

# INTERNATIONAL BIODIVERSITY LAW AND SOCIAL JUSTICE IN DEVELOPING COUNTRIES

*Uluslararası Biyoçeşitlilik Hukuku ve Gelişmekte Olan Ülkelerde Sosyal Adalet*

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## **Abstract**

This paper discusses the fairness of applying the “Common but Differentiated Responsibilities” principle that is adapted in International Biodiversity Law to the “Conservation and Sustainable Use of Biodiversity” through the lens of social justice expounded by Rawls and other respective scholars. After defining the concepts that are used through the paper and subsequently analyzing the international law and related literature on the differentiated approach to conservation and sustainable use, it is argued that the global approach that distinguishes the responsibilities of the states with regard to their economic level is less likely to meet the demands of social justice both for current and future generations of developing countries. The holistic approach, which is adopted for the evaluation of this argument in favor of an egalitarian approach to conservation and sustainable use, indicates the close linkages between the conservation of biodiversity and environmental justice issues, economic concerns in the long term, socio-economic inequalities, and traditional communities- especially in biological resource-rich developing countries. Certain cases are introduced in order to solidify that the prioritization of socio-economic development over biodiversity conservation in developing economies is not effective in addressing the demands of the least advantaged communities of current and future generations- and therefore less likely to comply with the demands of social justice.

**Keywords:** Biodiversity, International Law, Social Justice, Equality, Rawls

## **Özet**

Bu makale, başta Rawls olmak üzere muhtelif akademisyenlerin yorumladığı biçimde, sosyal adalet perspektifinden Uluslararası Biyoçeşitlilik Hukukunda kabul edilen “Ortak fakat Farklılaştırılmış Sorumluluklar” ilkesinin “Biyoçeşitlilik Koruması ve Sürdürülebilir Kullanımı” sorumluluğuna uygulanmasının adilliğini tartışmaktadır. İlgili kavramları tanımladıktan ve biyoçeşitlilik koruması ve sürdürülebilir kullanımında farklılaştırılmış sorumluluklar çerçevesinde geliştirilen uluslararası hukuku ve literatürü açıkladıktan sonra, ülkelerin çevresel sorumluluklarını ekonomik durumlarına göre farklılaştıran küresel yaklaşımın gelişmekte olan ülkelerdeki şimdiki ve gelecek nesiller için sosyal adaleti sağlamakta yetersiz olabileceği savunulmaktadır. Bu argümanın, biyoçeşitliliğin korunması ve sürdürülebilir kullanımında eşitlikçi bir yaklaşım lehine değerlendirilmesi amacıyla benimsenen bütünsel yaklaşım, biyoçeşitliliğin korunması ile çevresel adaletin, uzun vadede ekonomik kaygıların, yolsuzluğun, sosyo-ekonomik eşitsizliklerin ve -bilhassa biyolojik kaynak zenginleşmeyle olan ülkelerdeki yerli grupların arasındaki sıkı bağları vurgulamaktadır. Gelişmekte olan ülkelerde sosyo-ekonomik gelişimin biyoçeşitlilik korumasına tercih edilmesinin şimdiki ve gelecek nesillerin en az avantajlı topluluklarının taleplerini karşılamada yetersiz kaldığını ve dolayısıyla sosyal adaleti sağlamada yetersiz olduğunu savunan doğrulamamızın somutlaştırılması amacıyla bazı vakalar takdim edilmiştir.

**Anahtar Kelimeler:** Biyoçeşitlilik, Uluslararası Hukuk, Sosyal Adalet, Eşitlik, Rawls

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## INTRODUCTION

Our actions have destroyed, degraded and polluted the earth's habitats, and as a result, the vast majority of the species of plants and animals are unnaturally declining and becoming extinct. This is an unfavorable situation for our nature but in particular for humans, as we are contingent upon biodiversity at least in two ways: first, it is the source of biological resources that provide global communities' agricultural, pharmaceutical and other utilitarian needs and, second, it maintains the biosphere -zone of life on earth- as a functioning system. Therefore, even though biodiversity exists within national boundaries and for the benefit of those who currently exist, its existence is primarily a global and an intergenerational concern.

Through the 1993 Convention on Biological Diversity (CBD), 192 states accepted their legal obligation to ensure the long-term existence of the global biodiversity for humanity's own good and for the sake of all communities in ecosystems.<sup>1</sup> They agreed on several principles, including the common but differentiated responsibilities of developed and developing countries. In this regard, socio-economic development and poverty eradication were recognized as the priority of developing countries, and developed countries were obliged to support their conservation efforts. The present paper scrutinizes whether this principle is compatible with the requirements of social justice and, in particular, intergenerational justice. Therefore, the paper asks: Should developing countries prioritize their current generation's economic development over the conservation of their biodiversity for future generations?

Section 1 explains the differentiated responsibilities approach of the CBD. Section 2 argues that instead of the differentiated responsibilities approach, an egalitarian approach based on the theory of Rawls would be more suitable to achieve social justice. The subsequent sections 3, 4, and 5 explain how the egalitarian approach can help to flourish the least advantaged members of society.

### **1. Differentiated Responsibilities Approach to Conservation and Sustainable Use**

The international community aims to achieve three objectives through the CBD: the conservation of biological diversity, the sustainable use of its

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<sup>1</sup> Secretariat of the Convention on Biological Diversity (CBD), *Handbook of the Convention on Biological Diversity Including its Cartagena Protocol on Biosafety* (3rd edn, Montreal 2005).

The common but differentiated responsibilities principle is also relevant for other documents that are part of international biodiversity law such as Cartagena Protocol and Nagoya Protocol. In this paper I will be focusing only on the CBD because it is the core of international biodiversity law.

components and the fair and equitable sharing of benefits from the use of genetic resources.<sup>2</sup> The CBD adopts various principles, e.g. the common heritage of humankind and common but differentiated responsibilities, to ensure that the convention serves these purposes. This section discusses the rationalizations behind applying the “common but differentiated responsibilities” principle to the objective of “conservation and sustainable use of biodiversity”. I begin by explaining the related concepts:

The *sustainable use* of biological resources means respecting the ability of the ecosystem to feed certain populations of humans or animals -carrying capacity- while using its components. This concept is adapted from the term “sustainable development” that is introduced by the World Commission on Environment and Development (Brundtland Commission) in 1987. The CBD reconstructed the concept of sustainable use as follows:

*“[T]he use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.”<sup>3</sup>*

The CBD does not further specify how much decline is allowed or how much biodiversity would suffice the needs and aspirations of present and future generations.

