Is the Nagoya Protocol designed to conserve biodiversity?

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Societal Impact Statement
We have entered a monumental era in terms of realizing the impact of biodiversity loss on our everyday lives. We suffer from the consequences of biodiversity loss due to overexploitation of natural resources as we continue failing to restore biodiversity. One of the major consequences of biodiversity loss is the emergence of global pandemics. We are in urgent need of realizing the full potential of all of the international legal instruments on creating incentives for biodiversity conservation. Access and benefit-sharing or ABS is an international legal framework implemented with the hopes that it would provide such incentives. Therefore, a legal analysis on whether ABS is designed to achieve biodiversity conservation is of crucial importance in achieving international conservation targets.

Summary
• The international ABS regime was put in place with the hope that it would aid the international community in conserving biodiversity and thereby attaining its international conservation targets.
• This paper conducts an empirical analysis of all of the relevant documents generated during the negotiations of the Nagoya Protocol, the major international legal instrument on ABS, to determine whether the design of the regulatory mechanisms do indeed lead to creating such incentives for conservation.
• Throughout the negotiations for the Nagoya Protocol, many suggestions were made by the Parties and relevant stakeholders regarding how ABS would result in creating incentives for biodiversity conservation. While some presuppose that benefit-sharing will inherently result in biodiversity conservation, others specify some economic incentives which would then generate such incentive that would result in governments directing the received benefits into conservation activities.
• The paper then moves on to analysing the adopted text of the Nagoya Protocol with the aim of mapping the obligations of Parties to channel benefits into conservation. It is concluded that the design of the Nagoya Protocol does not intrinsically lead to biodiversity conservation but benefit-sharing is a tool that can be directed towards biodiversity conservation.

KEYWORDS
access and benefit-sharing (ABS), biodiversity conservation, genetic resources, incentives, Nagoya Protocol
1 | INTRODUCTION

We suffer from the consequences of biodiversity loss due to over-exploitation of natural resources as we continue failing to restore biodiversity (Cardinale et al., 2012). International law provides for mechanisms for conservation of biodiversity resulting from utilizing nature. The system of access and benefit-sharing (ABS) aims to fairly distribute benefits between the providers of genetic resources (such as biodiversity-rich countries) and users of genetic resources (such as biotechnology or pharmaceutical companies, universities, collections such as botanical gardens or genebanks) deriving from scientific research and development on genetic resources (GR). The ABS system prescribes the Parties to the Convention on Biological Diversity (CBD) and the Nagoya Protocol (NP) to implement national legislation on providing fair access to users of GR while receiving fair and equitable monetary benefits (such as access fees, royalties and licence fees) or non-monetary benefits (such as technology transfer, participation in research and recognition of country of origin or capacity building). These benefits are to lead to biodiversity conservation (NP on Access to Genetic Resources and Fair and Equitable Sharing of Benefits Arising from their Utilisation 2010).

The fifth Global Biodiversity Outlook (GBO), conducted under the auspices of the CBD in order to assess whether international conservation goals (such as Aichi Global Biodiversity Targets) have been met, warns us that none of our targets have been met due to the lack of effective restoration and conservation initiatives (Secretariat of the Convention on Biological Diversity, 2020).

GBO measures the achievements of ABS based on a range of indicators, research studies and assessments as well as national reports on implementation. Additionally, ABS has found its place in several targets within the United Nations Sustainable Development Goals (UN General Assembly, 2015). It is also highly likely that targets related to ABS will be an indispensable part of the Post-2020 Global Biodiversity Framework (CBD/POST2020/PREP/2/1, 2020). Therefore, ABS has a palpable contribution to the achievement of international targets related to biodiversity conservation.

Since none of the Aichi Biodiversity Targets (CBD/COP/DEC/X/2, 2010), the universal targets on biodiversity conservation, will be fully met, there is a need to evaluate how ABS the major instrument expected to create incentives for conservation is performing to achieve its objectives. With this aim, this paper evaluates the link between ABS and biodiversity conservation by providing an overview of why ABS was perceived as an instrument that can achieve conservation and whether the mechanisms of ABS were designed to attain this overarching aim. The analysis of the existence and functioning of the link between ABS and conservation is done by analysing the official documentation from meetings and negotiations that led to the adoption of the international ABS regime, as well as the final text of the NP.

