LSFI
Luxembourg Sustainable Finance Initiative

Biodiversity Masterclass

Summary Report from LSFI's Masterclass

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About the Summary Report

The Luxembourg Sustainable Finance Initiative (LSFI) organised in November 2023 a masterclass that covered where biodiversity stands, why its preservation is pivotal for our future, and what are the main frameworks and standards. It also delved into the critical issue of biodiversity and its implications for the financial community and its investors. In particular, the masterclass introduced four experts in the field who outlined the evolving landscape of biodiversity and how to effectively integrate it into investment decisions.

This high-level summary examines the key international activities, commitments and frameworks that seek to address the urgency of the situation and that can support financial institutions in this field. It also provides some key steps and practical examples of how to integrate biodiversity into investment decisions by designing internal frameworks, assessing risk and applying certain strategies.

While the report includes practical examples of how biodiversity can be integrated into investment decisions, it is not intended to be comprehensive or to be regarded as financial or business advice by the reader.

1. Introduction to Biodiversity

1.1. What it is

Biological diversity refers to the variety of all life on Earth and the natural processes it forms. It includes diversity between species, genetic diversity and functional diversity – where certain characteristics develop within a species to meet particular environmental needs. Biodiversity enhances ecosystem processes improving stability stability, resilience, efficiencies and productivity. The greater the level of biodiversity, the better those processes and ecosystem services which form the basis of human livelihoods. Conversely, a reduction in biodiversity impacts not only the natural world but economic activity, too.

Biodiversity and nature is declining at an unprecedented rate. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)[1] Global Assessment Report has found that around 1 million animal and plant species are now threatened with extinction, many within decades. In addition, this report also identifies the five key drivers of biodiversity loss, which are:

- Land use change;
- Overexploitation;
- Pollution;
- Climate change;
- Invasive alien species.

Moving forward, halting biodiversity loss is key. Biodiversity loss has an impact on ecosystem services and thereby on society and the economy as a whole. For instance, the annual global losses arising from invasive alien species today exceed US$400 billion – with fourfold growth every decade since 1970 reflecting rising biodiversity loss and reduced stability.

1.2. The biodiversity complexity

The biodiversity debate encompasses contradictions and complexities. Food production has soared in the past 50 years, but some of the subsequent biodiversity loss has been compensated by using fertilisers and other chemicals. However, land degradation has reduced productivity by 23% across the world's terrestrial surface. Meanwhile, crop production is dependent on pollination, but between US$200 billion and US$500 billion of agricultural crops are at risk of pollination loss. The relationship between the environmental impact of today's agricultural practices and subsequent corrective action is complex. On the short term, it was possible compensate for the loss of Ecosystem services by increasing inputs, such as pesticides, but on the long term, the costs for these inputs will only rise.

Given that biodiversity is essential to support all of life's ecosystems, economists have attributed monetary values to its scope. According to the World Economic Forum, US$44 trillion of global GDP is related to biodiversity, while PwC says that US$58 trillion of economic value generation is dependent on nature – 55% of the world's total.

[1] An independent intergovernmental body established by States to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development. It is intended to serve a similar role to the Intergovernmental Panel on Climate Change (IPCC).

Besides the economic value, biodiversity offers multiple benefits which are known as ecosystem services. An ecosystem service is any benefit that humans get from nature. There are four categories of benefits.

- *Provisioning:* Food, water or medicines (e.g., 70% of cancer medicine is derived from nature).
- *Regulating*: Climate, flood control, pollination or water purification.
- *Supporting*: Soil formation, habitat, photosynthesis or biodiversity.
- *Cultural*: Aesthetics, recreation or education.

While the category "regulating" has significant private sector investment, along with the "provisioning" one, it is more difficult to evaluate or to monetise the remaining two services (supporting and cultural), especially the aesthetics of biodiversity. However, these services are all interconnected.

