

SUBSIDIARY BODY ON SCIENTIFIC, TECHNICAL AND TECHNOLOGICAL ADVICE

Twenty-fourth meeting

Online, 3 May – 9 June 2021

Item 3 of the provisional agenda - POST-2020 GLOBAL BIODIVERSITY FRAMEWORK

Statement on behalf of the International Indigenous Forum on Biodiversity (IIFB), delivered by Jennifer Tauli Corpuz, Nia Tero

Thank you very much, Mr. Chair, for this opportunity to address Agenda Item 3. I am speaking on behalf of the IIFB.

While we appreciate all efforts to maintain momentum on the Post-2020 GBF, we would like to raise grave concerns about the process. Virtual negotiations will be very difficult for IPLCs including Women and Youth because of connectivity issues, time zone challenges, and the requirement for Party support for IPLC proposals to be reflected in the text. Our participation must not fall below the standards and mechanisms in international agreements and COP decisions. Given the changed circumstances and the limited time allotted for IPLC statements, IIFB needs assurance from Parties, the Co-Chairs, the SBSTTA Chair, the Bureau and others that our proposals as IPLCs will be included for consideration in contact group working documents or CRPs, as appropriate.

In addition to our statement on this item at the informal session, we recommend:

- Retention of previously adopted TK indicators (on IPLC participation, land tenure, traditional livelihoods, and languages) to support monitoring of the contribution of IPLCs to the post-2020 GBF.
- An IPLC-specific process to continue development of TK and IPLC-related indicators under the auspices of the 11th meeting of the 8(j) Working Group, in parallel with and in addition to the AHTEG. In addition, the TOR of the AHTEG must ensure the full and effective participation of IPLCs.
- The TK land tenure indicator adopted in COP decision X/43 on “Trends in land-use change and land tenure in the traditional territories of IPLCs” closely corresponds to SDG Indicator 1.4.2. We believe that this indicator fulfills the criteria for headline indicators related to proposed Targets 1,2,8,20.
- The document should recognize and welcome LBO 2 alongside GBO 5 as scientific basis for developing the post-2020 GBF.

Mr. Chair, GBO 5, LBO 2, IPBES Global Assessment, and other scientific and technical studies confirm that empowering the environmental stewardship, co-management, values and relationships of IPLCs, and the right to self-determination and governance of Indigenous Peoples is critical to conserving biodiversity, supporting sustainable use, and enabling ABS across our planet. We regret that these studies are not adequately reflected in the Add 2 document. We provide a list of references in our written submission, which we hope that the contact group can take into consideration.

There needs to be a global common understanding in the post-2020 GBF about what is required for biodiversity and natural resources to be “managed effectively and equitably”. All of the Goals and Targets of the GBF must be in line with this goal. Unfortunately, concerns and abuses continue to be documented and reported by, inter alia, the UN Special Rapporteur on the Rights of Indigenous Peoples. It will be more critical than ever to consider rights-based approaches if a target to protect 30% of the planet is adopted, given that such areas will clearly include areas now owned, governed or managed by IPLCs.

The IIFB looks forward to providing specific inputs during the contact group discussions.

Thank you, Chair.

Annex I

To recall, the following Traditional Knowledge and IPLC-related indicators have already been accepted by the COP:

- Status and trends of linguistic diversity and numbers of speakers of indigenous languages (must be maintained in light of the UN Decade on Indigenous Languages and associated by UNESCO to operationalize the indicator)
- Status and trends in the practice of traditional occupations (this indicator should take into consideration customary sustainable use)
- Status and trends in land-use change and land tenure in the traditional territories of indigenous and local communities (Operational through SDG 1.4.2)
- Trends in which traditional knowledge and practices are respected through their full integration, safeguards and the full and effective participation of indigenous and local communities in the national implementation of the Strategic Plan (Operational through NBSAPs)

We propose the following textual changes to CBD/SBSTTA/24/3:

7. The fifth edition of the *Global Biodiversity Outlook* and its summary for policymakers and the second edition of the *Local Biodiversity Outlooks* (CBD/SBSTTA/24/2) also provides relevant information to support the scientific and technical review of the post-2020 global biodiversity framework and of its monitoring framework.

We also propose the following textual changes to the draft decision in CBD/SBSTTA/24/3:

11. Decides to establish a technical expert group, with the full and effective participation of Indigenous Peoples and local communities, to advise on the further operationalization of the monitoring framework for the post-2020 global biodiversity framework with the terms of reference contained in the annex to the present decision;

We further propose the following textual changes to Annex II of CBD/SBSTTA/24/3 (TERMS OF REFERENCE FOR A TECHNICAL EXPERT GROUP ON INDICATORS FOR THE POST-2020 GLOBAL BIODIVERSITY FRAMEWORK):

3. The group will be composed of 30 technical experts nominated by Parties, including representatives of national statistical offices, and up to 15 representatives nominated by observer organizations, including 7 representatives of Indigenous Peoples and local communities, members of the Biodiversity Indicator Partnership, as well as a representative of the United Nations Statistical Commission. The Executive Secretary, in consultation with the Bureau of the Subsidiary Body on Scientific, Technical and Technological Advice, will select experts from nominations submitted by Parties and organizations with due regard to representation of different areas of technical expertise and to geographical representation, gender balance and to the special conditions of developing countries, in particular the least developed countries, small island developing States, and countries with economies in

transition. Except as otherwise determined in these terms of reference, the modus operandi for ad hoc technical expert groups will apply, mutatis mutandis, to this technical expert group.