2 | MATERIAL AND METHODS

In order to comprehend how the international ABS framework was designed to conserve biodiversity, this study provides key points deriving from the comprehensive empirical analysis of all of the documents that led to the adoption of the NP: all of the meeting documents such as the decisions of the Conference of the Parties to the CBD (COP decisions); reports from the relevant meetings of the CBD; documents prepared by the Co-Chairs of the ABS Working Group (WGABS); documents prepared or commissioned by the Executive Secretary; submissions from Parties to the CBD, other governments, stakeholders and indigenous people and local communities (IPLCs); relevant studies and research reports; reports of other relevant meetings; documents of the Ad-hoc Open-ended Intersessional Working Group on Article 8(j) and related provisions related to the international regime and documents from earlier Working Group and Expert Meetings. The analysis answers the following questions:

Q1: According to the Parties to the CBD and the NP, which activities lead to and/or incentivize the conservation of biological diversity?

- Directly
- Indirectly

Q2: According to providers and users of GR, how can an international ABS regime incentivize biodiversity conservation?

Q3: Does the adopted text of the NP contain the regulatory mechanisms that lead to incentivizing biodiversity conservation?

The following sections of the paper are designed to answer these questions in the aforementioned order.

3 | HOW DOES CONSERVATION HAPPEN?

Throughout the negotiation period between 2004 and 2010 for an international legally binding instrument on ABS, the Parties to the CBD and relevant stakeholders have occasionally discussed how conservation of biological diversity could occur through ABS. The submissions from the Parties and the stakeholders, meetings of the Group of Legal and Technical Experts and the studies commissioned by the Secretariat during the negotiations discuss which activities—in general—would lead to conservation of biological diversity.

The activities Parties to the CBD and relevant stakeholders refer to as the activities that lead to conservation can be categorized as follows:

- Conservation research: taxonomic identification (as identification is perceived as the basis for conservation), surveys and inventories of biodiversity as well as its distribution and conservation...
assessments including red listing (Feit, von den Driesch, & Lobin, 2005; UNEP/CBD/WG-ABS/7/INF/2, 2009).

- In situ conservation through restoration, re-introduction and captive breeding programmes, protected areas, protection of ecosystems and promotion of environmentally sound uses (CBD Article 8, Adler, 2002; UNEP/CBD/WG-ABS/5/INF/1, 2007).

- Ex situ conservation, i.e., preservation of non-human organisms for conservation of genetic diversity, GR or reintroduction purposes through activities such as captive breeding programmes, deposition in seedbanks, genebanks, culture collections, botanical gardens, zoos and aquaria (CBD Article 9, UNEP/CBD/WG-ABS/7/2, 2008).

- Sharing of information, data and tools relevant for conservation activities (UNEP/CBD/WG-ABS/3/INF/8, 2005; UNEP/CBD/WG-ABS/7/INF/5, 2009).

- Incentivizing to perform activities that lead to biodiversity conservation (UNEP/CBD/COP/10/5/Add.5*, 2010; UNEP/CBD/WG-ABS/9/3, 2010; Rosenthal, 1997).

- Incentivizing to refrain from activities that create threats to biodiversity conservation (McNeely, 1988; UNEP/CBD/WGABS/4/INF/6, 2005).

The first four are the direct actions that lead to the conservation of biological diversity, whereas the latter two are the indirect actions that are perceived to have the potential to conserve biodiversity. In other words, the latter two are projected to incentivize the Parties to engage in the former four activities that lead to conservation of biological diversity. The incentives were described as the acts of benefit-sharing such as providing monetary benefits to governments, research institutions, IPLCs and other right holders. This thought has led to the adoption of a voluntary guideline detailing the types of benefits, also known as the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization (hereinafter Bonn Guidelines) which further generated the concept of incentivizing conservation through benefit-sharing (UNEP/CBD/COP/DEC/VII/19, 2004; UNEP/CBD/WG-ABS/5/3, 2007), UNEP/CBD/WG-ABS/7/6, 2009; UNEP/CBD/WG-ABS/8/4, 2009).

4 | USERS VS. PROVIDERS ON INCENTIVES

Various perspectives are visible on how such an incentive mechanism could be formulated. The international ABS framework has been formulated with the aim of balancing the needs of providers and users. This is traditionally viewed as addressing the inequality between low- and middle-income countries with rich biodiversity and traditional knowledge associated thereof and high-income countries with rich biotechnology and know-how. Therefore, the analysis below provides the opinion of these two stakeholders.