**Conservation**, unlike preservation, expresses a concern for maintaining biodiversity in its dynamic nature, allowing the ecosystems and species to change and evolve. There are, mainly, two types of conservation: in situ conservation, the conservation of biodiversity components inside their habitat, and ex situ conservation, the conservation of biodiversity components outside their natural habitat.<sup>4</sup> The CBD recognizes in situ conservation as its primary method for biodiversity conservation.<sup>5</sup>

The conservation of biological diversity is the chief objective of the CBD.<sup>6</sup> Yet, it does not provide a literal definition for the word “conservation”. The reason is, developing countries wanted to use the components of biodiversity, albeit in a sustainable way and, therefore, they wanted to avoid a possible emphasis on the term’s preservation aspects that may become prominent from defining and using the conservation as a term on its own.<sup>7</sup> So, the CBD seeks a

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<sup>2</sup> ibid 87-89.

<sup>3</sup> ibid 89.

<sup>4</sup> ibid 8-9.

<sup>5</sup> ibid.

<sup>6</sup> ibid 88, see Article 1.

<sup>7</sup> Lyle Glowka et al, *A Guide to the Convention on Biological Diversity* (IUCN Gland and Cambridge 1994), 25.

balance between conservation and sustainable use by not defining conservation alone but rather by using it with the term sustainable use.

***The common but differentiated responsibilities*** principle dates back to the 1972 Stockholm Declaration of the first UN Conference on the Human Environment, where it was codified as an international environmental legal principle. It is one of the cornerstones of the CBD, and it designates different responsibilities to the developing and developed countries with regard to the conservation of biodiversity and its sustainable use.<sup>8</sup> This principle obliges all the states to take responsibility for environmental protection, but it allows each state to contribute according to their capacity.

The 1992 Rio Declaration of the UN Conference on Environment and Development tied the common but differentiated responsibilities principle with sustainable development. This approach was also adopted by the CBD. There are, at least, three motivations behind this attempt, which I will refer to as the “*differentiated responsibilities approach*”.

First, historical and recent facts show that developed countries have been putting more pressure on nature. Partly due to this fact, they have the financial resources and capacity which developing countries lack of. This situation is acknowledged in Principle 7 of the Rio Declaration:

*“In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. Developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.”*<sup>9</sup>

Therefore, the international community asks the developed countries-which are assumed to be financially capable- to compensate for their previous and, also, current actions by funding global biodiversity protection.

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<sup>8</sup> Christopher D Stone, ‘Common but Differentiated Responsibilities in International Law’ (2004) 98(2) Am J Int Law 276, 276-278.

The preamble paragraphs and the content of the Article 20 and Article 21 of the CBD indicates that the Convention adopts the common but differentiated responsibilities principle. Article 20 states that: “The extent to which developing country Parties will effectively implement their commitments under this Convention will depend on the effective implementation by developed country Parties of their commitments under this Convention related to financial resources and transfer of technology and will take fully into account the fact that economic and social development and eradication of poverty are the first and overriding priorities of the developing country Parties.” Article 21 is on the financial mechanism of that would enable the effective implementation of the common but differentiated responsibilities principle. Apart from these, the CBD does not directly refer to the common but differentiates responsibilities principle.

<sup>9</sup> United Nations General Assembly, Rio Declaration on Environment and Development, A/ CONF.151/26 (Vol. I), 1992.

The second motivation behind the different responsibilities could be to ensure the compliance of developing countries. This issue is of particular importance since the CBD recognizes sovereign rights over resources, including the right to exploit them.<sup>10</sup> From a realist perspective, such allowance would eventually lead to the destruction of biodiversity as it seems rational for each state, for example, to exploit forests in the Amazon to maximize their own economic welfare. Differentiated approach contributes to the cosmopolitan dimension of the CBD mainly by encouraging developing countries to comply with the convention.

Third, the international community considers the economic and social underdevelopment of developing countries as a threat to the global poor and the environment. According to COP 11<sup>11</sup>, by recognizing the common but differentiated responsibilities of parties, developed countries are obliged to pay particular attention to developing countries' special needs.<sup>12</sup> By means of this, developing countries would have the chance to prioritize their development concerns and poverty eradication. In this regard, the Preamble of the CBD states that:

*“The Contracting Parties (are)... recognizing that economic and social development and poverty eradication are the first and overriding priorities of developing countries...”*<sup>13</sup>

One interpretation of the CBD suggests that this paragraph do recognize that the economic and social development of developing countries are more important than their investment in biodiversity conservation.<sup>14</sup> For global biodiversity, this situation requires a differentiated responsibilities approach that would ensure the financing of conservation efforts of developing countries. This position of the CBD is also stated in Article 20/4:

*“... the extent to which developing country Parties will effectively implement their commitments under this Convention will depend on the effective implementation by developed country Parties of their commitments related to financial resources and transfer of technology and will take fully into account*

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<sup>10</sup> CBD (n 1) 87. Preamble: “States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.”

<sup>11</sup> COP is the abbreviation for the Conference of the Parties (of the CBD) which takes place every year to discuss global biodiversity problems and solutions.

<sup>12</sup> UNEP, ‘Status of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization and Related Developments’ (Conference of the Parties to the Convention on Biological Diversity, XI/1, 2012), 13.

<sup>13</sup> CBD (n 1) 88.

<sup>14</sup> Glowka et al (n 7) 13.

*the fact that economic and social development and eradication of poverty are the first and overriding priorities of the developing country parties.*"<sup>15</sup>

This paper argues against this third motivation of the CBD that is ambiguous with regard to the following points: (1) Does the CBD suggest that developing countries are allowed to prioritize economic development of their current generation over conservation of their biodiversity for future generations? (2) If developed countries stop assisting developing countries during economic downturns or the funding mechanism of the CBD does not work, would the CBD still allow developing countries to prioritize their economic development?

It is curious that the CBD, overall, recognizes that the conservation of biodiversity and the sustainable use of its components would contribute to economic and social development; however, developing countries might be exempted from one of the two dimensions of sustainable use. This is a dilemma with regard to the ethical dimension of sustainable use. To further explain this point, the CBD brings two requirements:

First, the basic needs of all human beings should be met adequately; therefore, developing countries are allowed to use components of biological diversity for poverty eradication.<sup>16</sup> (The primary target of this proposal is current generations).

Second, the development process should be organized in a way that the balance of the ecosystems is not disturbed and the continuity of biological diversity is guaranteed.<sup>17</sup> (The primary target of this proposal is future generations).