Annex II

Rights-Based Context for the Post-2020 Biodiversity Framework

Artelle, K.A.; Zurba, M.; Bhattacharyya, J.; Chan, D.E.; Brown, K.; Housty, J.; Moola, F. (2019). Supporting resurgent Indigenous-led governance: A nascent mechanism for just and effective conservation. *Biological Conservation* 240: 108284.

<https://www.sciencedirect.com/science/article/pii/S0006320719307803>

Indigenous peoples have inherent rights to lands, waters and resources that must be recognized and respected to achieve just and effective conservation of landscapes and seascapes. Indigenous-led governance is a foundation for rapidly increasing the spatial coverage of conserved areas, particularly in intact landscapes. Focus on Canada, with discussions of USA, Australia, Brazil, and Russia.

Blackman, A.; Corral, L.; Santos Lima, E.; Asner, G.P. (2017). Titling indigenous communities protects forests in the Peruvian Amazon. *PNAS* 114 (16): 4123-4128.

<https://www.pnas.org/content/114/16/4123>

High-resolution satellite images used to assess the effects of land titling for indigenous communities in the Peruvian Amazon, where over 11 million ha have received title between 1975 and 2008. Land titling significantly reduced forest clearing and disturbance, demonstrating the value of forest tenure reform and recognizing Indigenous Peoples' (IP) land rights for forest conservation. Data pulled from over 100 papers are suggestive of, but not conclusive, of strong positive outcomes. Applies a theory of change model to the results, with titling benefits to: 1. Enabling formal regulatory actions by the government; 2. Improving informal regulatory pressure through non-state actors; 3. Improving Indigenous forest governance; 4. Improving Indigenous community interactions with technical and education extension; 5. Improving IP interactions with the private sector (creditors, input providers); 6. Improving IP livelihoods.

Boyd, D.R. 2018. Report of the Special Rapporteur on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment, UN Human Rights Office of the High Commissioner.

<https://digitallibrary.un.org/record/3814570?ln=en>

This report focuses on the climate crisis and human rights to a safe, clean, healthy and sustainable environment. It illustrates that both the direct impacts of climate change and indirect impacts from mitigation and adaptation actions. Multiple UN Special Rapporteurs (adequate housing, migrants, Indigenous Peoples, internally displaced persons, extreme poverty) conclude that "climate change threatens the full enjoyment of human rights and that climate actions must be developed and implemented in accordance with human rights laws and norms. The report urges an inclusive, equitable and gender-based approach to public participation in all climate-related actions, including by women, children, youth and Indigenous Peoples. The rights of indigenous peoples must be respected in all climate actions, particularly their right to free, prior and informed consent.

Boyd, D.R. (2020). Report of the Special Rapporteur on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment: Human Rights Depend on a Healthy Biosphere, A/75/161.

<https://www.undocs.org/pdf?symbol=en/A/75/161>

The report by the Special Rapporteur focuses on the need for urgent action to conserve, protect and restore the biosphere on which all species depend, including Homo sapiens. It is accompanied by an annex on good practices related to conserving, protecting and restoring ecosystems and biodiversity. Effective actions exist to simultaneously protect human rights and nature, including the right to a healthy environment, right to life, right to health, right to food, rights to water and sanitation, rights of the child, and the rights of vulnerable populations. Human rights are accompanied by State obligations to fulfil these rights which are heavily dependent of a healthy and safe biosphere.

Human Rights Council (2019). Recognizing the Contribution of Environmental Human Rights Defenders to the Enjoyment of Human Rights, Environmental Protection and Sustainable Development. Resolution adopted by the Human Rights Council on 21 March 2019, 40/11, A/HRC/RES/40/11.

<https://www.right-docs.org/doc/a-hrc-res-40-11/>

All human rights and fundamental freedoms are universal, indivisible, interdependent and interrelated and should be promoted and implemented in a fair and equitable manner, without prejudice to the implementation of each of those rights and freedoms. The resolution is guided by the Charter of the United Nations and the Universal Declaration of Human Rights, the International Covenants on Human Rights, and other relevant instruments, such as the Paris Agreement and the Convention on Biological Diversity. The resolution recalls General Assembly resolution 53/144 of 9 December 1998, the Declaration on the Right and Responsibility of Individuals, Groups and Organs of Society to Promote and Protect Universally Recognized Human Rights and Fundamental Freedoms, as well as previous resolutions. States have the obligation to fulfil and fully protect the rights of those, including Indigenous Peoples, who seek to defend their human rights, including rights to life, to the enjoyment of the highest attainable standard of physical and mental health, to an adequate standard of living, adequate food and housing, safe drinking water and sanitation, and cultural rights.

