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REPORT OF THE FIFTH SCIENCE-POLICY FORUM FOR BIODIVERSITY AND THE EIGHTH INTERNATIONAL CONFERENCE ON SUSTAINABILITY SCIENCE

Note by the Executive Secretary

1. In decision [14/2](#), paragraph 2, the Conference of the Parties invited the scientific and other relevant communities working on scenarios and related assessments to take into account issues which are relevant to the development of the post-2020 global biodiversity framework including: the broad range of underlying drivers and systemic and structural issues related to biodiversity loss; combinations of policy approaches at multiple scales and under different scenarios; the identification of potential synergies, trade-offs and limitations related to biodiversity that should be considered in order to identify effective policies and measures to enable the achievement of the Sustainable Development Goals. In decision 14/24 B, paragraphs 2 and 8, the Conference of the Parties invites Parties, other Governments and relevant organizations to further promote open access to biodiversity-related data that facilitates capacity-building as well as technical and scientific cooperation and requests the Executive Secretary, in collaboration with partners and subject to the availability of resources, to further promote and facilitate technical and scientific cooperation.

2. Pursuant to the above decisions, and in light of the postponement of the fifteenth meeting of the Conference of the Parties, various institutions decided to jointly organize the first part of the fifth Science Policy Forum for Biodiversity and the eighth International Conference on Sustainability Science prior to the fifteenth meeting of the Conference of the Parties to discuss and make recommendations on how science, technology and innovation could contribute to the effective implementation of the post-2020 global biodiversity framework in order to bend the curve of biodiversity loss and obtain positive biodiversity outcomes and foster transformative change towards achieving the 2050 vision. Those virtual sessions took place in April 2021 and provided science-based inputs to the preparation of the post-2020 global biodiversity framework. A report was submitted to SBSTTA 24 (CBD/SBSTTA/24/INF/28)¹.

3. The second part of the fifth Science Policy Forum for Biodiversity and the eighth International Conference on Sustainability Science was held during COP 15, from 11 to 12 December 2022. Participants shared experiences; exchanged knowledge, ideas and diverse perspectives; showcased

¹ More information about the presentations and the recordings of the virtual sessions are available from the Forum's website: <https://science4biodiversity.org/events/past-events/5th-science-policy-forum/>. More information about of the virtual sessions of ICSS 8 (2022) is available from the Forum's website: <https://science4biodiversity.org/>

innovative solutions and tools for addressing technical issues and facilitating the implementation of the post-2020 global biodiversity framework. They also considered key factors for success and for scaling-up action to achieve measurable impacts on biodiversity at global scales, and adopt an action agenda to build effective cooperation, increase global capacities, and scale up complementary research, building on the outputs and recommendations from the joint virtual sessions held in April 2021 and from the ICSS 8 sessions held in January 2022.

4. The executive summary below has been prepared based on the various recommendations made during the sessions held in the margins of COP15.

FIFTH SCIENCE-POLICY FORUM FOR BIODIVERSITY
And
EIGHTH INTERNATIONAL CONFERENCE ON SUSTAINABILITY SCIENCE²
Contributions from science to policymaking and implementation

11 and 12 December 2022

I. Introduction

The science-policy forum for biodiversity was an open dialogue which aimed to provide a space for scientists, policymakers, and other relevant stakeholders to exchange information and points of views on topics related to the discussions of COP 15. The objective was to provide inputs and insights on how to effectively implement the post-2020 global biodiversity framework, achieve its goals and targets, and foster synergy among other multilateral environmental agreements (including biodiversity-related conventions such as UNCCD, UNFCCC, and the Paris Agreement), within the context of the 2030 Agenda for Sustainable Development.

The Fifth Science Policy Forum was organized jointly with the eighth International Conference on Sustainability Science. It was organized by the International Union of Biological Sciences, the Institute for Global Environmental Strategies (IGES) of the University of Tokyo, the Consortium of Scientific Partners (CSP), and the Secretariat of the Convention on Biological Diversity.

