FAIR BIODIVERSITY POLITICS
WITH AND BEYOND RAWLS

John Bernhard Kleba
ARTICLE

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John Bernhard Kleba, Assistant Professor for Sociology and Political Science, Technological Institute of Aeronautics,
Praça Marechal Eduardo Gomes, 50, São José dos Campos, São Paulo, Brazil, 12228-900,
E-mail: jbkleba@ita.br

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INTRODUCTION

According to Birnbacher, although there has been little dialogue between the academic fields of normative studies and empirical sociology, there are compelling reasons for both to profit from each other, for example by testing new models of explanation and introducing novel questions to reflect on social phenomena. In this sense, this work evaluates the access and benefit-sharing (ABS) regime of the Convention on Biological Diversity (CBD or the Convention) in the light of John Rawls’s Justice as Fairness (JaF). I argue that JaF provides a major contribution, as yet unexplored, to shed light on the ABS conflicts of commutative and distributive justice.

In general, empirical driven works on ABS raise issues of justice grounded in intuition, whereas moral philosophy works are based on reasoning, without giving much attention to detailed empirical research. Few works have combined issues of commutative and distributive justice more comprehensively in the field, but none has so far applied Rawls’s concepts to ABS, aiming to test both limits and potentials of its theoretical power. In being aware of the complexity of such an enterprise, this work seeks to open this field of inquiry and research by focusing on selected theoretical issues and empirical cases.

By noting that the Convention is mainly grounded in entitlements, the article explores the cognitive and distributive limits of justice-as-exchange (sections 1, 6 & 7). After a brief overview of JaF, I highlight some of its contributions to rethink justice in the ABS debate and outline methodological difficulties of its applicability (section 2).

A new, cross-cultural original position inclusive of non-Western cultures is required. In a context of tensions among legal orders, and focussing on the case of indigenous peoples and traditional communities, I discuss some of the challenges of legal pluralism and political equality concerning cultural minorities (section 3). I provide three arguments against Bell in favour of ecological constitutionalism and of a modern universal kinship, with and beyond Rawls (section 4).

Issues of economic and political inequality in the ABS regime are debated with the help of two possible interpretations of the Rawlsian least advantaged, one grounded in wealth, and the other in citizenship, whereas I argue in favour of the latter (sections 5 & 7). A fair balance between commutative and distributive justice is appraised taking into account incentives, transaction costs and the regulatory efficacy of policy systemic aims (section 6).

To examine what constitutes fair benefit sharing, the difference principle is applied in its dimensions of wealth and citizenship. Concerning the dissent in regard to monetary shares in ABS contracts, the limits of reaching consent over fair commutative transactions are shown, including the dissent towards the merits of traditional peoples and pharmaceutical companies in biotechnological inventions and the asymmetries of power. Finally, the Nagoya Protocol provides a framework to realise citizenship for the benefit of indigenous and local communities (ILCs), but the Rawlsian second principle of Justice requires more than this. In this sense, making ABS policies work in providing health, food and political participation for the benefit of the less advantaged is still a challenge to cope with (section 7).

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1
THE (UN)FAIRNESS OF THE CONVENTION

Fairness is the leitmotif of the CBD. The first two objectives of the Convention, the conservation of biological diversity and the sustainable use of its components, are primarily grounded in intergenerational and environmental justice. With the 2010 approval of the Nagoya Protocol (Protocol) new expectations were raised concerning the third objective of the CBD, ‘the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources’ (the so called ABS regime). The last, in particular, has been regarded widely as unfair by stakeholders and scholars, due to different, even conflicting reasons. The Convention and the Protocol do not define what is fair and equitable, and provide only procedural recommendations. The meaning of fairness and equity are analogous, both having a sense of impartial and reasonable actions. As we will see below, these aims are exactly what Rawls has pursued with his framework of political justice. Interestingly, the concept of fairness is in tension with a given legal order, as fairness is the recourse to principles of justice superseding the law ‘in a case for which the law did not provide adequate remedy, or in which its operation would have been unfair’. As ‘what would have been unfair’ is a matter of interpretation and varies according to time and points of view, equity is a politically contested concept.

The CBD led to a main shift in international law, turning the genetic resources (GR), hitherto regarded as a common heritage of mankind, into an object for entitlement. Hence, new entitlements of sovereign states over GR and of ILCs over traditional knowledge associated with GR were established and entitlements of intellectual property rights (IPRs) over innovations based on the utilisation of GR were recognised. The centrepiece of the Convention is national sovereignty over GR, giving states the right to set rules to grant access to the same and to specify prior informed consent and benefit sharing (BS). Article 8(j) of the CBD recognises the rights of ILCs over their traditional knowledge (TK). ILCs have the right to grant access to TK by means of prior informed consent and ABS agreements on mutually agreed terms. Like all the recommendations of international law, the provisions of the CBD depend on their due implementation in domestic legislation. Furthermore, the interpretation of entitlements over TK is contentious, reaching from IPRs to inalienable cultural heritage rights. ILCs generally agree that IPRs are unsuitable to grasp the particularities of TK, so that the demand of companies to stipulate patent rights in ABS contracts involving TK often leads to a cultural clash.

The scheme of entitlements established by the Convention is, however, not an aim in itself, but rather a mechanism to establish the particular concepts of corrective, commutative and distributive justice.

Following corrective justice (in which liability rectifies the injustice inflicted), the Convention addresses biopiracy: that is, the unethical or illegal appropriation of tangible or intangible biological

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5 Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their Utilization (Nagoya-Aichi, Japan, 29 October 2010).
6 See CBD, note 2 above, Article 1.
8 This is the meaning of ‘fairness’ in Roman and English Jurisprudence. See ‘Fairness’, Oxford English Dictionary (2nd ed. 1989, digital version June 2011).
9 CBD, note 2 above, Article 15.
10 Id., Article 8(j).
11 Id., Article 16.
12 Id., Articles 1, 8(j), 15 (5, 7), 19.
14 Id.
resources. By turning the unethical into illegal, the Convention makes it possible to punish and prevent biopiracy, and calls for compliance.

The centrepiece of the Convention is to lead by commutative justice (or justice-in-exchange), following the rule of no one gains by another’s losses, or ‘of giving one thing and receiving what is due in return’. In the times preceding the Convention, the benefits arising from the utilisation of GR by inventions produced in countries concentrating on the life sciences industry were not shared with the countries of origin of the same GR, the so called provider countries. With the aim of reaching a fair exchange, the Convention has established a framework for bilateral deals between providers and users. In exchange for the right to access GR users must share the benefits arising from its utilisation with provider states or ILCs, which are expected to be spent in conservation and development (such as technology transfer) and in satisfying the collective needs of traditional knowledge stewards.