According to the CBD, developing countries -are encouraged to but- do not have an obligation to fulfil the second one. Instead, industrialized, rich countries should assist them with finance and adequate technology, so economically poor countries would have a chance to comply with the second requirement of sustainable use.<sup>18</sup>

However, the differentiated responsibilities approach that distinguishes the responsibilities of states regarding their economic level is not likely to meet the demands of social justice for current and future generations of

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<sup>15</sup> CBD (n 1) 243.

<sup>16</sup> *ibid* 4.

<sup>17</sup> *ibid*.

<sup>18</sup> *ibid* 15. See the Article 21 on financial mechanism of the CBD. These articles can be interpreted differently. However, the restrictive interpretation that is adopted in this paper is also possible. The CBD is not clear on the responsibilities of developing countries towards their future generations in the absence of financial help from developed countries. The egalitarian approach defends that the obligations of countries towards future generations should be clarified regardless of whether the country is a developing country or a developed one.

developing countries. This paper argues in favor of an egalitarian approach instead. According to that approach, the right to development and fulfilling responsibilities to future generations should be equally valued, regardless of the economic situation of the country. I adopt a holistic approach to defend my argument, and I introduce three issues to support and illustrate it.

## 2. Achieving Social Justice through an Egalitarian Approach

Up until now, I explained the three motivations behind the differentiated responsibilities approach. As it appears, the CBD suggests that the states have the common responsibility of conservation and sustainable use of biodiversity. Still, due to different socio-economic situations and historical facts, they might have different responsibilities and priorities. In this respect, the differentiated responsibilities approach to conservation and sustainable use could be considered an effective tool for ensuring international justice. However, it might disadvantage the current least well-off in developing countries and future generations. Therefore, it does not seem fair from the perspective of social justice and intergenerational justice.

I begin with, briefly, explaining Rawls's theory that constitutes the idea of social justice that I adopt to defend an egalitarian approach to the conservation and sustainable use of biodiversity: Rawls discusses two principles of justice:

*“First, each person engaged in an institution or affected by it has an equal right to the most extensive liberty compatible with a like liberty for all. Second, inequalities as defined by the institutional structure or fostered by it are arbitrary unless it is reasonable to expect that they will work out to everyone's advantage and provided that the positions and offices to which they attach or from which they may be gained are open to all.”<sup>19</sup>*

The first principle of justice asserts that justice requires equal treatment to everyone regardless of what social class they are born in to. Inequalities in society are inevitable, but everybody's individual rights should be equally respected. The second principle of justice gives rise to Rawls's *difference principle*, which asserts that these “inequalities are just if and only if they are part of a larger system in which they work out to the advantage of the most unfortunate representative man.”<sup>20</sup> Through considering a chief problem of distributive justice, Rawls offers a possible compensation for the inequalities in society. This is not only a theory of distributive justice but also a strict theory of social justice that concerns the allocation of benefits and burdens among various individuals and groups. In such a theory, giving everyone his/her due is possible by ensuring their access to primary social goods.

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<sup>19</sup> John Rawls, *Collected Papers* (Oxford University Press 1999), 133.

<sup>20</sup> *ibid* 138.

Moreover, I adopt the idea of intergenerational justice, which states that “all generations have an equal place in relation to the natural system, and that there is no basis for preferring past, present or future generations in relation to the system.”<sup>21</sup>

The following sections develop that prioritizing socio-economic development over social justice-oriented conservation policies primarily affects the least advantaged communities (poor, local farmers, forest communities, indigenous peoples). Besides the direct effects of biodiversity degradation, this situation, particularly, undermines the just institutions necessary for the development of future generations -especially in biological resource-rich developing countries. Therefore, an egalitarian approach requires developing countries to pay equal attention to poverty eradication and biodiversity conservation by considering environmental justice, socio-economic inequalities and the values of biodiversity. These dynamics are respectively addressed.

### 3. Environmental Justice

#### 3.1. Scrutinizing the Concept

Environmental justice discourse advocates that social groups are unequal in their exposure to environmental hazards and their access to environmental amenities.<sup>22</sup> The notion emerged in the United States (US) as a public concern related to racial and ethnic inequalities, which became evident in exposure to environmental risks and accessing environmental policies.<sup>23</sup> Later, the

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<sup>21</sup> Edith Brown Weiss, *Environmental Change and International Law: New Challenges and Dimensions* (United Nations University Press Tokyo 1992), 19-26. For studies that discuss intergenerational justice in the context of environmental law see: Richard P. Hiskes, *The Human Right to a Green Future: Environmental Rights and Intergenerational Justice* (CUP, 2009); Chaitanya Motupalli, ‘International Justice, Environmental Law, and Restorative Justice’ (2018) 8(2) *Washington Journal of Environmental Law and Policy* 333.

According to the intergenerational justice principle, each generation should have certain obligations towards the next to maintain the integrity of the relation between the planet and humanity. These obligations are recognized in international arenas and national texts in the last decades regarding the increasing concern that has been provoked by the depletion of natural resources and environmental degradation. The 1972 Stockholm Conference on the Human Environment is the foremost international arena to introduce a concern for the justice to future generations. It was accepted that we have a responsibility to “protect and improve” the environment for both present and future generations.” See: The Declaration of the United Nations Conference on the Human Environment (1972) <[https://legal.un.org/avl/pdf/ha/dunche/dunche\\_e.pdf](https://legal.un.org/avl/pdf/ha/dunche/dunche_e.pdf)> accessed 5 July 2021.

<sup>22</sup> Eloi Laurent, ‘Environmental Justice and Environmental Inequalities: a European Perspective’ (2010-05) Sciences Po Publications.

<sup>23</sup> *ibid.* In this respect, two prominent aspects of environmental justice are: distributive justice, which is concerned with how environmental goods and bads are distributed among different societal groups, and procedural justice, which is concerned with the equity of access to environmental decision-making process. This paper is elaborating the former one.



environmental justice debate moved beyond the sole racial dimension and embraced all kinds of social conditions that produce environmental injustices, including poverty.

The term “poverty” means “not just lack of income but also inadequate access to basic goods such as food and water; insufficient knowledge, health or skills to fulfil normal livelihood functions; poor housing, unhealthy or dangerous environment, and bad social relations; and lack of civil and political rights, assets and services.”<sup>24</sup> With this broad definition, it becomes more apparent that the disadvantaged people in a society are threatened by various forms of interrelated societal risks, including environmental degradation. In this respect, the following inquiries will be scrutinized: First, what risks degradation of biological resources pose to the poor and minorities? Second, can these risks be eliminated by developing countries’ biodiversity conservation efforts? Third, what are the global and intergenerational aspects of environmental justice? Fourth, when we consider our findings altogether, can environmental injustices motivate conservation-friendly policies in developing countries?