The event was organized in twelve sessions addressing mainly underlying causes of biodiversity loss and providing tools and solutions for bending the curve of biodiversity loss, with examples for the implementation of the framework as well as for achieving the 2050 vision of “living in harmony with nature”. The forum covered aspects such as the role of the scientific community in implementing the framework, the transformative actions to be taken to achieve the 2050 vision, the One-Health valuation of biodiversity and ecosystem services, agriculture and sustainability, and production and consumption.

II. Key messages from sessions

Opening Session and Keynote Speech on Bending the Curve of Biodiversity Loss with Urgent, Integrated, and Transformative Actions

- The science-policy forum and the broader scientific community are critical translators to key actors and stakeholders, in the multilateral exchange and dissemination of global scientific research on biodiversity, the integration of the complex impacts of biodiversity loss on human health, and the injection of new momentum into global biodiversity governance.
- The role of the scientific community is important in the negotiation processes by defining the means of the implementation of the post-2020 global biodiversity framework by identifying actionable solutions, impact indicators, and metrics for assessment.
- Access to the best available knowledge and data should be provided to Parties, sectoral authorities, international, regional, and local organizations, experts, and relevant stakeholders to adopt integrated systems solutions that are human-centric and work for local communities.
- Recognition of the role of youth scientists and early career researchers as agents of change in addressing and responding to the drivers of biodiversity loss and achieving the 2030 vision.

² <https://science4biodiversity.org/>

- A just transition for health, climate, and nature require scenarios and models for transformative change with key equity considerations. Conditions must be taken into account as differences in capacities and mobilization of resources between developed and developing nations. This must be scientifically addressed with models and scenarios that assess differentiated national responsibilities.

The role of the scientific community in the implementation of the post-2020 global biodiversity framework

1. Science, technology, and innovation can play a more prominent role in the post-2020 GBF implementation.
 - The key is to translate global goals to national ones with fairness and adequate consideration of the differences, address the funding challenge, broaden the scope of scientific advice, and increase accountability in the relevant sectors.
 - Members must develop an effective implementation framework in the coming years to identify actions and ensure proper ownership, take and incentivize actions and mainstream relevant values, and strengthen monitoring for better accountability.
 - The “Contributions for Nature Platform” combines spatial documentation of conservation and restoration actions from across the conservation community with newly derived metrics to report quantitatively on individual and aggregate contributions towards global goals for nature. The platform’s components will help establish pipelines to feed documentation generated from communities to the government.
 - Scientists can participate in the post2020-GBF at both international and national levels. At the national level, focal persons can identify specific assistance needed. At the international level, various organizations provide support for young scientists with fellowships and projects, some with special emphasis on developing countries.
2. There are distinct gaps between science and policy in particular with regards to the uptake by key actors.
 - Most notable indication is the gaps between the successful targets set in the past and the improvements that have followed, as implementing the targets presents a more significant challenge.
 - In some cases, good data and documentation of successful but isolated implementation have been produced. Still, methods need to be developed to help determine the relevant contributions to global goals.
 - Regarding the private sector, while investors are keen on devoting more resources to monitoring and ensuring accountability in biodiversity conservation, the fact that biodiversity includes quality and quantify dimensions across various layers, some of which are difficult to measure, presents a challenge in the process.
 - Coastal marine systems are important in feeding a big part of the population, and areas of great conservation and development importance, but have not been paid enough attention, more efforts should be made to identify and prioritize challenges and gaps. Pollution in the coastal zone, urban port cities.
 - Grasslands are important ecosystems with high potentials in ecosystem services. Work has been done in identifying the key areas and the role of grassland in climate change, but more is needed to recognize the value of grassland. One key aspect is grazing, wildlife and livestock, where much better policies are needed.
3. Identify differentiated but significant roles played by different stakeholders.
 - National governments are strong drivers for science-based conservation actions, provided that adequate attention to the scientific community is given.
 - The private sector is essential in all conservation actions, such as the frequently touched-upon topic of successful monitoring and accountability. The indirect enterprise impacts on biodiversity

that do not draw public attention are an important area of research for the scientific community. Investment portfolios will do best to aggregate the estimated company-level impacts in the future, and it's up to the scientific community to determine the methodology and tools needed to make the necessary steps.