Jonas, HJ.; Roe, D.; Makagon, J.E. (2014). Human Rights Standards for Conservation: An Analysis of Responsibilities, Rights and Redress for Just Conservation. IIED Issue Paper. IIED, London. <https://pubs.iied.org/sites/default/files/pdfs/migrate/14644IIED.pdf>

Provides a review of the human rights system, particularly in the context of the multilateral environmental agreement system with a focus on the Convention on Biological Diversity and other MEAs, the activities of conservation organizations. Human rights standards are often directed at the obligations of governments and their agencies, but also apply to the activities of international organizations, businesses, and non-governmental organizations, including private foundations and funders. They list a broad range of instruments, conservation laws and policies, as well as over 30 applicable human rights. These rights include substantive rights targeted at individuals and collectives (e.g.: development; women; children; cultural, religious and spiritual integrity; protection against assimilation), substantive rights targeted at land and natural

resource rights (e.g. lands; waters; territories; stewardship; forests; customary use), and procedural rights (e.g.: free, prior and informed consent; benefit sharing; participation; impact assessments). They cover redress mechanisms available for breaches of these rights that apply to States, business and corporations, financial institutions and intergovernmental and non-governmental institutions. The provide recommendations on the development of guidance, policies and laws, and present case studies.

Knox, John H. (2018). Report of the Special Rapporteur on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment [including the Framework Principles on Human Rights and the Environment], A/HRC/37/59. General Assembly, New York.

<https://undocs.org/A/HRC/37/59>

The report review the evidence for international customary law on environmental human rights to a safe, clean, healthy and sustainable environment (SCHE), and presents 16 draft principles for developing formal recognition of those rights. Principles 1&2 are necessary complementary rights principles. 1. States should ensure a SCHE in order to respect, protect and fulfil human rights; 2. States should respect, protect and fulfil human rights in order to ensure a SCHE. Principles 3&4 are directed at protecting environmental and human rights defenders: 3. States should prohibit discrimination and ensure equal and effective protection against discrimination in relation to the enjoyment of a SCHE; 4. States should provide a safe and enabling environment in which individuals, groups and organs of society that work on human rights or environmental issues can operate free from threats, harassment, intimidation and violence; Principles 5-14 and Principle 16 cover a range of applications of environmental human rights: 5. freedom of expression and assembly in relation to environmental matters; 6. environmental awareness and education; 7. public access to environmental information; 8. environmental human rights due diligence in impact assessments of projects and policies; 9. public participation in environmental decision making; 10. substantive environmental standards; 11. effective remedies in national laws; 12. enforcement of environmental standards against public and private actors; 13. State cooperation in transboundary enforcement; 14. protection of those who are most vulnerable or at risk from environmental harm; 16. respect, protect and fulfil human rights in environmental management and sustainable development. Principle 15 applies specifically to Indigenous Peoples: 15. States should ensure that they comply with their obligations to indigenous peoples and members of traditional communities, including by (a) Recognizing and protecting their rights to the lands, territories and resources that they have traditionally owned, occupied or used; (b) Consulting with them and obtaining their free, prior and informed consent before relocating them or taking or approving any other measures that may affect their lands, territories or resources; (c) Respecting and protecting their traditional knowledge and practices in relation to the conservation and sustainable use of their lands, territories and resources; (d) Ensuring that they fairly and equitably share the benefits from activities relating to their lands, territories or resources.

Knox, John H.; Boyd, D.R. 2018, Report of the Special Rapporteur on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment, A/HRC/37/59. UN Human Rights Office of the High Commissioner, Geneva, Switzerland.

<https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/HealthySustainable.aspx>
x

The Special Rapporteur presents the evidence that when taken together, the various decisions of United Nations human rights bodies have recognized the existence of international customary law has recognized that human rights norms apply to environmental issues and to existing non-human rights instruments. It draws upon 16 Framework Principles on Human Rights and the Environment developed by Special Rapporteur Knox. The report urges the General Assembly to codify the international customary law and formally recognize the human right to a healthy environment. The benefits of this formal recognition include: stronger environmental laws and policies; improved implementation and enforcement; greater public participation in environmental decision-making; reduced environmental injustices; a level playing field with social and economic rights; and better environmental performance.

Rights and Resources Initiative (2020). Rights-Based Conservation: The path to preserving Earth's biological and cultural diversity? Rights and Resources Initiative.

[https://rightsandresources.org/wp-](https://rightsandresources.org/wp-content/uploads/2020/11/Final_Rights_Conservation_RRI_05-01-2021.pdf)

[content/uploads/2020/11/Final_Rights_Conservation_RRI_05-01-2021.pdf](https://rightsandresources.org/wp-content/uploads/2020/11/Final_Rights_Conservation_RRI_05-01-2021.pdf)

Technical review of the importance of recognizing Indigenous Peoples, local communities, and Afro-descendants' rights for conservation. The findings of the report are: 1. The population of IPs, LCs, and ADs living in important biodiversity conservation areas ranges between 1.65 billion to 1.87 billion people; 2. A greater proportion of people living in important biodiversity conservation areas are in low and middle-income countries and may be placed at risk if exclusionary practices are used to expand conservation; 3. Expanding conservation areas by using historically dominant models of exclusionary conservation would be highly contentious, prohibitively expensive and come with human rights costs that will fuel land conflicts; 4. IPs, LCs, and ADs conserve forests, ecosystems, and biodiversity effectively; 5. Recognizing the traditional and customary lands of IPs, LCs, and ADs will substantially contribute to, or even exceed, area-based conservation targets.

Thematic workshop on Human Rights in the post-2020 Global Biodiversity Framework (2021).

Human Rights in the post-2020 Global Biodiversity Framework: Options for integrating a human-rights based approach to achieve the objectives of the Convention on Biological Diversity. 23 pp.