2. International Initiatives and Frameworks

Governments and international institutions play a critical role in shaping policies, setting ambitious biodiversity targets and supporting responsible enterprises. Over the last years, a roadmap with key signposts and a clear direction is emerging.

2.1. Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)

The Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)[2] is an independent intergovernmental body established by States to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development. It was established in Panama City, on 21 April 2012 by 94 Governments. It guides policymakers at international level.

In 2019, the IPBES published its first Global Assessment Report on Biodiversity and Ecosystem Services which highlighted a grim outlook. At the time of the study, one million species were at risk of extinction – but the latest estimate, in November 2023, now puts that figure at 2 million. Current biodiversity trends are undermining some 80% of the United Nations' Sustainable Development Goals.

The IPBES report signals five direct drivers of biodiversity loss above-mentioned. In addition, it also makes clear that there are indirect drivers too, and it is critical to address both simultaneously. These indirect drivers are production, population, trade, technology and governance.

2.2. UN Convention on Biological Diversity and the Kunming-Montreal Global Biodiversity Framework

The United Nations Convention on Biological Diversity (UN CBD)[3] is the international legal instrument for "the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic

[2] https://www.ipbes.net/about
[3] https://www.cbd.int/

resources". It was first signed in 1992 and has been ratified by 196 nations. Its overall objective is to encourage actions which will lead to a sustainable future. The CBD's governing body is the Conference of the Parties (COP). This ultimate authority of all governments (or Parties) that have ratified the treaty meets every two years to review progress, set priorities and commit to work plans.

In 2022, during the fifteenth meeting of the Conference of the Parties (COP 15), the Kunming-Montreal Global Biodiversity Framework (GBF)4 was adopted following a four year consultation and negotiation process. This framework, which supports the achievement of the Sustainable Development Goals and builds on the Convention's previous Strategic Plans, sets out an ambitious pathway to reach the global vision of a world living in harmony with nature by 2050. Among the Framework's key elements are 4 goals for 2050 and 23 targets for 2030. The four overarching goals, to be achieved by 2050, focus on ecosystem and species health. They aim to:

- Enhance the resilience of all ecosystems;
- Support the sustainable use of biodiversity;
- Promote equitable sharing of benefits;
- Close the biodiversity finance gap of US$700bn per year.

In addition to monitoring carbon footprints and reducing harmful subsidies that encourage damaging activities, there are several targets especially relevant for financial institutions and companies. **Target 14** refers to integrating biodiversity in decision-making at every level, progressively aligning all relevant public and private activities, fiscal and financial flows with the goals and targets of the framework. **Target 19** sets a goal of mobilising at least US$200 billion annually from the public and private sectors to help implement national biodiversity strategies and increase financial flows from developed to developing countries. Meanwhile, **Target 15** requires companies and financial institutions to monitor, assess and disclose transparently their risks, dependencies and impacts on biodiversity. All targets are to be achieved by 2030.

The adoption of the Kunming-Montreal Global Biodiversity Framework was a pivotal moment in the urgent drive to halt and reverse biodiversity loss. Alongside the Framework, it was decided to launch the Global Biodiversity Framework Fund (GBFF) which will scale up financing for the implementation of the framework.

2.3. Taskforce on Nature-related Financial Disclosures

The Taskforce on Nature-related Financial Disclosures (TNFD)[5] was established in 2021 to develop a risk management and disclosure framework for biodiversity, seeking to leverage elements of longstanding efforts to curb climate change. A market-led and science-based initiative, the task force comprises 40 financial institutions, corporates and market service providers with over US$20 trillion in assets. By engaging with both developed and emerging economies, the TNFD is built on global and inclusive foundations. The TNFD has examined many different factors, including identifying the services nature provides for us, accounting for

[4] https://www.cbd.int/gbf
[5] https://tnfd.global/

the impact of companies and dependencies on nature and reflecting on the biodiversity risks and opportunities of corporate actions.