- The “Contributions for Nature Platform” calls for cooperation from all sectors of the scientific communities and is keen to work with CBD Parties to further the mandate and include views and values from different communities.
 - At the country level, biodiversity conservation efforts by national Governments such as China have seen deterioration in coastal ecosystems significantly improved. The parallel goal of biodiversity conservation and development can be reflected in national experiences, efforts, and marine biodiversity conservation strategies.
 - The role of scientists is not just in research, but also in translating science into actions. In this regard, scientists can work with other occupations such as lawyers, economists, and enterprises to facilitate better exchange.
 - Innovative ways are needed to enlist the participation of youth, especially indigenous youth who undertake conservation efforts.
4. Urgent need for integrated/nexus and multidisciplinary approaches and for more action research to provide more evidence-based policy recommendations to accelerate the implementation.
- Experiences from prioritizing areas and species for in situ and ex situ conservation, using evidence-based rules for habitat restoration, and exploring new and underused sources of food show an elevated need for integrated approaches to biodiversity conservation.
 - Experiences on-the-ground focusing on multistakeholder cooperation stress the need for nexus approaches, successful cases such as the climate, ecosystems, and livelihoods (CEL) programmes have achieved both biodiversity conservation and economic/livelihood development and demonstrated the critical value of nature in conservation actions.
 - Challenge is urgent in marine ecosystems, and integrated approaches are required with multiple stakeholders.
 - The nexus/integrated approach has been demonstrated to have achieved proven success in multiple dimensions.
5. Recognizing women's role and traditional wisdom is a must.
- Evidence from community-based approaches in developing countries suggests that women's leadership is crucial, and their capacity building is vital for biodiversity conservation and food security.
 - Regarding indigenous communities, local peoples who are less equipped with livelihood options and are highly dependent on nature and ecosystem services are more vulnerable to climate change and need climate-resilient development options.
 - Community-based scientific approaches can bring long-lasting benefits to people and nature. Research joining science with community wisdom indicates that plants and fungi are critically important in sustaining wildlife and humans.

Key messages

- Biodiversity loss has been accelerating and failures were seen in the implementation of the past biodiversity targets. This can be effectively addressed by the scientific community through the design of positive modelling scenarios for a healthier and sustainable future, leveraging in-situ monitoring and integrating indigenous and local communities' knowledge.
- It is important for the scientific community to work with businesses and the broader private sector to assess ecosystem service flows and changes in ecosystems, as well as with the governments.
- There is an urgent need to establish early warning systems for biodiversity loss with an integrated approach to simultaneously assess and predict climate change and human health risks and impacts.

Transformative actions on all drivers of biodiversity loss urgently required to achieve the global goals by 2030.

Halting biodiversity loss by 2030 and accelerating the reversal of negative biodiversity change cannot be achieved through conservation alone. Given the failures to achieve previous global commitments, there is an urgent need to address direct and indirect drivers of biodiversity loss and focus on how global commitments *can* be achieved effectively.

- The GBF must recognize explicitly that people are part of biodiversity and thus are key to its long-term conservation and sustainable use.
- The three objectives of the Convention need to be balanced to bend the curve on biodiversity loss and deliver a people-positive future that sees increased welfare, strengthens equity and upholds justice for all.
- High ambition on indirect drivers embodied in Targets 14-21 ("Tools and solutions for implementation and mainstreaming") as well as Targets 1 (spatial planning), 9 (sustainable fisheries) and 10 (sustainable agriculture, aquaculture and forestry) is also essential.
- To achieve transformative change in rolling out the GBF, governments must work across and with civil society and the private sector to develop and implement an action plan. Science-based targets can provide guidance to the private sector and local actors to promote engagement, prioritize action, and strengthen accountability.
- A strong global monitoring framework that effectively links trends in biodiversity and ecosystem services with drivers is needed to better detect and attribute changes and support prioritization and effective implementation. Such a monitoring framework needs to engage local communities and indigenous communities.