<https://www.forestpeoples.org/en/briefing-paper/2021/human-rights-post-2020-global-biodiversity-framework-options-integrating-human>

Report of a workshop held in Chiang Mai, Thailand from 18 to 20 February 2020. The report notes recent authoritative statements on human rights and the environment (Human Rights Council, 2021, Human rights and the environment, <https://undocs.org/A/HRC/46/L.6/Rev.1>; Boyd, D.R., 2021, Letter from the Special Rapporteur on human rights and the environment - Adopting a rights-based approach to the global climate and biodiversity crises, <https://www.ohchr.org/Documents/Issues/Environment/SREnvironment/Geneva-Climate-Nature-en.pdf>). The Key messages 1. Human rights and a healthy planet are mutually dependent (healthy planet supports human rights; human rights support a healthy planet); 2. Diverse worldviews, values, ethics and spiritual beliefs embody and guide reciprocal

relationships with the planet; 3. Land tenure security and the recognition of tenure rights is key in supporting the application of governance systems that enable biodiversity management and protection; 4. Biodiversity cannot be understood in isolation, it must be understood in relation to the cultural diversity that sustains and maintains it; 5. Addressing biodiversity loss must address underlying drivers, including eliminating perverse incentives that negatively impact both the environment and human rights. The report provides many recommendations on a human rights-based approach to the Post-2020 Biodiversity Framework, including a number of draft targets and indicators that should be considered and incorporated. These include indicators for collective and customary land tenure, participation indicators; trends in low-impact ecosystems and agricultural lands under customary tenure; developing an IPLC land classification distinct from PAs, OECMs, joint management areas or other classifications; and indicators of violence against human and environmental rights defenders. Indicators should explicitly disaggregate and measure Indigenous Peoples contributions to biodiversity conservation and not aggregate them into generic categories like OECMs, and the performance of a rights-based approach.

Tauli-Corpuz, V. 2016, Report of the Special Rapporteur of the Human Rights Council on the rights of indigenous peoples, A/71/229, Conservation and Indigenous Peoples' Rights. Un General Assembly, Human Rights Council, New York. <https://www.undocs.org/A/71/229>. Reviews the need for a human rights-based approach to conservation and the establishment of protected areas. Protected areas contribute to biodiversity conservation, but have also been associated with human rights violations against Indigenous Peoples. The Rapporteur reviews recent development and provides 17 recommendations for policies and practices that respect Indigenous Peoples' rights and enhance sustainable conservation, targeted for different actors (States, conservation organizations, donors, the UNESCO World Heritage Convention and human rights monitoring mechanisms). These include the recommendation that States take all necessary measures for the effective implementation of the United Nations Declaration on the Rights of Indigenous Peoples and ratify the ILO Indigenous and Tribal Peoples Convention No. 169; full recognition of the rights of indigenous peoples over their lands, territories and resources; harmonize all obligations related to indigenous peoples and ensuring a rights-based approach to the creation or expansion of existing protected areas; comply with the duty to consult and obtain the free, prior and informed consent of indigenous peoples before the development of conservation initiatives which may affect their rights; regular engagement to build trust and collaboration; and provide mechanisms for accountability and reparations.

General Information Human Rights and the Environment from the UNCHR

The following resources are general and incomplete. The web page for the Healthy Ecosystems and Human Rights report in development (2021) contains submissions made to the UN Special Rapporteur on Human Rights and Environment.

UN Special Rapporteur on Human Rights and Environment (in prep). Healthy Ecosystems and Human Rights: Sustaining the Foundations of Life. UNCHR, Geneva, Switzerland.
<https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/HealthyEcosystems.aspx>

Special Rapporteur on Human Rights and the Environment

<https://www.ohchr.org/en/Issues/environment/SREnvironment/Pages/SREnvironmentIndex.aspx>

Indigenous Contributions to Biodiversity Conservation

Altieri, M.A.; Nicholls, C.I.; Henao, A.; Lana, M.A. (2015). Agroecology and the design of climate-resilient farming systems. *Agronomy for Sustainable Development* 35: 869-890
<https://link.springer.com/article/10.1007/s13593-015-0285-2>

The IPCC has estimated a range of future temperatures ranging from 1.4 to 5.8 °C. Even the lower range of future temperature will pose large challenges to agricultural production from direct heat impacts, insect pest activity, crop pathogens, weed population dynamics, and invasiveness. This paper reviews the evidence on the resilience of traditional agroecosystems to a range of natural hazards, and the principles behind this resilience. These include crop diversification, maintaining local genetic diversity and biodiversity, animal integration, soil organic management, water conservation and water harvesting.

Buscher, E.; Mathews, D.L.; Bryce, C.; Bryce, K.; Joseph, D.; Bana, N.C. (2021). Differences and similarities between Indigenous and conventional marine conservation planning: The case of the Songhees Nation, Canada. *Marine Policy* Volume 129: 104520.

<https://www.sciencedirect.com/science/article/abs/pii/S0308597X21001317>

Case study that reviews Indigenous-led marine conservation planning process of the Songhees Nation in the Tl'ches archipelago (near Victoria, Canada). The paper compares and contrasts the Indigenous-led approach with systematic conservation planning (SCP). The approaches were similar in the scoping phase, but differed significantly in implementation. The Songhees Nation did not involve external stakeholders, only involving the members of the Nation. The planning process focused on a single zone of conservation interest, not multiple zones. In their planning the Songhees Nation took into account the whole of the social-ecological system as their members understood it. The study provides an example of a "decolonial" and self-determined approach to conservation planning that is compatible with local values, understandings, classifications and social-ecological relationships.