The perspective of the providers of GR focuses on emphasizing the following matters in order to incentivize biodiversity conservation in their countries:

- Community protocols: some providers underlined that the lifestyle of IPLCs are inherently eco-centric and therefore their practices on sustainable living and ecological values are central to all ABS negotiations. This point of view stipulates that community protocols should be developed when accessing GR or traditional knowledge associated with GR. According to this perspective, the community protocol would be an outlining of ecological values on which Prior Informed Consent (PIC), Mutually Agreed Terms (MAT) and benefit-sharing would be based. They argue against a free market approach and deregulation of access to GR, as they believe neither GR nor traditional knowledge associated to GR will benefit from being traded as a commodity, because it values short-term financial gain over long-term conservation efforts. They remind that the treatment of ivory as a commodity did not lead to the conservation of elephants or their habitats. It is argued that, while monetary or non-monetary benefits would not be excluded, obtaining benefits should not be the sole aim of establishing these community protocols (UNEP/CBD/WG-ABS/7/4, 2009; UNEP/CBD/WG-ABS/8/4, 2009; UNEP/CBD/WG-ABS/8/5, 2009).

- Impact of access: some providers have stressed that the access conditions created by provider country laws or conditions required to obtain PIC should contain provisions on evaluating how access activity may impact the conservation and/or sustainable use of GR. This would be done to determine the relative costs and benefits of granting that access (UNEP/CBD/WG-ABS/8/6/Add.2, 2009; UNEP/CBD/WG-ABS/8/8, 2009; Rosenthal, 1997).
• Access to technology irrespective of access to GR: some providers have suggested that an international mechanism, which would facilitate universal access to research and technology, that is linked to conservation and sustainable use of biological diversity, irrespective of access to GR, would enable provider countries to effectively conserve their biodiversity (UNEP/CBD/WG-ABS/7/5, 2009). Additionally, participation in development of products with GR would also allow providers to become users of GR which can then generate an additional incentive (UNEP/CBD/WG-ABS/7/6, 2009).

• Value of GR: some providers have stipulated that attributing value to GR and obtaining benefits therefrom would create incentives for biodiversity conservation. (UNEP/CBD/WG-ABS/5/INF/1, 2007). They do not further clarify how this value would be assigned, and whether this value would solely be quantified with market value (i.e., the ‘willingness to pay’) or monetary value. Yet they argue that communities generally do not have an incentive to conserve and sustainably use biological diversity unless their lives are integrally linked to the ecosystem (UNEP/CBD/WG-ABS/7/5, 2009). In one of the final negotiation meetings, Namibia on behalf of the African Group has made the following statement: ‘Believing that public awareness of the economic value of ecosystems and biodiversity, and the fair and equitable sharing of this economic value with the custodians of biodiversity is the primary incentive available for sustainable use and conservation’ (UNEP/CBD/WG-ABS/9/3, 2010). This statement, in its original form, has been placed in the Preamble of the adopted text of the NP (UNEP/CBD/COP/10/5/Add.5*, 2010)

Regarding creating incentives for biodiversity conservation, the users discuss the following matters during the negotiation of the international regime on ABS:

• Linking access with conservation: when discussing the ABS laws of provider countries, users have often argued that the access measures rarely provide for conditions to guarantee that bioprospecting will not be detrimental to biodiversity conservation (UNEP/CBD/WG-ABS/5/3, 2007; UNEP/CBD/WG-ABS/4/INF/4, 2005). Some users have established management tools to ensure that the activity of access respects the principles of conservation and sustainable use. These include refraining from collecting species that belong to Annex I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) or to the Red List of the International Union for Conservation of Nature (IUCN), applying precautionary approach during sampling, refraining from sampling in protected areas and harvesting in a manner that stays within sustainable yield and that does not impair ecosystem structure, functions and services (UNEP/CBD/WG-ABS/3/INF/8, 2005).