As countries meet to finalize the GBF, it is crucial to integrate the robust evidence on the need for an integrated approach from ambition and target setting through to implementation and monitoring to implement the GBF while meeting other biodiversity-related agreements, the sister Rio Conventions, and the 2030 Agenda on Sustainable Development, thus providing entry points for strategic coordination with other regimes.

Biodiversity-Inclusive One health: Future solutions, learning from experience

One-Health is a collaborative, multisectoral, and transdisciplinary approach — working at the local, regional, national, and global levels — with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment. This session explored how to address health-related challenges of biodiversity loss and climate change using evidence-based solutions and the holistic, integrated approach of One Health solutions. Interdisciplinary speakers from non-governmental organizations, academia, and youth demonstrated their global, regional, and local efforts and concrete examples that range from co-designing inclusive and coherent decision-support tools for the health sector to implementing One Health policies to building a strong community of practice that both meaningfully engages with and supports the aims of the post-2020 Global Biodiversity Framework and biodiversity-inclusive One Health efforts, and the right to a healthy environment.

- Health makes the negative consequences of global environmental change more tangible. Making health outcomes explicit can help to foster individual and political will to protect biodiversity.
- Transformative change is needed in our relationship with the environment and how we tackle disease emergence, spill-over, and spread. We must acknowledge that biodiversity loss undermines life-support systems essential to human existence. The costs of investing in surveillance and early warning systems and in wildlife health management are not negligible, but

the costs and risks of not doing so are far greater both from a public health perspective, and health for domestic animals' standpoint, as well as for the preservation of biodiversity. Thus, restoration of biodiversity should be included in all public health policies.

- Coordinated global action is needed now, more than ever, to ensure that biodiversity including wildlife health is fully integrated into the One Health discussions along with the environmental sector and is adequately considered in the future governance of One Health currently negotiated.
- The prevention of pathogen spillover – i.e., prevention at the source or upstream prevention, including protecting forests and improved wildlife trade regulation – can be the first line of defence against outbreaks and the emergence of new diseases; it is cost-efficient and comes with co-benefits for biodiversity and climate mitigation and adaptation, yet attention and resourcing is currently focused on preparedness and response once an outbreak occurs.
- The Quadripartite OH Joint Plan of Action provides a framework for action and proposes a set of activities that the four Secretariats can offer together to enable countries to advance and sustainably scale up One Health in managing health threats to humans, animals, plants, and the environment.
- One Health is not the easy option. It takes dedication to foster collaboration across disciplines, communication across silos, coordination for integrated solutions and capacity building. All these are key to the International Alliance against Health Risks in Wildlife Trade.
- The evidence-based impact of our community-guided, Radical Listening model Health in Harmony has been practicing and refining for the last 15 years provides a unique, scientifically validated framework to governments and multilaterals for achievement of multiple SDGs simultaneously, including positive human health, biodiversity, and climate outcomes.
- Transdisciplinary approaches bring together biophysical and social sciences with actors outside academia to jointly develop solutions. This process increases the likelihood that co-created tools/information is used by decision-makers, communities, and other knowledge users.
- In developing early warning systems and other evidence-based solutions as part of the post-2020 GBF, it is critical that health sector leadership is engaged and that strong partnerships are built across climate-environment-health sectors.
- The nature-based wisdom and expertise of indigenous and local peoples of place should guide humanity's planetary health/ one health solutions to nature's collapse and the climate crisis.
- Youth are the vectors of change to implement the post-2020 GBF and demand a rights-based approach to the biodiversity and health nexus. Resource mobilization for youth-led research is needed with the meaningful involvement of the voices of indigenous youth and youth from local communities.
- Co-creation with youth experts, scientists and practitioners is a key principle for the design and development of innovative capacity building tools for transformative and integrated education and policy frameworks with tangible actions for mainstreaming biodiversity in the health sector and the health messaging and scientific evidence for centralizing One Health and intergenerational equity in the climate and biodiversity loss agenda.