Danielsen, F.; Burgess, N.D.; Jensen, P.M.; Pirhofer-Walzl, K. (2010). Environmental monitoring: the scale and speed of implementation varies according to the degree of peoples involvement. *Journal of Applied Ecology* 47: 1166–1168.

<https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2664.2010.01874.x>

Analyzes information from 104 studies that compares on scientist-led and locally led environmental monitoring schemes. Scientist-executed monitoring informs decisions within regions, nations and international conventions, but takes 3–9 years to be implemented and has minimal impact at the local level where environmental management decisions are made. In contrast, village-scale monitoring schemes are much more effective at influencing decisions; these decisions typically take 0-1 year to be implemented.

Danielsen, F.; Pirhofer-Walzl, K.; Adrian, T.P.; Kapijimpanga, D.R.; Burgess, N.D.; Jensen, P.M.; Bonney, R.; Funder, M.; Landa, A.; Levermann, N.; Madsen, J. (2014). Linking public

participation in scientific research to the indicators and needs of international environmental agreements. *Conservation Letters* 7: 1–13.

<https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/conl.12024>

Analyzes the indicators used in the Aichi Targets and 11 other international environmental agreements. Three functions of indicators are identified (auditing management actions, informing policy choices, and raising public and policy maker awareness). The indicators were classified as either being scientist-implemented or community implemented. Of the 186 indicators, 69 (37%) require monitoring by professional scientists, while 117 (63%) can involve community members. The paper concludes that increasing community participation in indicator development and data collection can make significant contributions to the global instruments while also raise awareness and improve decision making at all levels.

Dinerstein, E.; Joshi, A.R.; Vynne, C.; Lee, A.T.L.; Pharand-Deschênes, F.; França, M.; Fernando, S.; Birch, T.; Burkart, K.; Asner, G.P.; Olson, D. (2020). A “Global Safety Net” to reverse biodiversity loss and stabilize Earth’s climate. *Science Advances* 6(36): eabb2824.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7473742/>

Reviews protected area strategies to address both biodiversity loss and climate change. Identifies 50 ecoregions that contribute the most to achieving these dual objectives that would require moving from the current 15.1% of land area currently protected to 35.3% of the land area, providing a "global safety net" under the Global Deal for Nature. They observe that most of this expanded area overlap extensively with Indigenous Peoples' lands (Table 1) that comprise intact forests and other ecosystems. The study disaggregates Indigenous Peoples' lands from other OECMs. The importance of Indigenous Peoples' lands is underestimated because of gaps in the existing data sets, and will likely increase as they are mapped and demarcated. It notes that the 30×30 target is far less ambitious than what could be achieved by directly accounting for the contribution of Indigenous Peoples' lands that need to be protected to achieve both biodiversity and climate targets.

Ellis, E.C.; Gauthier, N.; Goldewijk, K.K.; Bird, R.B.; Boiving, N.; Díazi, S.; Fuller, D.Q.; Gill, J.L.; Kaplan, J.O.; Kingston, N.; Locke, H.; McMichael, C.N.H.; Ranco, D.; Rick, T.C.; Shaw, M.R.; Stephens, L.; Svenning, J.C.; Watson, J.E.M. (2021). People have shaped most of terrestrial nature for at least 12,000 years. *PNAS* 118(17): e2023483118

<https://www.pnas.org/content/118/17/e2023483118>

Provides evidence to counter the idea that much of the lands' surface was pristine prior to the rise of "civilization" and the Industrial age, and that the main goal of biodiversity conservation should be to preserve untouched habitats. The evidence supports the claim that little of the Earth has been untouched for at least 12,000 years. 3/4 of terrestrial habitats have been modified by Indigenous and traditional peoples. " With rare exceptions, current biodiversity losses are caused not by human conversion or degradation of untouched ecosystems, but rather by the appropriation, colonization, and intensification of use in lands inhabited and used by prior societies. Global land use history confirms that empowering the environmental stewardship of Indigenous peoples and local communities will be critical to conserving biodiversity across the planet." Resolving the biodiversity crisis can only be achieved by

supporting their traditional practices and land rights, not by focusing on so-called "wilderness areas."

Fa, J.E.; Watson, J.E.M.; Leiper, I.; Potapov, P.; Evans, T.D.; Burgess, N.D.; Molnár, Z.; Fernández-Llamazares, Á.; Duncan, T.; Wang, S.; Austin, B.J.; Jonas, H.; Robinson, C.J.; Malmer, P.; Zander, K.K.; Jackson, M.V.; Ellis, E.; Brondizio, E.S.; Garnett, S.T. (2020).

Importance of indigenous peoples' lands for the conservation of intact forest landscapes. *Frontiers in Ecology and the Environment* 18(3): 35-140.