• Linking benefit-sharing with conservation: similarly, some users argued that national ABS laws often fail to link benefits with biodiversity conservation and it is not clear how benefits shared with the provider country end up supporting activities directly related to conservation. Some users suggested that this could be solved by ensuring that benefits deriving from utilization flow primarily to farmers in all countries, especially low- and middle-income countries who conserve and sustainably use the resources. Others suggested national authorities to set up the mechanisms so that the benefits revert to conservation activities for the environment of the local communities. These are environmental education programmes, sustainable projects which would help in the fight against poverty (UNEP/CBD/WG-ABS/4/INF/4, 2005; UNEP/CBD/WG-ABS/4/4, 2005; UNEP/CBD/WG-ABS/5/3, 2007; UNEP/CBD/WG-ABS/7/7, 2009). Some users have developed management tools for checking whether each project working with GR sufficiently establishes the link between benefit-sharing and conservation. This involves directing a portion of the benefits to those who are the owners/managers/custodians of the GR/biological diversity, in order to support conservation for instance, through improved knowledge about the biodiversity in the area of collection (UNEP/CBD/WG-ABS/3/INF/8, 2005).

• Supporting trade supports conservation: some users argue that supporting global trade of GR would increase the value of GR and would therefore create incentives in provider countries to conserve these resources (UNEP/CBD/WG-ABS/5/INF/4, 2007). A market-based system would then have one-off costs instead of recurring transaction costs inherent to bilateral ABS frameworks, which would then allow governments to divert these resources to conservation activities. Additionally, it is argued that by sustaining access to GR, allowing third party transfer and letting markets identify prices, governments have incentives to preserve GR so they can keep providing them to meet the demand of users. Admittedly, this arrangement relies on supplying the physical material, after a bioprospecting activity moves on to production (UNEP/CBD/WG-ABS/7/5, 2009). Regarding the direct recipient of benefit-sharing, some users argue that local communities who supply the resources should be the beneficiaries as they will be able to efficiently conserve biodiversity in the field. Some users, on the other hand, maintain that individuals would not be able to self-identify measures related to conservation and sustainability and therefore the governments should be the direct beneficiary who would then distribute benefits to conservation projects as identified in policies and action plans (UNEP/CBD/WG-ABS/5/INF/1, 2007; UNEP/CBD/WG-ABS/6/INF/3/Add.3, 2008). Some users who support the economic incentives through the acquisition of resources cite the study of McNeely (1988) conducted under the auspices of the IUCN. This comprehensive study analyses the available economic incentives for the conservation of biological resources and prevention of over-exploitation. Hence, the users that cite this study arguably view GR as physical, biological material. Some users, however, cite the study of Rosenthal (1997) which concludes that providing benefit-sharing arrangements during bioprospecting for drug discoveries creates incentives for conservation and provides alternatives to destructive use. Rosenthal’s study advises users to insert benefit-sharing clauses in contracts that may have the potential to conserve biodiversity. It therefore does
not speak of the inherent incentive for biodiversity conservation through bioprospecting but rather a negotiated ‘potential’ outcome. The users that argue this point of view also often refer to the INBio-Merck Agreement as the proof of such possibility (Blum, 1993; UNEP/CBD/WG-ABS/5/INF/1, 2007). Another study that is discussed during the negotiations is the one from Deke (2004), which contends that GR, due to the value of the information they may contain, differ from the way natural resources traded as commodities are valued. Deke concludes that an effective conservation strategy should not only rely on market-based approaches. This is because the acquisition of GR is not the only economic activity that may have an impact on the ecosystems.

- Generating benefits from uses other than bioprospecting: according to some users, the ‘reference case’ of bioprospecting that results in the discovery of blockbuster medicine which led to the inclusion of ABS provisions in the CBD in the first place, is no longer representing the reality of bioprospecting. This is because the drug design happens at the molecular level as the pharmaceutical industry is focusing on screening synthetic compounds and thus natural product research of the pharmaceutical industry has been reducing rapidly. They argued that an international ABS framework focusing on generating benefits through such value-added products that go through an extensive R&D pipeline which arguably loses its connection with the genetic resource might result in the ABS framework not capturing products that still have the connection with the resource as it exploits the material on a large scale yet with little or no value-adding R&D. It is suggested, therefore, that the international regime should apply to uses that exploit these resources in large quantities (biotrade) as opposed to R&D activities that require a very small amount of GR or none at all (bioprospecting) (UNEP/CBD/WG-ABS/3/Inf/2, 2005; UNEP/CBD/WGABS/4/INF/6, 2005).

5 | HOW MUCH CONSERVATION DOES THE NP CONTAIN?