One aspect of environmental distributive justice is concerned with the distribution of environmental burdens. In the literature, this issue is usually discussed in terms of toxics, chemicals and pollution that directly damage the environment in which the poor or minorities live.<sup>25</sup> These harmful substances also disturb biodiversity. However, because of the direct effect that they have on human health, in such a case, one may not find it necessary to discuss the effect of biodiversity loss on the least advantaged people through the environmental justice discourse.

I will exemplify this situation with a typical but tragic case: Gammalin 20. After the US banned a toxic relative of DDT, Gammalin 20, was imported into Ghana for use as a pesticide by cocoa farmers.<sup>26</sup> Africans fishing in Ghana’s Lake Volta discovered that if they dumped the pesticide into the lake, many fish died and floated to the top of the water, and fishermen could easily collect them. These fishes were sold and were eaten by Ghanaian villagers who were

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<sup>24</sup> Jessica Smith et al, ‘Linking the Thematic Programmes of Work of the Convention on Biological Diversity (CBD) to Poverty Reduction. Biodiversity for Development: New Approaches for National Biodiversity Strategies’ (Secretariat of the Convention on Biological Diversity 2010), 16.

<sup>25</sup> Kristin Shrader-Frechette, *Environmental Justice: Creating Equity, Reclaiming Democracy* (Oxford University Press 2002); Gordon Walker, *Environmental Justice: Concepts, Evidence and Politics* (Routledge London 2012).

<sup>26</sup> DDT (dichloro-diphenyl-trichloroethane) is the first modern synthetic insecticide that poses health risks to humans. See: ‘DDT- A Brief History and Status’ (EPA) <<https://www.epa.gov/ingredients-used-pesticide-products/ddt-brief-history-and-status>> accessed 5 July 2021.

poisoned and had brain disturbances and liver damage.<sup>27</sup> The fishermen were not aware of their action until a Ghanaian NGO stepped in and explained what happened.

This is a typical environmental injustice. People in developing nations usually face similar, if not worse, environmental threats because of the importation of banned chemicals from developed states to poor countries. From this paper's point of view, in Ghana's case, the fish population of Lake Volta dropped about 10-20%, and this "backstage", the biodiversity loss, threatens the food security of locals -and in the long term their future generations- as the rural poor rely mostly on local ecosystems for primary goods and services. Similarly, suppose a forest is damaged because of pollution or logging activities. In that case, the primary victims turn out to be the poor people or minorities, e.g. indigenous people, who are contingent upon that forest.<sup>28</sup> In such situations, environmental justice issues appear because of forest degradation and because in most cases, disadvantaged communities are not compensated when the biological resources they rely upon are degraded for economic development.<sup>29</sup>

One other aspect of environmental justice deals with how environmental goods are distributed. In this respect, we cannot always claim that conservation favors the least advantaged ones in one society. Therefore, it does not always protect the poor and minorities from becoming victims of unjust environmental action (or inaction) or a policy. Indeed, due to establishing a protected area, many poor or indigenous people lose their land-use opportunities and houses and are not compensated adequately. There appear to be few examples of actual compensation, and above these, it is being discussed whether displaced people should ever be compensated.<sup>30</sup> Moreover, when these people's ex-home becomes a protected area, a local park with many facilities, they will not be the ones to enjoy from the green land utmost. For example, in South Africa, under colonial and apartheid governments, thousands of black South Africans were forced to move out to some urban areas where they had no food, shelter and clean water while billions were spent on preserving wildlife and protecting

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<sup>27</sup> Shrader-Frechette (n 25) 10; Marvin J. Levine, *Pesticides: A Toxic Time Bomb in Our Midst* (Praeger Publishing USA, 2007), 229.

<sup>28</sup> J. Peter Brosius, 'Endangered forest, endangered people: Environmentalist Representations of Indigenous Knowledge, Human Ecology' (1997) 25(1) *Human Ecology* 47; Megumi Matuyama, Noboru Morioka, 'The Impact of Deforestation in Brazilian Amazonia: The Indigenous People of Rondonia State', (1998) 4(2) *Journal of Forest Planning* 71.

<sup>29</sup> Andrew Harding, *Access to Environmental Justice: A Comparative Study* (Martinus Nijhoff Publishers Leiden Boston 2007).

<sup>30</sup> Daniel Brockington, David Wilkie, 'Protected Areas and Poverty' (2015) 370(1681) *Philosophical Transactions of the Royal Society B* 1.

wildflowers.<sup>31</sup> Should we blame biodiversity conservation for the inequalities that arise during conservation actions? Or is it precise enough that it is not the conservation but inappropriate conservation policies that lack a social justice perception that brings social injustices?

Biodiversity degradation will be affecting people sooner or later. Still, a conservation policy that goes hand in hand with human development can benefit the least advantaged people in one community and at the same time contribute to the well-being of future people, as Wangari Maathai taught to the world with the Green Belt Movement. Maathai, at the time she was a member of the Environment and Habitat Committee of the National Council of Women in Kenya, suggested that heartening rural women to plant trees would be – in her words- “a project that would . . . help our member [sic] in the rural areas to inexpensively meet many of their needs including wood fuel, building and fencing material and soil conservation.”<sup>32</sup> So, the Green Belt Movement, which engages woman (the least advantaged community in Kenyan society) in both community development and environmental conservation activities, was established and 30 million trees were planted. According to their annual report, their mission is “to mobilize community consciousness for self-determination, justice, equity, reduction of poverty, and environmental conservation, using trees as the entry point.”<sup>33</sup> Maathai has been awarded the Nobel Peace Prize, and she inspired community-based conservation efforts in the developing world.<sup>34</sup> Additionally, properly managed protected areas can benefit the least advantaged people in a community. For example, for the management of Kruger National Park in South Africa, an inclusive policy that fosters limited resource use, education of local people and community participation was introduced. Local communities considered this situation as “an opportunity to conserve and learn about nature, as well as a mechanism for generating income and employment.”<sup>35</sup>

Apart from these, environmental justice discourse has moved to the global level as it became more apparent that the environmental risks do not stop at

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<sup>31</sup> David A. McDonald, *Environmental Justice in South Africa* (Ohio University Press 2002), 1.

