we are now in the sixth mass extinction and destruction of natural resources does not affect people and countries in the same way around the globe. This means that biodiversity conservation is not effective and calls for a radical change in global environmental governance and regulation, moving away from the inequitable consumption and exploitation pathway.

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6. Biodiversity

Definition

“Biodiversity” or “Biological Diversity” is defined in the *Dictionary of Sustainability* (Margaret Robertson (2017). *Dictionary of Sustainability*. Routledge, p. 165) as “the variety of genes, species and ecosystems found in a given area”. This definition perceives biological diversity at different scales, from the nano-level (gene) to the macro one (ecosystems), and relates living beings with their environment in interdependent relationships. Looking in the Cambridge Dictionary, this definition is widened to “the number and types of plants and animals that exist in a particular area, or the problem of protecting it”, thereby introducing the problem of biodiversity loss and destruction requiring protection and conservation. After the Second World War, and particularly in the 1970s and 1980s, nature protection movements began to voice an alarm call for protecting our planet and wildlife from human destruction, thereby fostering the theory of Environmental Justice. The United Nations (UN) institutions and the scientific community backed up these calls with numerous reports on the state of biodiversity, water or air pollution, deforestation, extinction of endangered species etc. New academic disciplines emerged to address these problems, such as “conservation biology” or “sustainable development law”. The father of conservation biology, Michael Soulé, explains that it:

addresses the biology of species, communities and ecosystems that are perturbed, either directly or indirectly, by human activities or agents. Its goal is to provide principles and tools for preserving biological diversity . . . Conservation biology differs from most other biological sciences in one important way: it is often a crisis discipline . . . In crisis disciplines, one must act before knowing all the facts; . . . their pursuit requires intuition as well as information. (Soulé, 1985: p. 727)

A few years later, the UN Conference on Environment and Development (UNCED, or ‘Rio Earth Summit’, 3–14 June 1992) was held in Brazil, designing worldwide measures to protect biodiversity. Three conventions were

opened for signature, including the Convention on Biological Diversity (CBD) where biological diversity is defined as the “the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems” (Article 2). The CBD designs various conservation strategies: at the genetic diversity scale through in situ and ex situ conservation approaches; at the ecosystem scale through preservation of habitat or protected area plans.

The origin of biodiversity destruction is clearly anthropocentric (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), Global Assessment Report on Biodiversity and Ecosystem Services, 2019; Intergovernmental Panel on Climate Change (IPCC) reports). However, exploitation, extraction and destruction of natural resources such as forests, land, wetlands, fisheries and oceans or freshwater do not affect people and countries in the same way around the globe. On the one hand, developing countries are generally poor in financial and technical/technological resources but rich in biological diversity, with 15 States being called “megadiverse countries” that is to say countries with the majority of Earth’s species and high numbers of endemic species (what some have featured as “green gold”). On the other hand, developed countries are generally poor in biological resources (except the USA and Australia) but have the financial and technical means to exploit nature, on their territory or elsewhere, thereby contributing to their economic growth, often without destroying their own territory. From a Law and Development perspective, it should be highlighted that environmental, economic and social impacts of biodiversity exploitation are clearly not equitably nor fairly distributed on the globe, the richest countries benefiting from the largest share of the cake, the poorest suffering from the biggest destruction and pollution (UN Environment Programme (UNEP), “Global Environment Outlook 6”, 2019).

Biodiversity cannot be reduced only to natural resources. It also encompasses a cultural and immaterial dimension, inter alia through traditional knowledge (TK) related to genetic resources. TK is based on the accumulation of empirical observations by indigenous and

local communities (ILCs) and on interaction with their environment. This includes, for example, knowledge related to agricultural practices, midwifery, ethnobotany and ecological knowledge or traditional medicine. TK is generally crucial for the subsistence of ILCs. It has been demonstrated that biodiversity losses go hand-in-hand with cultural losses, such as the disappearance of local languages. This shows that immaterial aspects of biodiversity – i.e. its related knowledge and information – are inseparably entangled with the physical resources and that they play an essential role in conserving and using biodiversity in a sustainable manner.

The conservation and use of biodiversity cover many different scientific fields (from agronomy, genetics, biology, ethnobotany, to law, economics, anthropology or political sciences). This explains why an interdisciplinary approach is compulsory to mitigate the destruction of our environment and the ongoing sixth mass extinction (IPBES, Global Assessment Report, 2019, above). Up to now, the international regulatory instruments put in place to protect our environment have clearly not enabled to revert the destruction pathway.