Resulting from the negotiation between the above-mentioned opinions, the final text of the NP contains the following consideration on the link between ABS and biodiversity conservation:

- Preamble: the text contained in the Preamble acknowledges the ‘potential role’ of ABS to contribute to the conservation and sustainable use of biological diversity. It adds that ‘recognizing that public awareness of the economic value of ecosystems and biodiversity and the fair and equitable sharing of this economic value with the custodians of biodiversity are key incentives for the conservation of biological diversity’. It further emphasizes the role of women in conservation of biodiversity and sustainable use as well as the link between traditional knowledge, IPLCs and conservation.

- Objective: Article 1 of the NP reads as follows: ‘The objective of this Protocol is the fair and equitable sharing of the benefits arising from the utilization of GR, including by appropriate access to GR and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding, thereby contributing to the conservation of biological diversity and the sustainable use of its components’. Evidently, the objective of the NP is not biodiversity conservation but benefit-sharing. It is assumed, within the objective, that fair and equitable benefit-sharing would lead to biodiversity conservation.

- Special considerations: Article 8 prescribes that the Parties should create conditions to promote and encourage research that contributes to biodiversity conservation.

- Contribution to conservation and sustainable use: Article 9 states that Parties shall encourage users and providers to direct benefits arising from the utilization of GR towards the conservation of biodiversity and sustainable use of its components. Therefore, the obligation of the Parties is encouraging the users and providers to direct benefits into conservation. In other words, the Parties are not obliged to ensure the benefits are directed to conservation. The article does not further mention how this encouragement could occur.

- Global multilateral benefit-sharing mechanism (GMBSM): Article 10 prescribes that the Parties shall consider the need for and modalities of a GMBSM for transboundary GR or for those that obtaining PIC is not possible. The wording of the article does not provide for examples of situations in which obtaining PIC would not be possible. One might argue that this could apply to large scale sampling, accessing microorganisms (UNEP/CBD/NP/COP-MOP/2/10*, 2016) or to the accessions of digital sequence information (DSI) through public databases (Bond & Scott, 2020). In all these cases, the issue related to the traceability of the origin as well as the application of legal requirements thereof has been previously pointed out (Oidham, 2020; SCBD, 2018). The next sentence of Article 10 contains the only clear obligation of the Parties to channel benefits into biodiversity conservation as it prescribes the following: ‘The benefits shared by users of genetic resources and traditional knowledge associated with genetic resources through this mechanism shall be used to support the conservation of biological diversity and the sustainable use of its components globally’.

- Currently, there exists no such GMBSM. The Parties are currently invited to submit views on the potential modalities and define situations that may be within the scope of the GMBSM (CBD/NP/MOP/DEC/2/10, 2016; CBD/SBI/3/15, 2020; UNEP/CBD/ICNP/3/5, 2013; UNEP/CBD/ICNP/REC/2/3, 2012). According to the latest discussions, the GMBSM could also apply to the following situations: where a bilateral ABS agreement would fail to share benefits with the custodians of biodiversity other than those whom PIC and MAT was obtained from, situations in which a user aims to collect material that occurs in a multitude of countries, access to GR that exist in ex situ collections of which the origin is unknown or untraceable and the situations where physical access to GR is not required.
DISCUSSION AND CONCLUSION

At the third Meeting of the Parties to the NP in November 2018, the Parties conducted the first assessment and review of the effectiveness of the Protocol. According to the report, many provider countries considered that it was premature to assess the contribution of ABS to biodiversity conservation. They nevertheless stated that the implementation of the Protocol enables the governments to raise awareness on conservation and sustainable use of biodiversity. It was reported that only 48 Parties (46%) implemented measures that create conditions as provided in Article 8, which promote and encourage research that contributes to the conservation and sustainable use of biodiversity. Furthermore, no conclusive data were gathered regarding whether national implementation of the NP has contributed to conservation and sustainable use (CBD/NP/MOP/DEC/3/1, 2018).

Throughout the negotiations between the Parties and submissions of relevant stakeholders that led to the adoption of the NP, suggestions were made on how ABS could incentivize or lead to biodiversity conservation. Most suggestions from the providers' side presupposed that benefit-sharing would lead to conservation and sustainable use as they believed the awareness on the economic value of biodiversity was sufficient to channel economic gain from ABS to conservation. Others suggested that the lifestyle of IPLCs were inherently designed to conserve the ecosystem around them and therefore their wisdom should be developed into community protocols.