The commutative scheme exposes the two dimensions of distributive and cognitive political dissent. Concerning the fair distribution of goods, the scope of shares in ABS contracts is unequal, the losses going to the providers (see section 7). Similar to Locke’s social contract in which the participants do know about their circumstances, the ABS regime expresses a bargain that favours the egoistic interests of powerful actors such as the life science industry. Another deficiency is the fact that GR and TK are often disseminated across national and cultural boundaries, whereas the individualistic model of the Convention encourages BS contracts restricted to national borders. The Protocol in this regard provides the Global Multilateral Benefit-Sharing Mechanism for cases of transboundary situations of shared GR or TK or, for cases in which it is not possible to grant or obtain prior informed consent. Cognitive dissent concerns conflicts over values, and is usually non-negotiable. As Aristotle recalled, fair exchanges ask for a common standard of value. But how could such a common standard be reached if Western actors see in GR and TK merely assets to be valued by markets and chemical compounds to be described and patented, whereas indigenous peoples comprehend the same as an indivisible part of their holistic conception of life with dignity? The differences in the Weltanschauung (world view) of both lead to the presumption of their incommensurability, according to Feyerabend’s philosophical notion, in that no common understanding is possible due to the completely different contexts in which the concepts are inscribed.

Contrary to what is often supposed, the Convention also makes a commitment to distributive justice. However, this commitment relies less on satisfying needs or addressing economic asymmetries than on the allocation of burdens, benefits and merits. In light of the fact that (a) biodiversity conservation is a common aim of the international community and (b) that some countries assume the burden of conserving biodiversity whereas others give priority to intensive economic activities, the burden of conservation must be compensated. Accordingly, the Convention provides funding mechanisms.

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15 Some of the major biopiracy cases related to Ayahuasca, Basmati Rice, Neem and Turmeric. See A. von Hahn, Traditionelles Wissen indigener und lokaler Gemeinschaften zwischen geistigen Eigentumsrechten und der public domain, Beiträge zum ausländischen öffentlichen Recht und Voelkerrecht (Book 170) (Berlin: Springer, 2004).


18 See Nagoya Protocol, note 5 above, Article 10.


22 See CBD, note 2 above, Articles 20 and 21.
idea is reasonable, but so far has failed to bring the expected results with biodiversity erosion racing down.23

In contrast, a major critique emphasises the shortcoming of the Convention in addressing ‘needs’.24 For instance, the regulation of drug development based on GR impacts the access to health of millions of people in the poorest countries. In this regard Schroeder and Pogge argue that ‘it matters for justice-in-exchange, as when the future availability of the research products is reward enough for an affluent research participant—yet not for a poor one, because these products will not be affordable to her […]’.25 Modern drugs are often out of the reach of the poor. And often the lack of access to modern medicines overlaps with the pressures of industrial power, health surveillance prohibitions and biomedical ideology against the rights of ILCs to practice their traditional medicine.26

The Rawlsian framework of JaF seems to provide compelling solutions for the ABS regime in balancing claims of equality, pluralism and a productive society. A critical account of Rawls’s approach is briefly outlined in the next section.

2
JUSTICE AS FAIRNESS

Rawls radicalises political liberalism in such a way that it rejects the welfare state model with its permissible degree of economic inequalities, and integrates aspects of Marxism stating that liberal socialism can comply to JaF, as much as a property-owning democracy.27 Justice as fairness asks ‘what is the most acceptable political conception of justice [...] between citizens regarded as free and equal’.28 To construct the most acceptable political conception of justice, Rawls proposes a think experiment, the original position, in which a new social contract is negotiated. In this ideal negotiation the representatives of each individual will negotiate not in terms of the benefit of particular interests, but for the common sake of justice. This is made possible by means of blinding the representatives with a veil of ignorance, hindering them from knowing any attribute of the represented such as identity, position in society, and so on.29 The result of this original contract is grounded in two principles of justice. The first is an ‘indefeasible claim to a fully adequate scheme of equal basic liberties’,30 assuring that individuals have optimal conditions to pursue their life plans.

The second principle addresses the issue of equality, based on two major assumptions. First, large inequalities in power, property and welfare obstruct any attempt to achieve equal basic liberties. Conversely, absolute equality of wealth would lead to a poorer society hindering individual opportunities and worsening even the situation of the less well off. This dilemma is solved by the second principle, as follows: ‘(2a) equality of opportunity (offices and positions), and (2b) social and economic inequalities are to the greatest benefit of the least-advantaged members of society (the difference principle).’31 Such inequalities are morally permissible if and only if they serve the least advantaged.32 The second principle brings together absolute wealth, giving priority to the worse off (2b), and egalitarian opportunities, reducing the relative

23 The last decade has seen dramatic reductions of forests, natural habitats and vertebrates in general. Many species are close to extinction. Also crop diversity and livestock breeds are rapidly declining. See Secretariat of the Convention on Biological Diversity, Global Biodiversity Outlook 3 (Montreal, 2010), available at http://www.cbd.int/doc/publications/gbo/gbo3-final-en.pdf.
24 See de Jonge 2013, note 7 above.
28 Id., at 7-8.
30 See Rawls (2003), note 27 above, at 42-43.
31 Id.
32 Id., at 98-99.
gap between social groups (2a). Rawls’s vision demands de facto equal opportunities of education and health.

A central concern for Rawls is how to bring together plurality, legitimacy and democracy. The aim is to allow a broad plurality of religious and philosophical doctrines and individual choices committed to the constitution of a reasonable society. In order to achieve this commitment, Rawls moved away from the Kantian moral agency (to be autonomous and just is rational) advocated in ‘A Theory of Justice’ to an exclusive political conception of the person (Rawls refers to persons), that of the democratic citizen, in his ‘Political Liberalism’. With this shift, Rawls draws a ‘freestanding’ conception of justice, that is, whereas previously fairness was a liberal doctrine affirmed by all members, now fairness is a political institution protecting the pluralism of reasonable doctrines, leaving other matters to be regulated by the democratic process.