International biodiversity law regime complex

Since the beginning of the twentieth century, a complex web of national, regional and international regulatory tools has developed to handle environmental degradation, but has not been governed in a coherent manner. Within the field of international environmental law, specific conventions address biodiversity conservation in two major ways: protecting areas through a “sanctuary approach” (e.g. protected areas) or controlling the exploitation of nature through conservation and sustainable use obligations (e.g. quotas in deforestation or fisheries, sometimes assorted with restoration obligations when a destruction is inevitable). They all regulate the access to the area or to the resources (plant, animal or mineral) and their “sustainable use”. There are numerous conventions dealing with biodiversity conservation. Only a few will be mentioned here and three will be briefly explained: the CBD and its Nagoya Protocol on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising from their Utilization, and the International Treaty on Plant Genetic Resources for Food and Agriculture. Other treaties include: The

International Plant Protection Convention; The Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention); The Convention Concerning the Protection of the World’s Cultural and Natural Heritage (World Heritage Convention); The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); The Convention on the Conservation of Migratory Species of Wild Animals (CMS or Bonn Convention) and The UN Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (UNCCD). In addition to the latter convention and besides the non-binding Rio Declaration on Environment and Development, Agenda 21 and the Forest Principles, the Rio Earth Summit also resulted in the following two supplementary conventions: the Framework Convention on Climate Change (UNFCCC), and the Convention on Biological Diversity.

The CBD (signed at the Rio Earth Summit on 5 June 1992, entered into force 29 December 1993; 196 contracting parties as of August 2019) has three objectives (Article 1): “the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources”. The CBD was complemented by two protocols. The Cartagena Protocol on Biosafety to the Convention on Biological Diversity (Cartagena Biosafety Protocol, adopted on 29 January 2000, entered into force on 11 September 2003; 171 contracting parties as of August 2019) is an international treaty governing the transboundary movements of living modified organisms resulting from modern biotechnology. The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) to the Convention on Biological Diversity (Nagoya Protocol, adopted on 29 October 2010 in Nagoya, Japan, entered into force on 12 October 2014; 118 contracting parties as of August 2019) provides a transparent legal framework for the effective implementation of the fair and equitable sharing of benefits objective of the CBD, which contracting parties had difficulties to implement effectively for 20 years.

The CBD has numerous substantive provisions relating to: (in situ and ex situ) measures for the conservation of biodiversity; incentives for the conservation and sustainable use

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of biodiversity; research and training; public awareness and education; assessing the impacts of projects upon biodiversity; access to and transfer of technology; and the provision of financial resources. Most importantly, it creates a “fair and equitable access and benefit sharing” (ABS) mechanism to control access to genetic resources and compensate the access with monetary and non-monetary benefit sharing obligations. The CBD and its Nagoya Protocol regulate ABS through a contract that includes the prior informed consent from the Contracting Party providing the resources – often a developing country – (CBD, Article 15§5) and, when appropriate, from the ILCs (Nagoya Protocol, Article 6§2). Furthermore, fair and equitable sharing of benefits that arise from the use of genetic resources as well as subsequent applications and commercialization are guaranteed through mutually agreed terms, negotiated between the provider and the user – generally a user from a developed country – (CBD, Article 15§3 and §7; Nagoya Protocol, Article 5§1) (Morgera et al., 2014) in the access contract. However, the effective implementation of these ABS provisions remains thorny and one might question whether this contractual approach to commodifying genetic resources is the best way to efficiently and equitably conserve and use biodiversity.

The International Treaty on Plant Genetic Resources for Food and Agriculture (the FAO Seed Treaty, signed in Rome, Italy on 3 November 2001, entered into force on 29 June 2004; 145 contracting parties as of August 2019) has three objectives to reach sustainable agriculture and food security: the conservation of plant genetic resources for food and agriculture, their sustainable use, and the fair and equitable sharing of the benefits arising out of their use, in harmony with the CBD. The treaty covers all plant genetic resources for food and agriculture, while its Multilateral System of ABS, which functions as a virtual common basket where all stakeholders can access seeds upon standard terms, covers 64 crops and forages listed in its Annex I. The treaty also includes provisions on farmers’ rights (Frison, 2018). The Seed Treaty is currently under review to enhance the functioning of its multilateral system.

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Critical State of biodiversity at the dawn of 2020: what response from a law and development perspective?