In 2023, the TNFD issued its final recommendations. The TNFD recommendations provide companies and financial institutions of all sizes with a risk management and disclosure framework to identify, assess, manage and, where appropriate, disclose nature-related issues. It includes 14 recommended disclosures covering nature-related dependencies, impacts, risks and opportunities that are structured around four pillars: governance, strategy, risk and impact management, and metrics and targets.

Together with United Nations Environment Programme Finance Initiative (UNEP FI), TNFD is currently running an implementation programme to help financial institutions understand their nature-related impacts and risks.

LEAP (Locate, Evaluate, Assess, Prepare) guidance[6]

It is an internal due diligence assessment process. Leap is an integrated approach for the identification and assessment of nature-related issues, helping companies start from scratch through the scoping, assessment and disclosure stages. LEAP offers practical tips based on extensive pilot testing and its recommendations are fully aligned with the disclosures proposed by the Taskforce for Climate Financial Disclosure (TCFD).

2.4. Additional guidance and resources

In addition to these key existing guidelines and frameworks, a number of additional studies, tools and networks are available to help financial institutions advance, integrate and report on nature-related issues. Some of these are:

- Dasgupta Review[7]: it is a report by the University of Cambridge's Professor Sir Partha Dasgupta. It offers an important contribution to the debate on the economics of biodiversity, challenging the idea that technological efficiency alone can resolve environmental challenges. It advocates moving away from GDP as the key economic indicator, arguing that its 'depreciation of assets' column does not include degradation of the biosphere. The relationship between the financial services sector and nature encompasses complex dependencies summed up by the Dasgupta Review which says: *"Nature is a 'blind spot' in economics. We can no longer afford for it to be absent from accounting systems that dictate national finances, or ignored by economic decision-makers."*
- Nature Action 100[8]: it is a global investor engagement initiative focused on driving greater corporate ambition and action to reverse nature and biodiversity loss. The initiative engages companies in key sectors that are deemed to be systemically important in reversing nature and biodiversity loss by 2030. It was conceived by a group of institutional investors known as the Launching Investor Group.
- Finance for Biodiversity[9]: It is a network of financial institutions calling for and committing to take ambitious action on biodiversity. They have developed the Finance

[6] https://tnfd.global/publication/additional-guidance-on-assessment-of-nature-related-issues-the-leap-approach/
[7] https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review
[8] https://www.natureaction100.org/
[9] https://www.financeforbiodiversity.org/about-the-pledge/

for Biodiversity Pledge that calls on global leaders and commit to protecting and restoring biodiversity through their finance activities and investments by:
  - Collaborating and sharing knowledge
  - Engaging with companies
  - Assessing impact
  - Setting targets
  - Reporting publicly on the above before 2025
- PRB Nature Target Setting Guidance[10]: it is a guideline designed for banks that intend to act on nature loss and align their business activities and strategies with the objectives of the Kunming-Montreal Global Biodiversity Framework.

3. Integrating Biodiversity in Practice

There is a growing awareness within the financial sector of the risk biodiversity loss poses. This is driving demand for greater disclosure, engagement and collaboration, from dependencies across the entire supply chain to policymakers and legislators. The landscape of biodiversity risk management is evolving, and financial companies have a critical role to play in rising to the challenges ahead.

In the process of integrating biodiversity into financial decisions, establishing internal processes and policies is a foundational measure to guide financial institutions' investment decisions. Key components within or in conjunction with these internal frameworks include setting targets, choosing suitable investment strategies aligned with the established goals, monitoring and measuring nature-related risks and opportunities, as well as disclosing and reporting.

The following section outlines several actions for financial institutions to integrate biodiversity into their financial decisions. While drawn from real cases, these examples provide high-level guidance without aiming for a comprehensive explanation.

3.1. Designing a nature policy

Developing an internal policy can be a foundational step that will detail how a financial institution can contribute to tackling biodiversity loss. It can encompass your impact assessment and risk management systems, set targets, define the investment strategies and sectors of investment and specify your targets.