Rawls has had an enormous influence in debates related to political science and moral philosophy. He also left many open questions for further consideration. Concerning the applicability of the Rawlsian framework to examine the empirical issues of the ABS regime, some remarks must be made. Rawls allows discrepancies between the rules of internal institutions and the basic structure of JaF. However, although the ABS regime may show many particularities, it is productive to ask how far Rawls’s principles apply to it. For example, should this regime not be integrated into the idea of benefiting the least advantaged? I respond affirmatively, but who are the least advantaged is still to be defined, as I discuss below.

In fact, there is a tension between the ABS realm and Rawls’s concepts, which I highlight in the following sections, raising issues as to the place of non-Western cultures and of cultural minorities in a political framework of justice, the issue of legal pluralism, whether environment conservation shall have constitutional protection in a Rawlsian liberal society, amongst others.

3

CHALLENGES TOWARDS CULTURAL AND LEGAL PLURALISM

This section debates the relationship between JaF and a cross-cultural framework of justice and the issues of desnationalized politics, cultural minorities and legal pluralism.

If indigenous peoples were asked whether they might agree with the JaF framework, they would probably say that the representatives in the Rawlsian original position have simply undervalued the non-Western cultures. Rawls’s liberal institutions may be endorsed by any political culture. But is this a robust assumption? I see four possible answers to this question: a) JaF is acceptable to all cultures without amendments; b) a cross-cultural framework of political justice must reject JaF; c) JaF is Western biased, but with some amendments it could claim to be embraced across cultures; d) a cross-cultural framework of political justice is post-Rawlsian, accepting his principles non-hierarchically but placing political liberalism out of its centre.

To begin with, option ‘b’ is refuted. Also non-Western peoples might pursue the values of liberty and equality, even if these values are new for them.

37 Rawls distinguishes the general level of the political basic structure, to which his principles applied, from particular institutions and cases, which have their own rules. See Rawls (2003), note 27 above, at 73.
The Arab Spring has shown that cultures without a democratic tradition may demand democracy. Option ‘a’ is also invalidated. The reasoning I follow is that the Rawlsian framework lacks what Dussel calls intercultural dialog. For example, it does not encompass the notions of fairness of particular cultures such as indigenous peoples. The same rationale is valid for other cultures, since how can Chinese, Arab and other non-Western cultures agree to a scheme of justice if their own ideas are kept out? Rawls has built his approach in a Eurocentric manner, including Western traditions and authors and excluding the rest.

What is ‘reasonable’ depends on cultural understandings. Rawls made a freestanding conception of justice from the concepts of freedom and equality, which are historically embedded in comprehensive doctrines. Let us suppose that other, non-Western concepts could be also included in a freestanding conception of justice. Rawls circumscribes the reasonable to the conception of the person as free and equal. The reasonable for indigenous peoples encompasses other meanings, such as respect for living beings, expressed in a modern version of universal kinship, as explained below. Moreover, the two Rawlsian principles are displayed hierarchically, so that equal basic liberties are more important than all other principles. For indigenous peoples, this hierarchy is unacceptable. Instead, their representatives in a Rawlsian original position would advocate dual-standing rights, among other principles. Dual-standing rights express a very complex relationship between protecting simultaneously individual and community choices, in which ‘members are not forced to comply, but rather a consensus is sought’. I leave the debate between the last two options for another occasion, just remarking that it seems counter-intuitive to give priority to one Western tradition, political liberalism, in a cross-cultural framework of justice, for instance, taking into account the arguments raised by theories of de-colonialism, liberation and pluriversality.

A second issue addresses the role of the institutional design of overlapping and transboundary legal orders. Cohen & Rogers point out, in debating the conditions of associative democracy, that not much attention has been paid to examining the role of institutions and social arrangements in establishing reasonable political principles. However, institutions today must be conceptualised at multiple levels, away from a state centred world order. Rawls, in ‘Law of Peoples’, represents international relations from the point of view of peoples (states), suppressing the growing relevance of transnational actors (governmental and non-governmental) and interdependency, for example, in issues of societal desnationalization: that is, the phenomena in which domestic transactions are not as dense as transnational ones, like the Rhein pollution or global climate change.

The CBD highlights the rising international interdependency in the areas of environmental politics, traditional peoples and biotechnological innovations. In tackling the needs of the less well off, transnational policies may be more efficient than isolated national ones, being able to agglutinate global mechanisms and players towards concerted

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41 Mignolo provides a critique of the modernity’s rhetoric in terms of its intersection with the oppressive logic of colonialism, contrasting it with non-capitalistic forms of economy and bottom up democracy. See W. Mignolo, ‘Hermenéutica de la democracia - El pensamiento de los límites y la diferencia colonial’ 9 Tabula Rasa 39 (2008).
42 Dussel explains the development of movements and theories in the perspective of Latin America and of a South-South dialog against colonialism, from the liberation inspired in Gramsci to transmodern pluriversity, last communicating thinkers of the periphery and those from border spaces. See Dussel, note 38 above, at 18.
solutions. For example, the Medicines Patent Pool recently announced a breakthrough to make key HIV medicines accessible in developing countries. Fair ABS politics requires the harmonisation of multiple legal orders - collective rights, state law and international law - to properly address issues of technology transfer, poverty alleviation, sustainable development and empowerment of local communities.

Let us now look at the issue of vulnerable minorities by taking the example of indigenous peoples and traditional communities, which play a central role in the Convention. Speaking of minority rights, the identity of cultural and social groups is addressed. Without identity, there is no substance in political entities, even in states or in peoples. Even if identities are self-constituted and individuals may exit membership, group identity is constitutive of any collective self-understanding, and as Kymlicka pointed out, for any concept of the person. Indigenous peoples are a particular type of identity, being a political minority defined by non-dominance and ancestral rights to a homeland territory. There is an estimate of approximately 350 million native peoples worldwide. Traditional or local communities differ from indigenous peoples, as only the last are granted originary land rights. In both cases Article 8(j) of the Convention recognises the protection of traditional knowledge, referred to as indigenous and local communities (ILCs). Both also have in common a strong interdependency with their natural environment, and often a sophisticated knowledge of biodiversity. Brazilian law, for instance, created special reserves to enable traditional peoples to maintain their customary sustainable use of natural resources.