Biodiversity as a source of solutions to sustainability challenges in urban, peri-urban and rural areas

- Integrated approach/solutions are required to tackle with climate, biodiversity and other global challenges while biodiversity can be a source of solutions for synergetic improvement of the nexus of food, health and climate.
- Restoration and promotion of urban nature/biodiversity should be further promoted, strengthening urban-rural linkage.
- Local implementation of solutions on the ground is crucial as indicated by examples of SDG Labs.

Valuing, measuring and reporting on ecosystem services

Transformative change to sustainability requires accounting for the diversity of nature's values. Achieving sustainable and just futures require institutions that enable a recognition and integration of the diverse values of nature and nature's contributions to people.

- Institutions influence which values become socially legitimized and which ones are excluded from decision-making.
- Reforming existing institutions and creating new ones can improve political, economic and social decision-making, mainstreaming the consideration of nature's diverse values and leading to better outcomes for people and nature.
- Recognizing and respecting the worldviews, values and traditional knowledge of indigenous peoples and local communities and the institutions that support their rights, territories or interests and allow policies to be more inclusive of how different people live, relate to and value nature, which also translates into better outcomes for people and nature.
- Several uses and users of resources who hold different values- some of which may be intrinsic (valuing nature for itself), instrumental (valuing for what it provides as goods and services and various functions) or relational, depending on purpose of valuation and stage of policy decision cycle, different types of valuation would be required (to inform, engage, decide, etc).
- It is necessary that contexts and stakeholders' priorities be taken into account - this would require integrating or bridging across different values.
- Valuing, monitoring and reporting are culturally specific, including biases in the reporter themselves.
- Valuation methods can be quantitative, qualitative and integrative in nature -and values and valuation methodologies of IPLCs have also a place.
- There is an interface between Western science and traditional knowledge, as well as the interface of Western science and policy, and decision-making.
- For instance, there are actually hundreds of millions of people monitoring nature within local communities using their own knowledge systems. Additionally, social scientists often work with IPLCs but don't fully recognize the indigenous and local knowledge, as very few studies go into the biological specifics; transdisciplinary studies will be very important.
- Macroeconomic decisions can also be made in a sustainability aligned manner if we can influence the thinking of relevant sectors such as the finance sector. An example given from a central bank

/financial institution, shows that it is important to understand their logic, which follows an analysis of reputation, transition and physical risks, for safeguarding the financial stability of a country, to contribute to sustainable prosperity.

Capacity building for Digital sequence information (DSI)

- The use and the technology for generating and analyzing DSI are expanding globally, but this growth is asymmetric. There is a big divide in DSI-associated infrastructure between developed countries and Low- and middle-income countries (LMICs). Leadership in research cooperation is also strongly led by western countries.
- Sustainable global capacity building for DSI will need to include the expansion of cooperation and technology transfer as well as capacity building in LMICs to match the needs and the national interests of different countries.
- Sustainable DSI capacity building in LMICs will need to include budgets that factor in costs for consumables. Measures aimed at bringing the prices of consumables in LMICs on par with prices in developed countries will be crucial.

Sustainability & food systems/ agriculture: Scaling-up and measuring sustainability

Feeding humanity and enhancing the conservation and sustainable use of nature are complementary aims that can be advanced through sustainable agriculture, aquaculture and livestock systems, the safeguarding of native species, varieties, breeds and habitats, and ecological restoration.