<sup>32</sup> Wangari Maathai, *The Green Belt Movement: Sharing the Approach and the Experience* (Lantern Books New York 2004), 17.

<sup>33</sup> Green Belt Movement, *Special Annual Report* (2003), 6.

<sup>34</sup> For Nepal’s Community Forestry Program that was inspired from Green Belt Movement see: Bethany Boyer-Rechlin, ‘Women in Forestry: A study of Kenya’s Green Belt Movement and Nepal’s Community Forestry Program’ (2010) 25(9) *Scandinavian Journal of Forest Research* 69.

<sup>35</sup> Randy Tanner et al, ‘Legitimacy and the Use of Natural Resources in Kruger National Park, South Africa’ (2010) 40(3) *International Journal of Sociology* 76.

national borders. Environmental risks affect the most disadvantaged people globally (as seen in the cases of floods and biodiversity losses because of climate change that industrialized nations contributed).<sup>36</sup> Moreover, our actions also affect the environment in which future generations will live. So currently, the environmental justice discourse goes beyond nations and generations. In this respect, biodiversity conservation can be seen as a global justice issue because we all benefit from biodiversity, and we all cause a loss in biodiversity, e.g. by greenhouse gas emissions. In this case, the question is; which principle of justice should guide us on the distribution of environmental goods and bads?

The egalitarian structures in Rawls' principles of justice- the fair equality of opportunity and the difference principle- stop at national borders, i.e. Rawls intended to apply the question of justice within states only.<sup>37</sup> Yet cosmopolitan liberalists, namely Beitz and Pogge, argue that "the appropriate global principle is Rawls' difference principle"<sup>38</sup> because Rawls' conception of justice will "make the social position of the globally least advantaged the touchstone for assessing our basic institutions."<sup>39</sup> This approach could be seen as more suitable for justifying and specifying the distribution of environmental burdens globally. Therefore, from the perspective of cosmopolitan liberalism, equal distribution of environmental goods and bads globally can be defended. However, in practice, focusing on fair distribution at the global level does not necessarily mean all nations who deal with environmental issues will benefit. For instance, Global Environment Facility (GEF) pays for those investments that have global benefits.<sup>40</sup> Yet, some environmental problems may not get paid by GEF when solving those problems does not assist all nations. Indeed, GEF is criticized for overlooking the problems that are faced by the poorest countries.<sup>41</sup>

Consequently, what I argue is, poor people and minorities are usually the bearers of environmental hazards. Still, a fair conservation policy can

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<sup>36</sup> Patrick Hossay, *Unsustainable: A Primer for Global Environmental and Social Justice* (London: Zed Books 2006).

<sup>37</sup> Rawls had three concerns: first, related to subject matter, second, different views on ideal-non-ideal theory, third, interpretations of the empirical world. For an explanation of these concerns and related discussions see: Oluf Langhelle, 'Sustainable Development and Social Justice: Expanding the Rawlsian Framework of Global Justice' (2010) 9(3) *Environmental Values* 295.

<sup>38</sup> Charles Beitz, *Political Theory and International Relations* (Princeton University Press 1979), 170.

<sup>39</sup> Thomas W. Pogge, *Realizing Rawls* (Cornell University Press Ithaca 1989), 242.

<sup>40</sup> The financial mechanism of the CBD.

<sup>41</sup> Steinar Andresen, Kristin G. Rosendal, *The Global Environment Facility (GEF): Right Mechanism for Improved Implementation?* (Fridtjof Nansen Institute 2012).

eliminate these risks by making sure that the demands of the least advantaged people in a community are met. On the other hand, it is shown that all the states on earth are obliged to take responsibility for biodiversity conservation. However, if they tend to evade responsibility, there are still good reasons- like achieving environmental justice for the least advantaged people and giving future generations their due- for governments to take responsibility for their territory. The following section introduces a case to further clarify why biodiversity conservation and poverty eradication should be equally valued for environmental justice in developing countries.

### 3.2. “Seeds of Justice” & Community Gene Banks: Ethiopia’s Case

Biodiversity involves various values for different communities who, therefore, face varied threats related to biodiversity loss. Ethiopia is one of the world’s poorest countries, yet one of the richest ones in terms of crop diversity. In Ethiopia’s case, agricultural biodiversity -crop genetic resources- play a crucial role in terms of economic growth, food security and improvement of local livelihoods.<sup>42</sup> Ethiopia’s agrobiodiversity is highly threatened by environmental degradation and agricultural modernization by the replacement of land races and farmer varieties with hybrid high yielding varieties that increase agricultural production but decrease the diversity.<sup>43</sup>

Agrobiodiversity provides security for the farmer against diseases, pests, drought, and other stresses; supports biological systems essential for the livelihood of local communities; sustains current production systems; improves human diets; and offers forceful seeds to persist in a changing climate.<sup>44</sup> Therefore, there are two challenges that could arise concerning environmental justice when crop diversity is under threat: first, the improvement of food security and livelihood of the rural poor today; second, the sustenance and enhancement of the long-term productivity and resilience of agricultural systems to future generations.<sup>45</sup>

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<sup>42</sup> Melaku Worede, ‘Agro-Biodiversity and Food Security in Ethiopia, Environment and Development in Ethiopia’ (Proceeding of the Symposium of the Forum for Social Studies, Addis Ababa, 2001).

<sup>43</sup> *ibid* 11.

<sup>44</sup> Food and Agriculture Organization of the United Nations, ‘Save and Grow: a New Paradigm of Agriculture. A Policymaker’s Guide to the Sustainable Intensification of Smallholder Crop Production’ (FAO 2011) <<http://www.fao.org/ag/agp/save-and-grow/pdfs/flyers/Save-and-grow-flyer.pdf>> accessed 5 July 2021.

<sup>45</sup> Stefanie Sievers-Glotzbach, ‘Environmental Justice in Agricultural Systems: An Evaluation of Success Factors and Barriers by the Example of the Philippine Farmer Network MASIPAG’ (2012) University of Lüneburg Working Paper Series in Economics No. 225; Food and Agriculture Organization of the United Nations, ‘The State of the Food Insecurity in the World. Addressing Food Insecurity in Protracted Crises’ (FAO Rome 2010) <<http://www.fao.org/3/i1683e/i1683e.pdf>> accessed 5 July 2021.