Rawls addresses the problem of pluralism and rights of groups, setting it within national political cultures. He remarks that conflicts of ethnicity and cultural sets might limit reconciliation by public reason, but, differently than irreconcilable doctrines, are expected to be resolved by institutionalising political justice. However, conflicts in ABS agreements have shown that cultural clashes are at least as strong as incompatible doctrines. Rawls’s picture of liberalism as ‘a social union of social unions’ recalls a democratic equality of groups. But, as Walzer reminds us, ‘what if the unions are precarious and vulnerable, so that other unions take advantage?’ Rawls speak about a trade off between the beliefs of individuals and the democratic legitimacy, the burdens of judgement, that is, opinions of voters often disagree, even if all of them are reasonable. However, in the democratic process, only a few of these opinions prevail (usually by majority rules), so that the losers accept the burdens for the sake of social cooperation. For instance, which conditions must be in place so that the interest of indigenous minorities has equal chances of prevailing as the opinions of powerful actors like the pharmaceutical...
industry and their solicitors? As Kymlicka & Norman emphasise, ‘difference-blind rules or institutions can cause disadvantages for particular groups.’ Western associations like sects and unions might stay in conflict with state law, but probably no cultural group is as peculiar as many indigenous peoples, whose otherness contrasts strongest with Western patterns. In this sense, numerous nations recognise special collective rights to indigenous peoples, including self-determination, ancestral territorial rights, rights to maintain and develop their cultures and juridical autonomy. The United Nations Declaration on the Rights of Indigenous Peoples sets a legal foundation for these rights, acknowledging the vulnerabilities of these peoples. Historically abused by genocide, forced acculturation and displacement, their territories and institutions currently threatened by the economic and cultural expansion of the capitalistic society, they are like none other, the least advantaged of cultural rights in the global society.

Indigenous self-determination over land may be understood as grounded in the needs of particular lifestyles intertwined in extensive territories. As land rights are ancestral, the state’s role is limited to recognising, rather than granting those rights. Often represented as a nation inside a host nation or in the Rawlsian nomenclature as a people inside one or more host peoples, they differ from those groups not requiring self-determination as well as from those who aim at national sovereignty. For instance, in Brazil, there are 43 indigenous peoples spread over the national borders.

To implement legal pluralism effectively, the recognition of rights is not a sufficient condition. A major difficulty relies in harmonising customary law and positive law, giving the diversity of groups, each with its own customary law. In Brazil alone there are 238 diverse indigenous peoples. Further bottlenecks are the non-codified pattern of oral traditions and the risk of undue reification. Bolivia and Ecuador, for instance, recognise legal pluralism in their constitutions and create institutional mechanisms and capacity building that aim at an equality of jurisdictions between indigenous and state law.

Indigenous customary law may conflict with human rights – or with the rights of minorities inside minorities. Empirical cases have shown that courts can intervene in favour of fair constitutional rights, for example, assuring gender equality. However, the legitimacy of such legal intervention depends on how the locals are involved, increasing with a bottom up approach, for instance, by including local members in the process and searching for supportive local traditions and demands.

Much has been said about oppressive cultural groups. However, individuals are usually more oppressed by states than by groups, as states, quoting Max Weber, monopolise the legitimate use of physical force, an issue highlighted by Rigoberta Menchu in the case of the Mayas. Indigenous claims often conflict with state governments, for example, regarding the recognition of indigenous territories, the rights of exploitation of natural resources in indigenous lands and the protection of sites of spiritual relevance.

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60 Brazilian Constitution 1988, Article 231. See Cunha & Almeida, note 51 above.
62 See Cunha & Almeida, note 51 above.
63 See Tobin, note 13 above.
66 Dussel pictures Rigoberta as a border intellectual, who is capable to mediate her own culture and the modern culture for placing herself in-between. See Dussel, note 38 above, at 23.
67 See Holder & Corntassel, note 40 above, at 141.
Recalling Habermas, rights of internal opposition and rights to exit are essential to protect individuals from oppressive collective entities, whatever the groups or states. As a result, collective rights and human rights often rely on the advocacy power of international law to defend the interest of individuals and minorities from oppressive governments.

Political equality and effective legal pluralism demand additional steps. The decision fora of international law, such as the Conference of the Parties of the CBD, should recognise the rights of voice and vote not only of state parties, but of the representatives of concerned peoples and groups, including ILCs. A cross-cultural reciprocity in law and justice should make visible those cases in which non-Western values and practices supersede the Western legal system either in its efficiency, legitimacy or content of fairness. For instance, the principle of reciprocity in the Andean cultures is a complex notion, distinct from the Western one, and includes duties of individuals to their land (Pachamama), to co-operative working forms and to their families. We can also learn about political equality from the Indigenous concepts of dispersion of power and non-coercion. According to Boaventura Santos, instead of simply recognising customary law and placing it somewhere as a minor fragment below positive law, we should endeavour to achieve conviviality between legal systems, by sharing authority and cooperatively established legal paths.

Cross-cultural justice should also legally recognise non-Western forms of property arrangements, which include cultural heritage and common property. This recalls the works of the Nobel Prize winner in Economics Elinor Ostrom who has shown that these forms of ownership and guardianship can be more efficient than private property in regulating access to and sustainable use of natural resources. Going beyond the property arrangements that Rawls envisioned, these forms of common property are fully compatible with his principles.

Paradoxically, the politics of recognition are often only possible through positive non-equal treatment, compensating the asymmetry of power and assuring special protection and support for minority groups. Racial equality led countries such as New Zealand to assure a quota of seats to Maori minorities in the central legislature, and Brazil established a quota favouring Afro-Americans and indigenous peoples for access to public universities. However, it seems that legal and policy mechanisms are not sufficient to assure effective recognition and equality of rights. Here, when supporters of political liberalism refuse perfectionist claims, they reveal their own limitation. This is because in the social perception of otherness, prejudice and indifference may endure and can be only broken by continuous public debate and learning processes about identities. The liberal freedom of plural doctrines without the enhancement of public virtues such as valuing otherness and political recognition contradict with the very conditions necessary to effectively establish equal opportunities.

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68 See Habermas, note 59 above, at 22-24.

69 See, for example, reported cases of customary courts in South Sudan in Pimentel, note 65 above, at 35.


72 B. de Sousa Santos, Refundacion del Estado en America Latina – Perspectivas desde la epistemologia del sur 89-90 (Lima: Instituto Internacional de Derecho Y Sociedad, 2010).


74 Rawls distinguishes five forms of property regimes, from which the historical ones are non-compatible with his principles of justice and just the two utopian forms are compatible, being these property-owning democracy and liberal socialism. See Rawls (2003), note 27 above, at 135-138.

75 For example, racial groups have a quota of seats in the central legislature in Fiji, New Zealand and Rhodesia. See V. Van Dyke, ‘Justice as Fairness: For Groups?’ 69/2 The American Political Science Review 607, 611-612 (1975).