- Promoting sustainable agricultural and agroecological practices.
- Empowering producers and consumers to transform supply chains; and facilitating sustainable and healthy dietary choices.
- Unsustainable food systems are the main driver of biodiversity loss, leading to negative health outcomes, vulnerability and injustice. Without transforming food systems, we will not be able to reverse biodiversity loss.
- Agroecology is a systems approach that has the power to achieve multiple biodiversity targets, with substantial co-benefits across the SDGs, including biodiversity. We need biodiverse, resilient and locally adaptable food systems that are most resilient to climate change and other shocks in the system, including financing mechanisms. It is the missing piece of the puzzle, and without it in the Global Biodiversity Framework, we will miss the mark. It is critical to all three pillars of the CBD: conservation, sustainable use, and equity, and must be included in Target 10 of the Global Biodiversity Framework.
- Mixed farming landscapes, with a combination of on-farm biodiversity conservation, landscape management for biodiversity and preserved forest or grassland fragments have a great potential for making an important contribution to biodiversity conservation.
- Commodity crop production outcomes depends on very diverse local realities, production groups and models, scales and geographical context. The challenge is in navigating trade-offs between dimensions when measuring sustainability performance. This means finding ways to measure different contexts.
- Despite some similarities between and within commodity crops and production models, the actual landscape modification, environmental impact and socioeconomic outcomes depend significantly on spatial scales, beneficiary groups and geographical contexts.
- Despite some broad similarities within the same crop/model, there is no “typical” production system for a given crop that has exactly the same sustainability performance between geographical settings.

- The same sustainability instrument might be promoted in totally different ways and have different outcomes across sustainability dimensions. This variability has significant implications: when trying to generalise and seek options to “enhance the sustainability of the production of a type of crop in a specific spatial scale.
- Differences in gender roles in landscape modification, with women promoting more diversified mixed farming systems, should be taken into account.
- Understanding local variability in technology adoption when scaling up biodiversity-based and/or sustainable solutions is also important.
- This implies a) different acceptability of biodiversity-based solutions and/or good management practices, b) constraints to adopt and sustain the adoption of such options, and the needs in terms of capacities and knowledge.

Mobilizing tools and technologies to support implementation and monitoring

In addressing the following key aspects for monitoring the implementation of the GBF:

- Filling the thematic and data gaps needed to monitor the post-2020 GBF.
- Establishing a detection-attribution system so that we have indicators capable of responding to the actions implemented to reach the targets of the post-2020 GBF.
- Strengthening the capacity of countries to implement biodiversity monitoring systems and generate the data needed for the indicators; and
- Networking national efforts to achieve a global observing system supporting continuous assessments of progress.

Key messages:

- A global biodiversity observation system is needed to fill the large gaps in taxonomic, geographic, and temporal coverage of biodiversity data required to implement the monitoring framework on direct impacts. This system is needed to accelerate the assessment of the status and trends of biodiversity at the scales needed to guide conservation and sustainable use actions.
- This system would be assembled by leveraging existing capacity and data in addition to existing and developing national and regional biodiversity monitoring networks with strategic investment required to fill priority gaps. National governments and other stakeholders will need to work together to provide the capacity and resources to establish the global biodiversity observation system.
- There is a need to streamline the process for discovery, access and application of existing technologies and methods for biodiversity conservation and monitoring.
- Leveraging innovative tools such as artificial intelligence, and informatic infrastructure: will contribute to supporting the transparency and reproducibility of methodological process for every indicator.
- There is a need for strong institutions, supporting better data, better models, providing ownership and data sovereignty at national level, and facilitating regional and global coordination.

Realigning production & consumption: public policies & private sector

Sustainable production and consumption were recognized as important drivers of biodiversity loss in 2010. However, actions proposed in Aichi target 4 to keep low the impacts on biodiversity were not implemented in a significant way. A couple of new targets have now been proposed for the GBF. With the participation of different actors, the following potential measures were discussed to attain sustainable production and consumption:

- Sustainability requires complementary policies in both producing and consuming countries.
- Sustainable public procurement can align production and consumption patterns with sustainability standards and support biodiversity conservation efforts by supporting a transformation of

Agricultural systems towards agroecology. Public procurement (for food, construction materials, etc.) has a great potential aligning to sustainability criteria: reliable demand, reliable source of income, prices stabilization & fair incentives.