Realizing these circumstances, in 1976, Dr Melaku Worede established the Ethiopia National Gene Bank, which is considered the world's premier genetic conservation institution.<sup>46</sup> Worede's work aimed to embrace participatory plant breeding, re-dignify farmer's expert ecological knowledge and conserve Ethiopia's precious seed diversity through in situ conservation.<sup>47</sup> Through "community gene banks" and with "participatory plant breeding", the best performing seeds that farmers introduced were multiplied and distributed to all local farmers.<sup>48</sup> In this way, both the welfare of local farmers and the well-being of future generations were improved.<sup>49</sup> In spite of all these achievements, Ethiopia is still struggling to provide basic human needs to a substantial part of its -increasing- population.<sup>50</sup> Yet, the astounding progress of the country in the crop in situ conservation and strong community participation can secure the food sovereignty of the locals from the -growing- monopoly power in the seed industry.<sup>51</sup> Therefore, agrobiodiversity conservation by developing countries' own efforts seems like an important tool for promoting environmental justice and securing the increasing value of the natural seeds for future generations' prosperity.

The following section addresses socio-economic inequalities to develop the argument of this paper on why an egalitarian approach to conservation and sustainable use is needed.

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<sup>46</sup> The institution is currently named Ethiopian Biodiversity Institute, see: 'About Us' (*Ethiopian Biodiversity Institute*) <<https://www.ebi.gov.et/about-us/>> accessed 5 July 2021.

<sup>47</sup> Worede (n 42); TESFAYE, Tesemma, and REGASSA, Feyissa, *Keeping Diversity Alive: an Ethiopian Perspective*, in *Genes in the Field: On-Farm Conservation of Crop Diversity*. London: Lewis Publishers, 2000, pp. 143-161.

<sup>48</sup> *ibid* 149.

<sup>49</sup> *ibid* 158.

<sup>50</sup> Betemariam Gebre, Yesigat Ayenew Habtamu, Biadgilign Sibhatu, 'Drought, Hunger and Coping Mechanisms among Rural Household in Southeast Ethiopia' (2021) 7(3) *Heliyon* e06355.

<sup>51</sup> Biotechnological methods, which companies in developed countries provide, increase new varieties of seeds which are protected by patents. Farmers have to pay –sometimes high amounts- for new varieties and when they continue on using them their traditional varieties get lost. In this respect local farmers are getting worried, they state that: "We've been buying high yielding seeds every year, often with borrowed money. We've stopped conserving and saving our own traditional seeds so we have no stocks. We're worried about what will happen if, for some reason, big seed companies are unable to supply seeds..." That is the reason why in situ (on farm) conservation and community seed banks are increasing in the developing world. See: 'Community Seed Banks' (*Green Conserve*) <<http://www.greenconserve.com/content/community-seed-banks>> accessed 5 July 2021.

## 4. Socio-economic Inequalities

### 4.1. Scrutinizing the Concept

Researchers suggest that social inequality has a substantial effect on environmental degradation.<sup>52</sup> The idea is when the wealth is widely held by few resource users, it is in their interest to conserve or degrade it regardless of what the poorer members of the society demand. For example, a study of community forestry in Mexico indicates that forests were poorly managed in a village with an unequal economic structure compared to more equitable villages. Because in the former, small groups of powerful people manipulate the logging industry for their own good, resulting in overexploitation and biodiversity loss.<sup>53</sup> It is also proposed that inequality may thwart conservation because it can hinder the collective action necessary for environmental protection.<sup>54</sup> In this respect, the relationship between inequality and biodiversity was revealed, and it was identified that greater inequality is associated with the number of threatened species.<sup>55</sup> The differentiated responsibilities approach to conservation and sustainable use of biodiversity intensively emphasizes the importance of eradication of poverty for biodiversity. However, these studies suggest that poverty may be a great threat to biodiversity while wealth is an even greater one. Among the various socio-economic drivers that are related to biodiversity loss, such as population density, environmental governance, GDP per capita and inequality, inequality appears to be the most prominent trigger of biodiversity loss. (see Figure 1)<sup>56</sup>

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<sup>52</sup> Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge University Press New York 1990); James Boyce, 'Inequality as a Cause of Environmental Degradation' (1994) 11(3) *Ecological Economics* 169; Jean-Marie Baland et al, *Inequality, Cooperation, and Environmental Sustainability* (Princeton University Press 2007).

<sup>53</sup> Daniel Klooster, 'Institutional Choice, Community, and Struggle: A Case Study of Forest Co-Management in Mexico' (2000) 28(1) *World Development* 1.

<sup>54</sup> Jeff Dayton-Johnson, Pranab Bardhan, 'Inequality and Conservation on the Local Commons: a Theoretical Exercise' (2002) 112(481) *Economic Journal* 577.

<sup>55</sup> Gregory M. Mikkelsen et al, 'Economic Inequality Predicts Biodiversity Loss' (2007) 2(5) *PLOS ONE* 1; Tim G. Holland et al, 'A Cross-national Analysis of How Economic Inequality Predicts Biodiversity Loss' (2009) 23(5) *Conservation Biology* 1304.

<sup>56</sup> Holland (n 55) 1311.

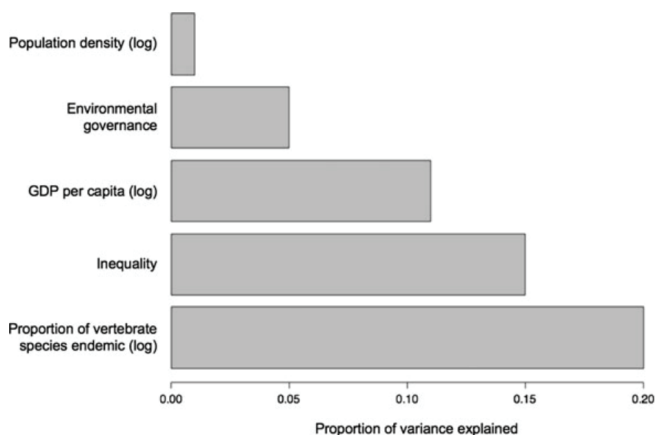


Figure 1. Socio-economic effectors of biodiversity loss.