77 See Habermas, note 59 above, at 15.
change, growing pollution, erosion, desertification, decrease of non-renewable resources and extinction of species and natural landscapes. It would be irrational to leave the evaluation of the gravity of such risks and the necessary solutions fully to the scrutiny of voters, who are influenced by corporative and short-term interests. This is the task of the rule of law. It is a moral duty and a constitutional one to protect society against such major threats.

A second argument is that environmental protection is a non-negotiable condition for a certain level of productivity to maintain a just basic structure. Rawls’s just savings principle depicts the problem of intergenerational justice as the obligation to assure a sufficient threshold ‘to make possible the conditions needed to establish and to preserve a just basic structure over time’. As we will see, at some stages of social development, people’s savings allow future generations to reach the sufficientarian threshold. This being reached, living standards shall be maintained, so that people ought to leave their descendants at least the equivalent of what they received from the previous generation. Yet there are two opposite scenarios for this principle.

The technophile view does not accept environmental protection as a condition sine qua non for the welfare of society. The technophile Rawlsian sees it as fully compatible with JF that future generations may live with none of the current biodiversity and natural ecosystems, as artificial means and capital may compensate for the extinction of biodiversity. Nature is a mere means for human ends, and can be fully replaced by technical and synthetic means. The image is of a Rawlsian society living on Mars, who did not care for the extinction of animals, plants and ecosystems of whatever kind. But following the precautionary principle, what if the technophiles are wrong and life standards decrease dramatically due to environmental crisis?

The ecological Rawlsian, by contrast, advocates the duty of fairness with future generations including biodiversity conservation in the just savings principle. Environmental protection is a condition without

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79 Id., at 220-221.
80 See Secretariat of the Convention on Biological Diversity, note 23 above.
81 See Rawls (2003), note 27 above, at 159.
which it is impossible to maintain the welfare and productivity of any society. The scenario is of a fully sustainable, high-tech Rawlsian society based primarily on renewable resources, clean energy, intelligent recycling and ecological economics.

The third argument is that environmental protection is a primary condition to enable a society to achieve a high degree of liberties and opportunities. The rich plurality of ways of life depends on rich biodiversity, increasing the degree of general well-being and economic productivity (for instance, with the green market). It makes a considerable difference in realising liberties if the polluted air I breathe cuts short my life, if my irrigated village is impoverished through water shortages and desertification, if my life opportunities are shaken through unexpected floods produced by climate change causing damage to my house, if I do not have a green park for leisure in my neighbourhood or just many miles of skyscrapers and traffic jam, and so on.

All three arguments are about justice among humans, and are concerned with the interests of moral agents of current and future generations. Environmental justice does not need to address the moral status of non-humans, as it relies on reliable data about threats to life, health, quality of life, etc, of humans and non-humans. Limiting demos is hereto as reasonable as it is to protect basic liberties and equal rights. Views denying the relevance of environmental protection are as a result both irrational and immoral. They may (or may not) be complemented with ideas of justice among humans and non-humans, or allow a voice for representatives of moral subjects to non-humans in the original position, similar to Latour’s pleading for a Parliament of things.82 This debate lies beyond the scope of this article.

Dobson remarks that the ontological understandings of freedom, including the ideas of political liberalism, have been historically changed from disembedded, autonomous human beings and a world of infinite resources, to our understanding of ecological beings fully embedded in nature and evidently dependent on the state of the natural world we live in.83 Rawls focuses on strict justice among persons and their political institutions, as if we lived independently of nature, as if persons were biologically disembodied, as if the polis is not the extended household (oikos) we have to organise to live a better life. The knowledge about invisible links between human health and environment makes this interdependency evident. The fact that Californian women were not aware of their pesticide contaminated breast milk in the 1960s did not change the objective health impacts of the contamination.84 But those facts have changed our way of understanding human health, as we now depend on updated and complex scientific information about environmental and health risks, not just to cope with their invisibility, but also to find guidance in face of the controversies about the extent of their harm.85

A cross-cultural concept for environmental justice may be represented in a modern view of universal kinship. This concept traditionally expresses the intertwining of natives to other species and objects such as land, ‘as a link to one’s ancestors and part of a larger spiritual compact of stewardship’.86 Yet this concept is a comprehensive doctrine. By reinterpreting universal kinship in a modern way, it represents a strong commitment to ecological interdependency, the duty of respect to nature, as the place we live in, and to living beings, as the beings we live with and who share our biological condition as living beings.

5 REPOSITIONING THE DIFFERENCE PRINCIPLE

In this section, I argue that a cross-cultural framework of justice implies a shift in the definition

86 See Holder and Cornatass, note 40 above, at 147-148.
of the least advantaged from a concept grounded in wealth and income to a concept of realising citizenship. According to the main Rawlsian view, primary goods are defined by the level of income and wealth, so that ‘the least advantaged are those belonging to the income class with the lowest expectations’. According to Freeman, for Rawls ‘the worst off are the poorest [and] not necessarily the unhappiest (as in welfarist views) or the most disabled physically or mentally (as in Sen’s capability approach).’

However, there is no direct correlation between level of income and level of citizenship and self-respect, or with quality of life from the perspective of cultural pluralism. There may be individuals or groups who make better ‘intelligent use of their freedom and lead a worthwhile life’ with less income than others, for example, people who follow an intentional low-consumption lifestyle as part of social movements such as de-growth and sustainable consumption. Further, ILCs in which capitalistic economies play a strong role may live better in their rich environments than the lower classes in the periphery of large cities, even if the latter have a higher income.

Moreover, Rawls’s justification of limited inequalities shall not be reduced to a supposition about creating incentives and increasing the overall productivity for the benefit of the poorest. Small inequalities in wealth are justified on cultural and political grounds, at least as relevant as its potential economic function. Material differences are a necessary condition of cultural diversity, considering that different lifestyles demand dissimilar levels of material consumption. In addition, it is likely that any attempt to impose absolute equality of salaries and property would necessarily lead to an authoritarian society, a Leviathan suffocating self-development opportunities and social diversity.

Rawls himself was very concerned with equality in citizenship, elucidating primary goods as the goods that individuals need to become citizens. In realising citizenship, non-material goods such as education, health, political participation and rights have as much relevance as material ones. Accordingly, Amartya Sen focuses on the functioning and capabilities that people have in realising goods such as education, health and political participation, including the realisation of substantive freedoms and real options to lead a worthwhile life. For Kymlicka & Norman the promotion of diverse citizenship must address the forms of ethnic and religious pluralism, without assimilation but multicultural integration.