<https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/fee.2148>

Identifies Intact Forest Landscapes (IFLs) that are important both for biodiversity conservation and climate change mitigation (but: see Ellis et al., 2021 for potential qualification of this classification.). The study identifies 36% of IFLs lie within Indigenous Peoples' lands, which are disaggregated from other OECMs. Indigenous Peoples have tenure rights over at least ~38 million km² of land across 87 countries or politically distinct areas on all inhabited continents. The loss rates of IFLs has been considerably less on Indigenous Peoples' lands than other lands. They conclude that Indigenous Peoples rights to land and land tenure systems must be recognized and defended to achieve both biodiversity and mitigation goals, as they are under significant pressures. [This disaggregation from both local community and OECMs is significant, and more work is necessary. Policy making should be informed by evidence of the effects of different types of communities, contexts, land uses, tenure systems, and rights regimes, not by bundling or aggregating groups and into negotiating phrases like "Indigenous Peoples and local communities." - added by annotator].

Ferrari, M.; de Jong, C.; Belohrad, V.S. (2015). Community-based monitoring and information systems (CBMIS) in the context of the Convention on Biological Diversity (CBD). *Biodiversity* 16: 57-67.

<https://www.tandfonline.com/doi/abs/10.1080/14888386.2015.1074111>

Reviews the use of Community-based Monitoring and Information Systems (CBMIS) by indigenous peoples and local communities. CBMIS combine multiple sources of information and technologies, tools and approaches to monitor the health and well-being of IPLC lands, waters and resources. They are being used to monitor the status of biodiversity, climate change impacts, unsustainable and illegal activities, and provide evidence and indicators for the implementation of national policies and targets as well as international agreements. The Article provides the use of CBMIS in relation to the Achievement of the Aichi Targets of the CBD.

Fischer, J.; Abson, D.J.; Bergsten, A.; Collier, N.F.; Dorresteyn, I.; Hanspach, J.; Hylander, K.; Schultner, J.; Senbeta, F. (2017). Reframing the Food-Biodiversity Challenge. *Trends in Ecology and Evolution* 32:335-345

<https://www.sciencedirect.com/science/article/abs/pii/S0169534717300459>

Analyzes the food security-biodiversity conservation nexus. The authors divide social-ecological system states in relation to food security and biodiversity outcomes into four states: win-win (e.g. agroecology), win-lose (e.g. intensive agriculture), lose-win (fortress conservation and lose-lose (e.g. degraded landscapes). Each of these social-ecological states has characteristic external drivers, internal dynamics and feedbacks. The model moves from considerations focused on

internal social-ecological dynamics to include external drivers and feedbacks in understanding how each goal (food security vs. biodiversity conservation) is influenced in the nexus. Enlarging the scale of the model allows for understanding transitions, dynamics across scales, and avoids narrow conceptions about trade-offs between "wild" nature and food security. It provides case studies that separate food production (maximization of productivity) with food security (food provision reliability over the long run and under different contexts). Traditional agroecosystems are shown to provide both biodiversity and food security benefits in larger dynamic contexts.

Franco-Moraes, J.; Clement, C.R.; de Oliveira, J.C.; de Oliveira, A.A. (2021). A framework for identifying and integrating sociocultural and environmental elements of indigenous peoples' and local communities' landscape transformations. *Perspectives in Ecology and Conservation*. In Press. Available online 3 March 2021

<https://www.sciencedirect.com/science/article/pii/S2530064421000237>

Assesses the landscape transformations associated with the landscapes managed by IPLCs who manage over 50% of the world's landscapes ("sociocultures"). These transformations involve sociocultural-environmental feedbacks shaped by worldviews, social institutions and traditional norms, practices, and knowledge. Feedbacks shape ecological process and patterns across generations (sociocultural inheritance and historical events) and in turn are shaped by these processes and patterns (ecological inheritance). Understanding these interacting feedbacks is important to understand these systems and how both sociocultural processes, ecological processes and biodiversity are maintained, including through spiritual beliefs, worldviews, taboos, norms, practices, knowledges and institutions. Focusing on "objective" ecological processes alone will not lead to reliable biodiversity outcomes. Maintaining these holistic systems requires the recognition of land and tenure rights to ensure their integrity.

Funder, M.; Danielsen, F.; Ngaga, Y.; Nielsend, M.R.; Poulsen, M.K. (2013). Reshaping conservation: The social dynamics of participatory monitoring in Tanzania's community-managed forests. *Conservation and Society* 11(3): 218-232.

https://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/9175/ConservatSoc113218-5704773_155047.pdf?sequence=1&isAllowed=y

Reviews participatory monitoring. There are a number of challenges to participatory monitoring in community-managed forests in Tanzania. In their early implementation, villages participating in monitoring schemes were views more as "beneficiaries" that provided information to conservation elites, serving the green agendas of external actors. a form of co-optation. Participation shifted to being more active in local management, but still had little effect on decision making on community-managed forests. This has shifted again to a more active role in management and decision making, along with external incentive offered for participation (e.g.: REDD+ schemes). Assessing the details of participatory monitoring, the authors found that communities are more active and use participatory monitoring for political, defensive and other purposes. Rather than viewing participatory monitoring as simply a form of "citizen science" that generates information and knowledge, participatory monitoring is also a tool to achieve power sharing and defending territorial claims in relation to the State, other communities or within communities. The authors suggest not have simplistic assumptions about community participatory monitoring incentives and strategies. They should be supported an important tool

to empower communities to achieve self-determined and autonomous ends, or in true partnerships with shared power that lead to locally appropriate protected area management outcomes.