A far-reaching reduction in the gap between the rich and poor may be a first and foremost requirement both for the development of the poor and conserving biodiversity.<sup>57</sup> After testing his hypothesis on 45 countries and concluding that societies with more unequal distributions of income experience greater losses of biodiversity<sup>58</sup>, Mikkelson argued that, “while there is often a trade-off between economic growth and environmental quality, this study suggests that there is a synergy between a different kind of economic development namely, toward a more equitable distribution of wealth and the conservation of biological diversity.”<sup>59</sup> Overall, unless current trends toward greater inequality are reversed, it may become increasingly hard to conserve the wide variety of the living world.<sup>60</sup>

Consequently, in terms of biodiversity conservation, a differentiated approach to conservation and sustainable use that prioritizes economic development in developing countries may lead to undesired results if these countries are developing while the gap between rich and poor is widening. This is usually the case in natural resource-rich countries where growing inequalities are manifesting themselves in natural resource use. In South Africa, during the 2000s, close to 40 % of the national income went to 10 % of the population despite the development of democracy, good macroeconomic performance,

<sup>57</sup> Raphael Bille et al, ‘Biodiversity Conservation and Poverty Alleviation: A Way out of the Deadlock’ (2012) 5(1) S.A.P.I.E.N.S 1.

<sup>58</sup> Mikkelson (n 55) 2. This study also tested environmental Kuznets’ curve and concluded that it was not supported by the data.

<sup>59</sup> ‘Biodiversity Loss Linked To Economic Inequality Worldwide’ (*ScienceDaily*, 2007) <[www.sciencedaily.com/releases/2007/05/070516071757.htm](http://www.sciencedaily.com/releases/2007/05/070516071757.htm)> accessed 5 July 2021.

<sup>60</sup> Mikkelson (n 55) 4.



and less dependence on natural resources.<sup>61</sup> I consider this situation as the non-ideal breaking point of an ideal global distribution of biodiversity conservation cost. This is because, if the just distribution of resources could be applied at the national level, developing countries would not be considering sustainable use as a burden that cannot be afforded without the differentiated responsibilities at the global level. A resource distribution that cannot be achieved at the national level- which cannot even meet the basic demand of an egalitarian justice- puts the global distribution in a hopelessly idealistic position. Moreover, this social justice problem raises intergenerational concerns because without redistribution, “one generation’s successful individuals would become the next generation’s embedded caste, hoarding the wealth they had accumulated.”<sup>62</sup> From this point of view, since the inequality raises unequal access to the political system and position of power, in the long term, it would undermine the well-being of the least advantaged communities who depend on biological resources for their livelihoods. The following section clarifies how the conservation efforts of the communities would help to overcome inequalities.

#### **4.2. Decentralization & Community Participation to Conservation: Nepal’s Case**

The biogeographic location and the great span of elevation bestow Nepal with rich biodiversity, including many endemic species. On the flip side, Nepal’s late history is full of political struggles, civil strikes, and economic crisis. These challenges put a lot of pressure on the forests, and forests became noticeably degraded.<sup>63</sup>

By the 1970s, government foresters realized that the Department of Forests was not able to manage the forests alone.<sup>64</sup> Hence, the government had sponsored Community Forestry with the goal of involving local communities in the management and conservation of the forests upon which they depend. This system developed into the Community Forest User Group (CFUG) system, and today, one in three Nepali citizens is a CFUG member.<sup>65</sup> This program successfully increases the greenery of degraded sites, and it also benefits the

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<sup>61</sup> Mthuli Ncube et al, *South Africa’s Quest for Inclusive Development, in International Development: Ideas, Experience and Prospects* (Oxford University Press 2014), 708.

<sup>62</sup> Anthony Giddens, Patrick Diamond, *The New Egalitarianism* (Polity Publishing 2005).

<sup>63</sup> Kamal P. Acharya, ‘Conserving Biodiversity and Improving Livelihoods: The Case of Community Forestry in Nepal’ (The International Conference on Rural Livelihoods, Forests and Biodiversity 2003); Ambika P. Gautam et al, ‘A Review of Forest Policies, Institutions, and Changes in the Resource Condition in Nepal’ (2004) 6(2) *International Forestry Review* 136.

<sup>64</sup> Bethany Boyer-Rechlin, ‘Women in Forestry: A Study of Kenya’s Green Belt Movement and Nepal’s Community Forestry Program’ (2010) 25(9) *Scandinavian Journal of Forest Research* 69.

<sup>65</sup> *ibid.*

least advantaged communities.<sup>66</sup> If this conservation action becomes more responsive to the poor, it will help to eradicate socio-economic inequalities. Moreover, despite all the challenges Nepal is facing -the political instability, poverty and extreme corruption- carrying a conservation activity in which one of every three citizens is involved is hope-inspiring for future generations.

Community forestry is not the only activity in Nepal that the citizens participate in. There are significant non-profit organizations, like the National Trust for Conservation, that are mandated to work for nature conservation. The Government of Nepal hands over the management of certain conservation areas to this trust. The economic resources for conservation come from self-financing mechanisms of conservation areas (namely, three conservation areas are self-financing: Annapurna, Manaslu and Gaurishnagar) or national and international donations.<sup>67</sup> These conservation parks are not museums but (tourist) areas where locals who are trained about resource management take a leading role in managing their own natural resources in a sustainable way. The socio-economic condition near these protected areas shows an upward trend.<sup>68</sup> Hence, the decentralization of conservation can well-off the least advantaged people if conservation areas are properly managed.

The following section develops the value of biodiversity as a concept that supports the egalitarian approach adopted in this paper.

## 5. The Value of Biodiversity

### 5.1. Scrutinizing the Concept

In its Preamble, the CBD recognizes, mainly, two values of biodiversity: (1) the intrinsic value and (2) the values for human well-being (economic, social, ecological, genetic scientific, educational). These values are not defined explicitly since the valorization of the values of the biodiversity often viewed as difficult, and in some cases, inappropriate.<sup>69</sup> In this regard, there are mainly two challenges: irreversibility and uncertainty. Uncertainty limits the knowledge about the future society's development patterns and ecological processes. Irreversibility narrows the potential socio-economic development and restricts

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<sup>66</sup> Acharya (n 63), 4.

<sup>67</sup> I would like to thank to information office of NTNC for providing me this information through e-mail.

<sup>68</sup> See: 'Achievements of NTNC' (*National Trust for Nature Conservation*) <<https://ntnc.org.np/index.php/achievements-ntnc>> accessed 5 July 2021.