Focusing on the difference principle in realising citizenship, the least advantaged are those with the greatest material and immaterial difficulties in realizing citizenship. This broader notion has the advantage of encompassing a multitude of lifestyles, for instance by providing guidance for the design of fair policies towards the recognition of cultural minorities. Applying this concept to the ABS regime makes a difference.

The level of income in ILCs is generally low, with only isolated exceptions to this. But in order to realise citizenship, income is just one among other necessary conditions. ILCs have, besides their economic fragilities, cultural, political and legal vulnerabilities in the context of a hegemonic and expanding capitalistic society. Recent conflicts in Brazil between farmers and indigenous peoples over land rights, which were accompanied by a shifting of the governmental bodies in charge of determining the same land rights in favour of

87 See Rawls (2003), note 27 above, at 59.
88 For Rawls justice with the disabled does not imply in redesigning the general principles of justice, as it shall be treated with particular policies, and the unhappiest is confronted with the notion of responsible agency. See Freeman, note 36 above, at 7-8.
89 See Rawls (1999), note 34 above, at 114-115.
90 See, for example, J. Martínez-Alier et al., ‘Sustainable De-growth: Mapping the Context, Criticisms and Future Prospects of an Emergent Paradigm’ 69 Ecological Economics 1741 (2010).
91 See Rawls (2003), note 27 above, at 60.
94 See Kymlicka and Norman, note 58 above, at 1, 8, 14.
95 See, for example, César Gordon, Economia Selvagem – Rital e mercadoria entre os índios Xikrin-Mebêngôkre (São Paulo: UNESP; ISA; Rio de Janeiro: NUTI, 2006).
farmers’ interests, show the continuous vulnerability of minorities in the democratic process.

In the ABS regime the least advantaged include, besides ILCs, those lacking access to food and health, an area in which biotechnological developments are expected to provide better solutions. Looking over the national boundaries the concept includes the burdened societies and the least developed countries (LDC). And making sure that environmental justice and citizenship go hand in hand, these regions in which lost biodiversity affects people most must be taken into account. The Nagoya Protocol has advanced to meet the mentioned targets to some degree. For example, capacity building is addressed in Article 22, 1 concerning ‘in particular the least developed countries and small island developing States’ and ‘Parties with economies in transition’, including capacity for negotiation (Article 22, 4(b)), for implementing policy measures (Article 22, 4(c)) and developing endogenous research capabilities (Article 22, 4(d)). Effective implementation, as in the case of transferring research capabilities in developing countries, has proved to be a difficult task. The priorities of women are addressed in some provisions, among others, Articles 12, 3 and Article 22, 5(j). Concerning ILCs, besides the rights of prior informed consent and mutually agreed terms on benefit sharing over GR held in their territories and over TK, the Protocol advances by requiring their involvement in transboundary cooperation (Article 11, 1 & 2), in the development of community protocols and model contractual clauses (Article 12, 3), and in capacity building (Articles 22, 1 & 3).

The Protocol does not address the special needs of those lacking access to food and health, with the exception of the provisions of the Preamble concerning the Millennium Development Goals, including poverty eradication and the recognition of the cross-cutting importance of genetic resources, or of possible benefits listed in Annex on ‘Monetary and Non-monetary Benefits’ (2 (m)). Moreover, a core shortcoming of the Protocol is its maintenance of the priority of individualistic entitlements and bilateral affairs. This issue is examined in the following section.

6 INDIVIDUALISTIC ENTITLEMENTS AND COLLECTIVE AIMS

An ABS contract to access GR or associated TK usually engages three types of providers for in situ bioprospecting: a private landowner, an ILC or a governmental body, with the last usually being the ministry of environment. Whereas public research institutions prefer bioprospecting in public areas, companies would rather engage with landowners, often integrating these in the supply chain of biological resources for the industry. Leaving aside the case of contracts with governmental bodies, to which BS is directed for public aims, is allocation of entitlements to BS to landowners and ILCs justified?

The role of landowners as BS beneficiaries has been a particular matter of contention. Let us take the case of biodiversity rich Brazil. In this country, ABS contracts with landowners strictly require a legally recognised land title. In the vast area of the Brazilian Amazon, most land titles are not recognised, which involves ABS-contracts with access to TK or to GR. See Natura Brasil, Natura Annual Report 2010, at 64-65. The Brazilian government estimates that twelve per cent of the national territory, especially in the Amazon region, corresponds to illegal occupation of public areas. See Instituto de Pesquisa Ambiental da Amazônia – IPAM, ‘A grilagem de terras públicas na Amazônia brasileira 16 (Brasília: MMA - Ministry of Environment, 2006).
raising problems of unequal treatment and difficulty in finding appropriate providers.

Some authors argue that contracts with landowners contradict the vision of the CBD, so that monetary rewards should be allocated to public conservation and the protection of TK. Inversely, one may argue that landowners should be rewarded for their efforts towards conservation, considering that he or she weighs conservation against the option of deforestation to explore more profitable economic activities. Thus, an efficient environmental policy must induce standing forests by means of economic incentives.

This rationale, however, has loopholes. Most landowners effectively engaged in conservation are barely likely to be rewarded by bioprospecting, as the small number of agreements is utterly marginal to the production of broader incentives. For instance, in Brazil, from 2004 to 2012, only a total of 63 ABS contracts (including access to traditional knowledge) were authorised by the authoritative body. A sample of this shows that contracts with landowners vary in providing benefit sharing of five per cent of the net profits, limited to five years, to 0.15 per cent of the net profits, with no time limit. The few lucky ones involved in those contracts may receive large monetary sums, leaving all others engaged in environmental protection empty handed. Additionally, the new Brazilian Forest Code in any case requires landowners to maintain legal reserves, so that direct contractual beneficiaries may conserve nothing more than their legal obligations.

In achieving a balance between fairness and efficiency, landowners should be rewarded, but not as the only receivers, or as the main beneficiaries. Not rewarding landowners would produce disincentives in their motivation to cooperate with ABS policies. But if the aim is to effectively meet the conservation objectives of the Convention, the major share should be directed towards well-designed biodiversity policies.