As stated in a previous publication:

the Convention on Biological Diversity formalized the objectification of biodiversity as mere economic resources, the use out of which benefits should be derived, but also consecrated the market to be the most appropriate regulating instrument for reaching biodiversity conservation and sustainable use objectives. (Frison, 2018)

Marketing nature was presented as progress and development to the Global South. Similar reasoning can be made for the other international biodiversity conventions sketched-out above. By exporting Western (neoliberal capitalist) norms on Nature to the rest of the world, these instruments address biodiversity conservation from an anthropocentric perspective: biodiversity is conserved so that it can be further used by humans today or in the future, not because it deserves, per se, not to be destroyed. They all embody and facilitate the commodification of Nature (Dhandapani, 2015), treating elements of Nature as direct, physical (e.g. agricultural products, mining resources) or indirect, immaterial (ecosystem services, carbon quotas) market resources. By relating biodiversity conservation to economic instruments and purposes (UNEP, Green Economy Report, 2011), these conventions design mechanisms that sustain the (hyper-)appropriation and exploitation of Nature, mainly by the Global North. Scholars have named these processes ‘extractivism’ (Gudynas, 2018) or “extractive biocolonialism” (Harry, 2011). This concept can be related to a form of “Biopiracy”, where industries from the North dispossess the South from their resources and TK.

It is a fact that we are now in the sixth mass extinction (IPBES, Global Assessment Report, 2019, above). This means that the way we govern biodiversity conservation is not effective, notwithstanding the new tools and instruments attempting to internalize the external costs and damages to the environment by our neoliberal global market (Dhandapani, 2015). Consequently, one may call for a radical change in global environmental governance and regulation, moving away from the inequitable consumption and exploitation pathway: “a radical cultural and institutional transformation – a

transition to an altogether different world” (Escobar, 2015: p. 453). A change where Nature and human beings would both be equally important subjects of law, what Capra and Mattei call “an ecological legal order” (2015), paving the way for a transition towards resilient and interdependent societies around the globe. Focusing on cooperation rather than competition and on the key role of local communities in governing resources, alternatives are explored both in Western and non-Western societies through the revival of common governance systems (Bollier and Helfrich, 2014; Frison, 2018). “Commoning” biodiversity would allow to re-empower communities in governing their ecosystems in an ecological way, aside from private or State appropriative management (Bollier and Helfrich, 2014). Focusing on a **holistic**, non-anthropocentric environmental ethic, where Nature has an intrinsic value in line with Aldo Leopold’s environmental philosophy, would allow communities of human and non-human living beings to play a central role in conserving our ecosystems. “In emphasizing the inter-dependence of all beings, [new transition discourses] bring to the fore one of the crucial imperatives of our time: the need to reconnect with each other and with the non-human world” (Escobar, 2015: p. 454). But to do so, the white Western man would need to look, listen to, learn from and implement other cosmologies from other societies living on our planet (Kothari et al., 2014).

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References

- Bollier, David and Silke Helfrich (eds) (2014). *The Wealth of the Commons: A World Beyond Market and State*. Levellers Press.
- Capra, Fritjof and Mattei, Ugo (2015). *The Ecology of Law: Toward a Legal System in Tune with Nature and Community*. Berrett-Koehler Publishers.
- Dhandapani, Selvakumar (2015). “Neo-liberal Capitalistic Policies in Modern Conservation and the Ultimate Commodification of Nature” *Journal of Ecosystem and Ecography* 5,167.
- Escobar, Arturo (2015). “Degrowth, Postdevelopment, and Transitions: A Preliminary Conversation” *Sustainability Science* 10(3), 451–462.
- Frison, Christine (2018). *Redesigning the Global Seed Commons: Law and Policy for Agrobiodiversity and Food Security*. Routledge.
- Gudynas, Eduardo (2018). “3 Extractivisms. Tendencies and Consequences” in Ronaldo Munck, and Raul Delgado Wise (eds), *Reframing Latin American Development*. Routledge.
- Harry, Debra (2011). “Biocolonialism and Indigenous knowledge in United Nations discourse” *Griffith Law Review* 20(3), 702–728.
- Kothari, Ashish, Federico Demaria, and Alberto Acosta (2014). “Buen Vivir, Degrowth and Ecological Swaraj: Alternatives to Sustainable Development and the Green Economy” *Development* 57(3-4), 362–375.
- Morgera, Elisa, Elsa Tsioumani, and Matthias Buck (2014). *Unraveling the Nagoya Protocol: A Commentary on the Nagoya Protocol on Access and Benefit-Sharing to the Convention on Biological Diversity*. Martinus Nijhoff Publishers.
- Soulé, Michael E (1985). “What is Conservation Biology? A New Synthetic Discipline Addresses the Dynamics and Problems of Perturbed Species, Communities and Ecosystems” *Biosciences* 35(11), 727–734.

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