Garnett, S.T.; Burgess, N.D.; Fa, J.E.; Fernández-Llamazares, Á.; Molnár, Z.; Robinson, C.J.; Watson, J.E.M.; Zander, K.; Austin, B.; Brondízio, E.S.; Collier, N.F.; Duncan, T.; Ellis, E.C.; Geyle, H.M.; Jackson, M.; Jonas, H.; Malmer, P.; McGowan, B.; Sivongxay, A.; Leiper, I. (2018). A spatial overview of the global importance of Indigenous lands for conservation. *Nature Sustainability* 1: 369-374.

https://www.researchgate.net/publication/326424629_A_spatial_overview_of_the_global_importance_of_Indigenous_lands_for_conservation

This paper focuses on the contributions of Indigenous Peoples' lands to globally to conservation. Assessment of local community lands is not included in the analysis. Analysis of available datasets for the first time in this paper estimates that Indigenous Peoples manage or have tenure rights over at least ~38 million km² in 87 countries administratively independent entities, 1/4 of the Earth's surface. These lands overlap 40% of all terrestrial protected areas and ecologically intact landscapes. These estimates are significant in that they demonstrate that Indigenous Peoples that make up <5% of the global population currently manage or have rights to the world's most sparsely inhabited or intact places. The existence of high levels of biodiversity in these areas implies that their systems of land management have been resilient and sustainable for long periods of time [see: Ellis et., 2021]. "This means that, even for localities where Indigenous Peoples are still in the process of regaining land rights, the maintenance of the conservation values of a significant share of the planet depend on the institutions and actions of Indigenous Peoples." Conclusions include: move away from top-down Indigenous relationships to bottom-up approaches; understand the sophistication and complexity of their land use systems, recognition of their contributions through OECMs [see: IIFB statements rejecting the classification of their territories under OECMs and the need to recognize them as a distinct category]; recognize their unique ties to nature; recognize their practices, institutions and rights in international governance. Without such recognition and international support and resources to maintain their rights and land management systems, global biodiversity targets will not be met.

Gliessman, S.R. (2018). Defining agroecology. *Agroecology and Sustainable Food Systems* 42:599-600.

<https://www.tandfonline.com/doi/full/10.1080/21683565.2018.1432329>

Gliessman proposes a new definition of agroecology. An early (1990) definition was "the application of ecological concepts and principles to the design and management of sustainable agroecosystems, or the science of sustainable agriculture," with a field-level or farm-level focus. By the end of the decade, it shifted to "the ecology of the entire food system." This included social dimensions, issues of equity, and relationships between farmers and consumers. This has proved to be insufficient to account for political economy, or political and economic power that generates lock-in and prevent food system change. "Agroecology is the integration of research, education, action and change that brings sustainability to all parts of the food system: ecological, economic, and social. It's transdisciplinary in that it values all forms of knowledge

and experience in food system change. It's participatory in that it requires the involvement of all stakeholders from the farm to the table and everyone in between. And it is action-oriented because it confronts the economic and political power structures of the current industrial food system with alternative social structures and policy action. The approach is grounded in ecological thinking where a holistic, systems-level understanding of food system sustainability is required."

Hill, R. et al. (2020). Working with Indigenous, local and scientific knowledge in assessments of nature and nature's linkages with people. *Current Opinion in Environmental Sustainability* 43:8-20. <https://www.sciencedirect.com/science/article/pii/S1877343519301447>

Presents the negotiated and agreed upon Intergovernmental Platform on Biodiversity and Ecosystems Services (IPBES) approach to working with indigenous and local knowledge (ILK), including: procedures for assessments of nature and nature's linkages with people; a participatory mechanism; and institutional arrangements for including indigenous peoples and local communities. This supports ILK in IPBES assessments through: respecting rights; supporting care and mutuality; strengthening communities and their knowledge systems; and supporting knowledge exchange. Critical to the process are: respecting customary institutions that ensure the integrity of ILK, effective empowering dialogues, and shared governance in IPBES assessments.

O'Bryan, C.J.; Garnett, S.T.; Fa, J.E.; Leiper, I.; Rehbein, J.; Fernández-Llamazares, Á.; Jackson, M.V.; Jonas, H.D.; Brondizio, E.S.; Burgess, N.D.; Robinson, C.J.; Zander, K.K.; Venter, O.V.; Watson, J.E.M. (2020). The importance of Indigenous Peoples' lands for the conservation of terrestrial vertebrates. *Conservation Biology* 27 (Early View).

<https://doi.org/10.1111/cobi.13620>

<https://www.biorxiv.org/content/10.1101/2019.12.11.873695v3> (BioRxiv preprint)

Mapped the distribution range data for 20,328 IUCN-assessed mammal, bird and amphibian species in relation to mapped Indigenous Peoples' lands (leading to an underestimate because not all lands are mapped). Of all assessed species, 16% have >half of their ranges within these lands. For threatened species 41.5% occur in Indigenous Peoples' lands. A large number of species also have >10% of their ranges in these lands. This assessment demonstrates that Indigenous Peoples' lands are important to the successful implementation of global biodiversity and sustainable development agendas.

Sangha, K.K. (2020). Global importance of indigenous and local communities' managed lands: Building a case for stewardship schemes. *Special Issue: Ecosystem Services from Natural Resources Managed by the Indigenous Peoples and Local Communities. Sustainability* 2020, 12(19): 7839.