A similar conclusion applies to access to TK. A researcher in this field will contact a community and ask about their legitimate representative. Traditional representation is often not straightforward, and there may be disagreement between candidate leaders and community associations. As far as possible, legitimate leaders will establish the procedures for prior informed consent and BS, as well as defining which communities or villages are the beneficiaries. However, as TK is widely shared among traditional peoples, reducing BS to the particular tribe or community engaged in an ABS contract means an unfair exclusion of other members of the broader sharing group, often leading to major conflicts between ILCs, such as cases related to the Aguaruna in Peru, and the Murumuru in Brazil have shown.

Arguments in favour of rewarding a particular traditional community engaged with a company or research institute include the provision for a shortcut to valuable empirical information about particular

102 F. M. Baptista, 'Os impasses da abordagem contratualista da politica de repartição de benefícios no Brasil: algumas lições aprendidas no CGEN e caminhos para sua proteção', in Kishi & Kleba, note 97 above, at 87.
103 Personal communication, Conselho de Gestão do Patrimônio Genetico (CGEN). In order to protect the privacy of the sources, names have been withheld.
104 Department of the Genetic Heritage (DPG)/Ministry of Environment (MMA), Annual Report 2010.
105 Analysing a sample of 16 authorised applications to access genetic resources in Brazil between 2002 and 2008, most postponed the provision of a BS-contract, which is only obligatory in the case of effective commercialisation. Some contracts held the data confidentially. Interestingly, the mentioned case providing 0,15 per cent of the net profits concerns a bulk commodity, the Cupuacu Butter, since long used in the cosmetic industry. Department of the Genetic Heritage (DPG)/Ministry of Environment (MMA), Annual Report 2010.
106 Brazil, Lei n° 12.651, Seção 1, p1, Diário Oficial da União, 28/05/2012.
107 See the case UNIFESP and the Krahô, in Kleba, note 3 above, at 120-123.
109 State prosecutors of the Amazonian State of Acre brought a controversial Public Civil Action against the cosmetic company Natura for accessing the TK of the indigenous group Ashaninka concerning the uses of the palm fruit Murumuru (Astrocaryum ulei Burret), and charging also the companies Tawaya and Chemunon Quimica. Natura had engaged instead in an ABS contract with a traditional community living in an Extractivist Reserve in the Acre State to explore the same palm fruits and claimed to have the relevant genetic information not from TK but from a publication dated 1942. See ACP n° 2007.30.00.002117-3, Procuradoria da República no Estado do Acre, Rio Branco, 7 de agosto de 2007.
species and their uses for the development of a new market product.\textsuperscript{110} The community is entitled to be rewarded for developing and stewarding valuable knowledge. From the point of view of bioprospectors, negotiating with one particular community is strategic to minimise transaction costs including time and expenditures. These costs can be high, considering the difficulties in reaching remote regions, often by flight and boat, and the tension between the time pressure of companies and researchers on the one hand, and the deliberative process of traditional communities on the other, where the latter may extend over many months.\textsuperscript{111} Consequently, a double scheme of rewards increases both fairness and efficacy of fair biodiversity politics. Double models have been proposed, for example, the rewards flowing to both direct providers and a regional fund to finance conservation, research and the valorisation of TK.\textsuperscript{112} A well administered and legitimate fund mechanism depends on broad participation. With such a fund, the most vulnerable people can be particularly targeted by financing projects of empowerment and citizenship. Such mechanisms can integrate efforts to re-think ABS with the help of novel concepts such as the commons\textsuperscript{113} and facilitate the establishment of legal pluralism. Finally, the current model of bilateral contracts excludes concerns with the needs of the less well off. This issue is debated in the next section, and is related to the question of what constitutes a fair benefit sharing arrangement.

\section*{7 FAIR BENEFIT SHARING}

Currently ABS contracts may include monetary and non-monetary benefits. Monetary modalities include up-front payments, shares of profits and royalties, fees to be paid to trust funds, funding of local development projects, among others. Often a research partner is the third party, also receiving a share. When a pharmaceutical company contacts an ILC to propose an ABS contract, they usually propose to pay between 0.5 and 8 per cent of shares.\textsuperscript{114} In contracts involving cosmetics there are cases reaching just 0.05 per cent.\textsuperscript{115} The amount of shares is a central issue of dissent about the fairness of ABS contracts, expectations growing apart. For example, an indigenous leader of the Amazon Baniwa peoples claimed that ABS agreements should pay 50 per cent of the profits to his tribe.\textsuperscript{116}

The lack of legal support and insufficient information with ILCs compared to big companies equipped with large teams of lawyers make the ABS negotiations largely unequal. Competition among providers, be they communities or countries, raises the pressure to engage in unsatisfactory contracts and contributes to a race to the bottom concerning demands for a fair agreement.

In the case of the bioprospecting project of the Federal University of São Paulo (UNIFESP) on the

\begin{thebibliography}{99}
\bibitem{110}See Kleba, note 3 above, at 126.
\bibitem{111}For example, the Baniwa peoples expect prior informed consent to be achieved by asking one-by-one of the dozens of communities spread over more than 50 kilometres along the river Içana and its tributaries in the Amazon Forest. Personal interview, São Gabriel da Cachoeira, Brazil, July 2008. In order to protect the privacy of the sources, names have been withheld.
\bibitem{115}See Kleba, note 3 above, at 125.
\bibitem{116}Personal interview, São Gabriel da Cachoeira, July 2008. In order to protect the privacy of the sources, names have been withheld.
\end{thebibliography}
medicinal plants with psychoactive effects used by the Krahô Indians there is evidence that the distributive dissent over the amount of shares going to each party has decisively contributed to the breakdown of negotiations.117

Do Rawlsian principles enable light to be shed on the search for solutions to fair agreements? Following the conceptual distinction made in section 5, the focus of the difference principle may be wealth or citizenship.

Concerning wealth, at a general level, taxes or fees could be levied on ABS transactions to be directed to the poorest. As most of the ILCs are relatively poor, profits arising from the commercialisation of GR shall be more equitably shared. As remarked in the last section, shares of large sums of money are more justified as being less exclusively addressed to small communities or landowners, but to programmes with effective impact on environmental conservation.

An additional problem is the risk of forcing Western legal standards and commoditisation of non-capitalistic cultures by focusing on big money, a question raised, for instance, by the agreement involving an appetite suppressant based on the Hoodia cactus of the San peoples?118 The question here is how well a community is self-organised to establish the protection of its traditional institutions and a selective relationship with the surrounding society.