- Tele-coupled agri-food systems need complementary policies and therefore depend on bi-lateral and multilateral trade relations.
- We need to address unintended effects through due diligence, carbon border taxes, renewable energy policies et cetera. We can also make use of standards and requirements to improve sustainability (e.g. carbon border taxes, tenure regimes).
- The EU has a high regulatory potential and responsibility for sustainability (e.g. in soy, palm oil, cacao, coffee).
- Private market initiatives such as certification can support sustainability but might have limitations and could benefit from better oversight.
- Africa requires further capacity-building and more data to enable scaling up into international markets. There is a need for some definitions on sustainability and quantitative data collection on unsustainable actions, to monitor changes in the situation. Facing a lack of choice in consumption for resources required for subsistence such as water and energy, large scale strategies for replacing those resources will be necessary to bend the curve towards sustainability.
- As a way of leverage, an example of capacity Development on biodiversity and ecosystem services experts in West, Central & East Africa, has proven useful to build a baseline for the elaboration of guidelines for development of a National Strategy and Action Plan of Integrated Management of Oasis Ecosystems.
- Another example, in the context of the Sahel and Sahara Observatory, a South-South-North collaborative platform established for monitoring land-use changes that could be used in African countries, incorporating biodiversity aspects.
- With regard to Target 15 of the GBF, a crucial issue for scalability is to take the small and medium-sized enterprises (SME) on board. This is true for European companies (with big challenges regarding new reporting obligations and due diligence legislation on sustainability) and even more for SME in Africa, Latin America or Asia, which need capacity building and support to access financial resources for transition to sustainable production when exporting.
- Consumers often need orientation to understand the difference between hundreds of sustainability standards - there are helpful tools i.e., the sustainability map by ITC or the Sustainability Standards Comparison Tool by GIZ. Overall, there are only few good biodiversity standards, and more research efforts could be made to improve this situation.
- As a positive example, Forestry Stewardship Council standard (FSC) is becoming a certification not only for wood but also for ecosystem services (including biodiversity, watershed, recreation potential, carbon fixation, soil conservation), thus enabling with technology and good data (origin, volume, checks, etc), for consumers and importing companies to quickly track biodiversity impacts.
- Deforestation is linked to economic activities through various channels: Financial and non-financial corporates (large and small) are responsible for, at (financial) risk from and have the power to halt deforestation.
- Links between deforestation and economic activities are often difficult to capture: from an EU or US (or more generally, an OECD country) perspective, the bulk of it happens upstream, (hidden) in the value chain. We need to make deforestation and other nature related impacts across value chains visible.
- With the help of an ambitious and coherent policy framework and access to relevant data, financial and non-financial corporates can take action on divestment, engagement, sustainable procurement/purchase policies & impact investment for halting deforestation.

Restoration, connectivity and ecological integrity: How to effectively achieve and measure restoration and functionality recovery

- Restoration can provide multiple benefits and achievement of targets: securing land, increasing biodiversity, capacity building and socio-economic benefits.
- Local restoration planning and action need to be matched to large-scale connectivity planning. This requires that spatial planning fully acknowledges the connections between local restoration and regional to global contributions to biodiversity and ecosystem services.
- Participatory approaches are key to restoration success. Approaches integrating participatory approaches with spatially explicit scenarios modeling and projections are needed in order to support spatial planning solutions.
- Ecological restoration, large-scale connectivity restoration, and ecological integrity restoration are needed to sustain biodiversity and resilient ecosystems in a changing world. Achieving Nature Positive requires a portfolio of restoration approaches that can be applied over large geographic areas. Rewilding and natural regeneration approaches have been proven as cost-effective approaches to deliver biodiversity benefits at large scales.
- Being aware of the spatial impacts of policies and decision making is essential, as is the collection and presentation of data in a spatially explicit way.
- We can pursue multiple targets together to achieve the best possible outcomes, we and need to do so in order to realize the full potential of the targets and prevent unnecessary environmental degradation.
- Scientists need to be cognizant of the interactions between biodiversity and carbon sequestration to ensure that policy options can find the perfect match.
- Brownfield sites can and should be remediated and this can be achieved through the use of plants in phytoremediation processes, for the benefit of nature and local communities.
- Restoration has to be effective, efficient and engaging in order to work and ensure that positive action is taken.