<sup>69</sup> Robert D Weaver, *Economic Valuation of Biodiversity, in Biodiversity and Landscapes: Paradox of Humanity* (Cambridge University Press 1994); Mike Christie et al, 'Valuing the Diversity of Biodiversity' (2006) 58(2) *Ecological Economics* 304; Thomas Potthast, 'The Values of Biodiversity: Philosophical Considerations Connecting Theory and Practice' in *Concepts and Values in Biodiversity* (Routledge Studies in Biodiversity Politics and Management 2014).

opportunities for the adaptation of society.<sup>70</sup> These two challenges lead to a justification for conservation by giving rise to the optional value of biodiversity, representing the potential value of biodiversity in the future. The utilitarian value of biodiversity to humans seems infinitive, as new species, new networks, new technologies are discovered continuously. Hence, an economic valuation may estimate the benefits derived from biological resources and the cost of implementing conservation initiatives but not of biodiversity.<sup>71</sup> Moreover, an economic valuation may fail to address the local value of biodiversity.

Biodiversity is often central to the culture, religion or identity of many local and indigenous populations who mostly oppose assigning a monetary value to specific natural resources.<sup>72</sup> Moreover, locals and indigenous people are the foremost appreciators of the diversity of species and habitats, because their existence directly depends on the goods that biodiversity provides them.<sup>73</sup> Therefore, recognizing and representing the local values is vital for ensuring food security, health care and development of local communities. The consideration of (sustainable) development in developing countries should leave enough room for interpretations and ideas of traditional communities about potential resource use patterns. Intergenerational equity should be respected together with the fundamental rights of the traditional populations, who are conscious of not the price but the value of biodiversity.

Consequently, traditional values are significant means for the sustainable development of developing countries. Therefore, conservation of the environment of indigenous peoples should not be less valued in a fair socio-economic development policy. In Rawls' theory, primary goods that every rational individual desire include more than income and wealth. They include rights, opportunities and the social basis for self-respect.<sup>74</sup> Each generation should preserve not only natural assets but also just institutions for future generations' presence in a just society- a society that offers them these primary goods.<sup>75</sup> Indigenous peoples' future and, accordingly, the future of conservation activities depend on respecting these communities and providing them with the opportunity to preserve, develop and transmit their ethnic identity and ancestral lands to future generations. Conservation of biodiversity

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<sup>70</sup> Michael Flint, 'Biological Diversity and Developing Countries' in *The Earthscan Reader in Environmental Economics* (Earthscan Publications London 1992), 440.

<sup>71</sup> Luca Tacconi, *Biodiversity and Ecological Economics: Participation, Values and Resource Management* (Earthscan Publications 2000), 64.

<sup>72</sup> Timo Kaphengst, Christiane Gerstetter, *Addressing Multiple Values of Biodiversity in Development Cooperation* (Policy Brief of Ecologic Institute 2015).

<sup>73</sup> Anna Lawrance et al, 'Exploring Local Values for Forest Biodiversity on Mount Cameroon' 20(2) *Mountain Research and Development* 113.

<sup>74</sup> John Rawls, *A Theory of Justice* (Oxford University Press 1999), xix, 28.

<sup>75</sup> *ibid* 8.

together with indigenous communities is essential for achieving social justice in developing countries for current and future generations; as the next case will be emphasizing.

### **5.2. Learning from Locals & Community Management: Belize's Case**

The Maya Indians owned and occupied the territory in Central America, which is now Belize, for thousands of years before European settlement. For hundreds of years, the Maya forest was logged by the natives. They were conserved very well and are still recognized as one of the most important ecological areas in the world on account of their great biological diversity and the remarkably high number of animals and plants.<sup>76</sup> In 1994, the southern part of Belize, where Mayans were settled, was specified as a protected area-Sarstoon-Temash National Park (STNP). The government had never thought to consult the indigenous communities before creating the park. When local people realized that they were living on a national park border, they strongly opposed it.<sup>77</sup> After lengthy discussions, a co-management resolution was offered. With the input provided by external representatives, the communities began to understand that if they contribute to the conservation management, the park could allow them to increase their income-generating opportunities.<sup>78</sup> In 1999, Sarstoon-Temash Institute of Indigenous Management (SATIIM) was established as a non-governmental organization by community leaders. The organization strengthens the communities' capacity to manage the park, records traditional ecological knowledge and defends the indigenous population's rights.<sup>79</sup> SATIIM is Belize's most successful indigenous park management organization. So far, it both safeguards the traditional values of indigenous communities and provides effective conservation for the forest's biological heritage.<sup>80</sup>

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<sup>76</sup> Samuel Bridgewater, *A Natural History of Belize: Inside the Maya Forest* (University of Texas Press 2012), 3.

<sup>77</sup> Javier Beltrán, Adrian Philips, *Indigenous and Traditional Peoples and Protected Areas: Principles, Guidelines and Case Studies*, IUCN (The World Conservation Union 2000), 55.

<sup>78</sup> *ibid* 56.

<sup>79</sup> The prominent 'legal victory' of the organization is; the right to free, prior and informed consent of the indigenous communities was successfully claimed in the Belize Supreme Court, against the oil drilling agreement between the Government of Belize and US Capital Energy. See: SATIIM, *Annual Report of 2006* <<https://www.satiim.org.bz/download/newsletters-and-updates/annualreport06.pdf>> accessed 5 July 2021; Maya Indigenous Community of the Toledo District vs. Belize, Case 12.053, Report No. 40/04, Inter-Am. C.H.R., OEA/Ser. L/V/II.122 Doc. 5 rev. 1 at 727.

<sup>80</sup> Gregory Ch'oc, 'Indigenous Peoples and the Struggle for Governance of Natural Resources in Belize, in *Indigenous Peoples and Conservation: From Rights to Resource Management*' (2010) Conservation International 27.

## Conclusion

This paper explained that the primary international agreement to conserve biodiversity, the CBD, adopts a differentiated approach to conservation and sustainable use of biodiversity through endorsing the common but differentiated responsibilities principle. This approach allows prioritizing the socio-economic development to biodiversity conservation for developing countries that the global community cannot effectively fund. The paper argued that such an approach does not meet the demands of social justice that require the flourishing of the least advantaged communities. This is because, biodiversity conservation may not be able to alleviate poverty but has an important role in preventing the further impoverishment of the least advantaged communities. Achieving justice for both current and future generations requires improving allocation and the use of biological resources in a way that the health and integrity of the ecosystem are not disturbed, and the least advantaged people in the society do not worse off.

In this regard, the paper emphasized the importance of considering conservation through an egalitarian approach, especially in developing countries. It addressed three dynamics to support this claim: environmental justice, socio-economic inequalities and the value of biodiversity. Under these concepts, certain successful conservation cases that justify an egalitarian approach were analyzed. The common ground of these cases is the grassroots efforts for biodiversity conservation. Hence, supporting the bottom-up movements of the least advantaged communities in developing countries is needed to respect social justice while conserving biodiversity.

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