<https://www.mdpi.com/2071-1050/12/19/7839/htm>

Presents an analysis of the economic value of 4 ecosystem services provided by IPLC lands that flow to global populations outside of these lands: carbon sequestration, biocontrol, air, and water regulation services. these 4 flows are estimated at USD 1.16 trillion per year. IPLC stewardship over their lands should be supported.

Tengö, M.; Brondizio, E.S.; Elmqvist, T.; Malmer, P.; Spierenburg, M. (2014). Connecting Diverse Knowledge Systems for Enhanced Ecosystem Governance: The Multiple Evidence Base Approach. *AMBIO* 43:579-591.

<https://link.springer.com/article/10.1007/s13280-014-0501-3>

Presents the multiple evidence base (MEB) model for working with Indigenous knowledge systems, local knowledge systems, and practitioners' knowledge. The MEB supports global biodiversity and environmental assessment by recognizing that diverse knowledge systems can provide evidence for assessment, management, policy and decision making in ways complimentary to scientific knowledge. The MEB does not emphasize the "integration" of different knowledge systems, as the evaluation of knowledge occurs primarily within rather than across knowledge systems. Enriched understanding arises from the comparison or "triangulation" of multiple evidence bases.

Tengö, M.; Hill, R.; Malmer, P.; Raymond, C.R.; Spierenburg, M.; Danielsen, F.; Elmqvist, T.; Folke, C. (2017). Weaving knowledge systems in IPBES, CBD and beyond - lessons learned for sustainability. *Current Opinion in Environmental Sustainability* 26-27:17-25.

<https://www.sciencedirect.com/science/article/pii/S1877343517300039>

Case studies use to demonstrate that indigenous and local knowledge systems can enhance knowledge, practice, and ethics to move towards sustainability at multiple scales, including international science-policy processes. Examples of the framework drawn from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) and the Convention on Biological Diversity (CBD).

Trana, T.C.; Neasloss, D.; Kitasoo/Xai'xais Stewardship Authority; Bhattacharyya, J.; Bana, N.C. (2020). "Borders don't protect areas, people do": insights from the development of an Indigenous Protected and Conserved Area in Kitasoo/Xai'xais Nation Territory. *FACETS* 5: 922-941.

<https://www.facetsjournal.com/doi/pdf/10.1139/facets-2020-0041>

Reviews a case study of an Indigenous-led Indigenous Protected and Conserved Areas (IPCAs). The Kitasoo/Xai'xais Nation of Klemtu, British Columbia partnered with researchers to develop an IPCCAs that reflects their rights and responsibilities, preserves cultural heritage and biological diversity while fostering sustainable economic opportunities while avoiding issues with provincial-led conservation planning. Benefits of this community led approach include intergenerational community engagement, long-term territory planning rooted in culture, and stewardship capacity building. There are ongoing problems that are similar to other protected areas. The planning partnership is based on responsibilities to the Kitasoo/Xai'xais Nation and future generations. Ongoing settler colonial pressures are identified as an on-going challenge that places burdens on their self-governance. The study identifies the need for meaningful external support for Indigenous-led conservation to counter these external pressures.

Pandemic: COVID-19 and Future Outbreaks

McNeely, J.A. (2021). Nature and COVID-19: The pandemic, the environment, and the way ahead. *Ambio*. 2021 Apr; 50(4): 767-781

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7811389/>

Promotes the Half Earth concepts where the 1/4 of the Earth in government protected areas is supplemented by 25% in OECMs. While the IIFB, IFBES and other Indigenous Peoples do not support aggregating their territories into conservation estates or OECMs, the article does illustrate the importance of Indigenous Peoples' territories for protection against global pandemics like COVID-19, and advocates for their sovereignty over their resources.

Schneider, F.D.; Matias, D.M.; Burkhart, S.; Drees, L.; Fickel, T.; Hummel, D.; Liehr, S.; Schramm, E.; Mehring, M. (2021). Biodiversity conservation as infectious disease prevention: why a social-ecological perspective is essential. *Global Sustainability* 4: e13, 1-6.

<https://doi.org/10.1017/sus.2021.11>

The COVID-19 pandemic probably originated through spillover event from natural wildlife reservoirs into the human population, spreading possible from bats to humans, an indirect cost of biodiversity exploitation. Many organizations, including scientists from IPBES, other UN agencies and many conservation organizations to limit human encroachment into biodiverse habitats in increase funding and support for nature conservation. This paper suggests that these well-meaning responses need to be reconsidered. Disease emergence is a complex phenomenon. The bushmeat, wild meat or wet market trade in wild species in the Global South is a possible avenue for the origin of outbreaks, but there are other pathways, such as factory farming and disease vectors in the Global North. Indigenous Peoples and local communities have lived in these areas for millennia without evidence of large-scale outbreaks and may also have significant knowledge about zoonotic risks. It is inadequate to advocate for "compensate" if actions are taken to deny people's livelihoods without fully understanding how pandemics arise. Traditional knowledge of pandemics should be integrated into research. The paper presents a social-ecological model that suggest it is not simply a straightforward issue of prevalence, but local social and behavioral responses to pathogens that help determine effective risk. The problem can be a problem of relationship to nature as the emergence of a pathogen.