Nature positive solutions for public and private sectors

- More actions/solutions are needed to integrate the climate (UNFCCC) and biodiversity (CBD) conventions, at various scales and sectors.
- Bending the curve of biodiversity loss has been achieved in Sado island through a wide range of collaboration with farmers, local governments, scientists and local residents.
- Various efforts have been implemented by private business networks and individual companies, including capacity building, OECM, ecosystem-based disaster risk reduction, and the Satoyama conservation and restoration initiative.

Opportunities for nature positive future – session for early-career scholars and students

- There is an important need to engage and integrate the innovative and transformative work led by young researchers, along with undergraduate and graduate students in rediscovering the value of biodiversity.
- Early-career scholars and students are adopting transdisciplinary approaches to foster locally initiated nature-based solutions for achieving Sustainable Development Goals (SDGs) with examples of sustainability living labs and local projects.
- Through capacity-building and peer-to-peer programmes, early-career scholars are inspiring and consistently empowering the next generation's search for innovative solutions towards nature positive future and the protection of human health and well-being.

III. Key Outcomes

- Conservation of 30x30 will not be enough to bend the curve of biodiversity loss. It has to come with sustainable uses and transformational changes, implementing all actions proposed in the GBF.
- Implementation should take into account mixed landscape approaches across all ecosystems.
- Transformative change is needed in our relationship with the environment and how we tackle disease emergence, spill-over and spread; importantly, we must acknowledge that biodiversity loss undermines life-support systems essential to human existence, health and well-being.
- One Health is critical to bend the curve for biodiversity loss by fostering collaboration across disciplines, communication across silos, coordination for integrated solution portfolios.
- Leveraging existing capacity and data in addition to existing and developing national and regional biodiversity monitoring networks with strategic investment is required to fill priority gaps.
- Valuing, monitoring and reporting on ecosystem services is culturally specific. Then, valuation methods could be quantitative, qualitative and integrative in nature – including values and valuation methodologies of IPLCs.
- Sustainability requires complementary policies in both producing and consuming countries.
- There is a big difference in DSI-associated infrastructure and the required bioinformatics capacity and R&D environments, between developed countries and less developed countries to take advantage of these biodata. DSI capacity-building must bridge these gaps to seed the bioeconomy and support sustainable growth in low- and middle-income countries.
- Sustainable public procurement (for food, raw materials, etc.) can align production and consumption patterns with sustainability standards. It can also support biodiversity and agro-diversity conservation efforts by creating large and reliable markets for farmers following agroecological practices.
- Managing urban-rural linkages for biodiversity needs an integrated landscape approach for action.
- Transformative approaches to the regulation of zero deforestation supply chains should be integrated, ensure preservation of forests, other wooded areas and degradation within forests, prioritize action in high-risk areas, implement effective systems of monitoring and feedback, and adopt rights-based approaches including the recognition of multiple values of forests.
- The overarching challenge to keep track, measure and report the implementation of the GBF is to develop monitoring systems and tools that are at the same time context specific (at least somehow) and which can deliver rapid and reproducible assessments in the aftermath of notable ecological events timely (in the weeks or months after and not many years later).
- Overall, developing the institutions and policies for leveraging capacities, values, and investment on the conservation and sustainable use with an integrated view (at the landscape scales), and with the participation of governments, the scientific community, business and financial sectors, and integrating the local and indigenous communities, while implementing tools and data for effective monitoring systems that should put us in the way of scaling-up for implementing the GBF, bending the curve of biodiversity loss and achieving other conventions and global ambitions such as the sustainable development goals.