The users on the other hand argued that, at the time, it was not possible to see the link of ABS with conservation through the national ABS laws of provider countries. They also argued that if the ABS framework focuses on freely determining the economic value of biodiversity, then benefit-sharing would inevitably result in incentivizing conservation. This was because the more GR the providers conserve the more they would be able to provide and earn from it. Consequently, the more biodiversity they would provide, the more they would gain in return. Consequently, these assumptions portray the understanding that the economic incentives for conservation predominantly focus on accessing physical material. Since bioprospecting and R&D depend less and less on the physical material (as also mentioned by the representatives of users during the negotiations), the inevitable question arises on whether the understanding of the relationship between ABS and conservation is based on how the world of bioprospecting operates today. If this is the predominant method of creating incentives behind the NP, then the activity scope of the NP should have been formulated to capture supply chains that depend on access of the physical material.

The latter point should be especially taken into account in the context of the ongoing discussions on the material and activity scope of GR under the CBD and the NP in relation to DSI. This is because what the reference case of bioprospecting was during the negotiations for the NP is no longer the norm when it comes to bioprospecting. Therefore, the economic value of GR determined then no longer represents the reality of the world of bioprospecting today.

Both providers and users support enacting a mechanism within the international ABS regime to ensure access does not result in a negative consequence on biodiversity and ecosystems. Such approach also presupposes that access to genetic resources incorporates physical access and perhaps access to these resources in bulk.

Another group of users stipulated that the users would provide such incentives through negotiating benefit-sharing terms within bilateral agreements, regardless of the physical aspect of access. Hence, the creation of incentives that lead to conservation would rely on the negotiation of each bilateral agreement. In this case, there indeed is a potential link between ABS and conservation yet fully reliant on the stakeholders' interpretation, negotiation skills and preference. In addition, it is suggested that bioprospecting can also lead to biodiversity conservation by enacting benefit-sharing provisions related to the different triggers during the R&D pipeline. While acknowledging such potential, one must note that the majority of these benefit-sharing modalities are agreed upon in private commercial contracts often bound by confidentiality (Deke, 2004; SCBD, 2008). Hence, it is not possible to fully ascertain nor monitor whether these private contracts result in incentives that are then channelled directly into conservation. Additionally, as demonstrated in De Roeck (2020), provider countries have a myriad of approaches in determining whether and to what extent they will channel the benefits they received into efforts of biodiversity conservation. This does not exclude other possible means of channelling benefits that would result in enhancing fairness and equity and inclusiveness through ABS (Normand et al., 2020; Robinson, 2015). Nevertheless, it portrays that the design of ABS does not intrinsically lead to biodiversity conservation, unless we are talking about an ABS system in which users strongly rely on accessing material in bulk or they frequently and subsequently access GR from the same provider.

The NP has been adopted as a system that leaves biodiversity conservation dependent on the national laws and policies of the provider country. In other words, it is completely up to the provider country to channel benefits obtained through their ABS system into conservation, with the exception of the GMBSM which is the only mechanism within the NP that obliges the Parties to channel the benefits into biodiversity conservation. The latest discussions on GMBSM’s modalities display that it could apply to the situations where physical access to genetic resources is not required or situations that a bilateral ABS system would not be able to address. This would then allow for the creation of a direct obligation between channelling benefits deriving from bioprospecting into biodiversity conservation.

Regarding the bilateral agreements between providers and users, there currently exists no direct monitoring mechanism on whether those agreements led to biodiversity conservation, which also results in the lack of data when reviewing the effectiveness of the NP. A crucial element for the GMBSM therefore would be to ensure such a monitoring mechanism would be in place or such transparency would exist as the building block of the GMBSM.
ACKNOWLEDGEMENTS
The author offers her gratitude to Prof Dr An Cliquet and Dr Arianna Broggiato for their valuable insights. The author furthermore wholeheartedly thanks Fabienne Salama and Rebecca Salama for their support.

CONFLICT OF INTEREST
The author declares that she has no competing interests.

DATA AVAILABILITY STATEMENT
The data that supports the findings of this study are available from the author upon reasonable request.

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**How to cite this article:** Sirakaya, A. (2021). Is the Nagoya Protocol designed to conserve biodiversity? *Plants, People, Planet*, 1–8. [https://doi.org/10.1002/ppp3.10221](https://doi.org/10.1002/ppp3.10221)