However, the application of Rawls’s insights raises problems. First, according to the difference principle too high a share may be unreasonable if it results in an overall less productive situation, for instance if the pharmaceutical company is hindered in continuing to develop useful medicines which are to be made available for the greatest advantage of the less well off. The issue is controversial, as the costs of research and development in the pharmaceutical industry are high,119 the profit margins in case of blockbusters are exponential,120 and companies have not invested so far in medicines for orphan diseases.121 Second, for JaF, a high concentration of economic power opposes effective democracy and equal opportunities. But how to apply this ideal in a Rawlsian society concerning the design and regulation of big corporations, which today concentrate billions of dollars, generously finance political campaigns and can afford systematic lobbying in all national and international political fora? Further, a central element of this concentration of economic power is related to IPRs. The rationality of IPRs is controversial and has been contested, among others, with the help of Rawls’s account of the Aristotelian principle of realising capacities.123

Realising citizenship in ABS agreements means emphasising both monetary and non-monetary benefits towards the priority needs of ILCs such as health, food security, sustainable income options and education,124 but also the conditions of participation in research and decision-making processes. In this regard the list of benefits provided in the Protocol’s Annex positively addresses the collective needs and interests of ILCs.

Addressing the rights and needs of the least advantaged in general is a matter of policy regulation, but it can also be included in the provisions of ABS contracts. The target is to facilitate the dissemination of innovations to benefit the least advantaged,

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117 See Kleba, note 55 above.
120 In 2005 total sales of blockbuster medicines, also involving biotechnology brands, reached US 145 billion. Id., at 162.
123 Speranta Dumitru, ‘Are Rawlsians Entitled to Monopoly Rights?’, in id., 57, 58f.
124 A list of monetary and non-monetary benefit items is provided in the Annex of the Nagoya Protocol. See note 5 above.
ranging from provision of lower licence fees to exemptions of patent rights for the production of generic medicines in the least developed countries. Some national and international policies in this regard are in place, but their impact is by far timid in the face of the problems to be tackled. A compelling solution to this dilemma particularly directed at orphan diseases and the poorest has been proposed by Thomas Pogge.\textsuperscript{125} Moreover, bioprospective research projects on orphan diseases and food security should be strongly encouraged by specific policies and special funding programmes. Recently, one such project has taken place between the Brazilian Agricultural Research Corporation (EMBRAPA) and the Krahô indigenous people, targeting food security by means of diversification of food varieties and building agro forestry capacity. This project was able to satisfy an indigenous demand by reintroducing and repatriating traditional crops, which had become lost in the tribe in the last decades.\textsuperscript{126}

**FINAL WORDS**

Fairness is a major controversial issue in the ABS debate. Although the Nagoya Protocol has advanced in some areas, it maintains the main shortcomings of the CBD: excessive focus on entitlements and bilateral deals and failure to address equality in accessing primary goods. This article applies the Rawlsian approach of Justice as Fairness as a sophisticated way of balancing conflicts over distributive and commutative justice. The Rawlsian second principle of Justice represents a major contribution hereto, for instance, by addressing issues of relative and absolute inequality, it allows to supersede limits of the needs concept.

Aware of the methodological difficulties in applying JaF to examine the ABS regime, I ask how fair biodiversity politics would be pictured in a novel original position, as the Rawlsian one seems to have excluded the representatives of non-Western cultures. Taking the perspective of indigenous peoples and traditional communities, a cross-cultural framework of justice is demanded, recognising the political and moral significance of non-Western concepts such as dual standing rights and a modern version of universal kinship. Further, Rawls’s approach is mainly focused on nation states (for Rawls, peoples), whereas non-governmental dimensions are increasingly playing a relevant role in politics. In this sense reasonable political institutions must face the challenge of establishing legal pluralism by mediating overlapping legal orders between minority rights, national law and international law. In this regard, indigenous peoples have a special status of peoples inside one or more host peoples, entitled to rights of self-determination and cultural heritage. The limits of a liberal, anti-perfectionist account are unveiled, as the politics of inclusion demands the encouragement of valuing otherness. Concerning environmental justice, I contest Bell’s assumptions against ecological constitutionalism, examining three arguments in favour of giving the environment constitutional protection. To put it into images, the scenarios of a Rawlsian technophile society in contrast to a Rawlsian high tech and ecological well-ordered society are pictured.

Two interpretations of the least advantaged according to Rawls are discussed, whereby the wealth variant is rejected in favour of a focus on realising citizenship. Applying this to establish fair biodiversity politics, two dimensions are envisioned: a general, of social groups who lack access to health and food, and a particular, of the ABS stakeholders, including ILCs, least developed countries and women. In this regard, the Nagoya Protocol has provided advances towards the rights of ILCs in issues such as building capacities, increase participation, among others.

Aiming at a balance between commutative and distributive claims of justice, a series of reasons were provided to direct the greater share of ABS benefits to systemic aims, such as the objectives of the Convention, that is, to foster conservation and sustainable development with synergies of research, markets and traditional peoples. Regional policies

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\textsuperscript{126} Department of the Genetic Heritage (CGEN), Ministry of the Environment, Brazil, Etnobiologia, conservação de recursos genéticos e bem-estar alimentar em comunidades tradicionais, Extrato do Processo 02000.00532/2004-12 (30.03.2004).
and funds administered with large participation increase both the legitimacy and the fairness of an ABS regulatory framework. At the same time, entitlements should be considered as a limited, but also productive mechanism in providing incentives to conservation and reducing transaction costs. As a result, the shares of ABS agreements should be directed proportionally to their social and environmental impact.

In order to analyse what makes an ABS agreement fair, two possibilities are outlined: the wealth approach and the citizenship approach. The dissent over the monetary amount of shares is primarily grounded in the high asymmetry in economic and legal power between big companies and individual ILCs. This asymmetry constitutes a major Rawlsian challenge towards equal opportunities in itself. It seems very difficult to reach a consensual framework of justice in exchange considering the plurality of values of Western and non-Western world views. In any case, the burdens of trade-offs and limitations must be taken into account, for all parties involved. Beyond the moral claim of allocating more for the least advantaged, the calculation of due monetary shares remains a highly controversial task, for reasons of different interpretations of data and of what are the real merits due to be rewarded.

The Nagoya Protocol enables advances in realising citizenship and in legal pluralism, recognising the rights of ILCs and transboundary cooperation. However, the difference principle demands more, requiring the design of policies and institutional incentives to make biotechnological innovations work for the benefit of the least advantaged, for example, in triggering biotechnological research on orphan diseases and food security.
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