This can be accompanied by setting up an internal task force to monitor your biodiversity-related activities and impacts.

3.2. Establishing a biodiversity framework to asses companies

A biodiversity framework can serve to assess companies and thus guide your investments.

When creating a biodiversity framework, several fundamental components can guide the process. A first step is to analyse the various sectors of investment considering the different sector-level biodiversity footprints. The table below outlines examples of sectors and their biodiversity footprint, classified from low to very high.

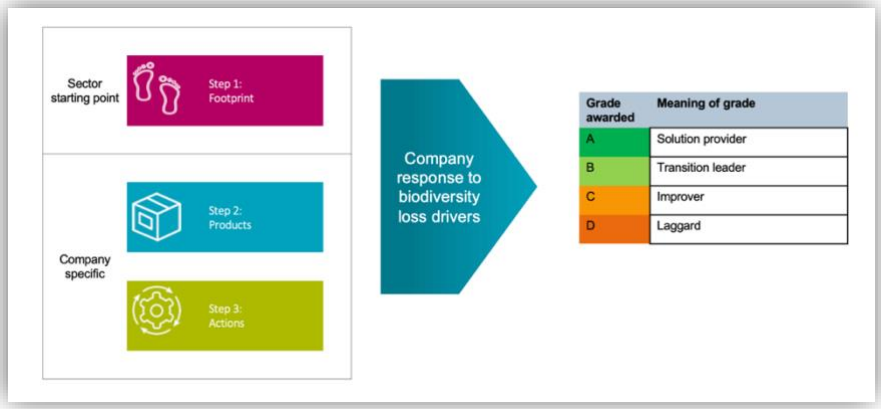
[10] https://www.unepfi.org/industries/banking/nature-target-setting-guidance/

Low	Insurance; Commercial and professional services; Media; Telecommunications; Software; Semiconductors
Medium	Retailing; Consumer services; Technology hardware; Diversified financials; Health care
High	Banks; Automobiles; Household and personal products; Capital goods; Utilities; Consumer Durables and apparel; Pharmaceuticals & biotechnology; Transportation; Real estate
Very high	Food, beverage and tobacco; Materials; Energy

Source: Robeco

A second building block can focus on the five drivers of biodiversity loss: climate change, land/water use change, pollution, resource use, and invasive species. The five key drivers of diversity loss provide companies seeking to assess the impact of its behaviour and activities with a good starting point. In particular, these drivers allow to respond to the question “How do companies contribute to the drivers of biodiversity loss, and how well do they mitigate that?”.

Using the previous building blocks can help follow a 3 step-assessment to differentiate companies depending on their level of maturity in this field. From this three-step process, companies can then be graded on a scale from A to D, from laggards in the space to solution providers. An example can be found below.



Source: Robeco

Case Study Example: A company within the Pulp & Papel Industry

The example below showcases the case of a company within the Pulp & paper industry and how the above-mentioned framework could be put into place.

Example 1: Pulp & paper industry

Sector with high biodiversity impact, driven by land use change

Pulp & paper:
- **High biodiversity impact, hence sector starting point at -3**
- **Main driver of nature loss is land use change**

What do we want to see from companies? KPIs	How do we measure that?
Reduced use of raw materials	• Share of recycled paper
More sustainable logging and forest management	• Share of sourcing from certified sustainable forests.
Commitments and evidence of actions	• Strategy with credible actions to reduce impacts on biodiversity • Partnerships with reputable organizations.

Select outcomes for Companies after applying the framework	
Score	Company examples
Solution provider	
Transition leader	
Improver	
Laggard	

Source: Robeco

The pulp and paper sector sits high on the biodiversity impact scale, but with clear industry-specific and scientifically researched KPIs, companies can be measured and assessed. For instance, some questions that can be posed are: What proportion of recycled paper is produced? How much raw material is sourced from certified sustainable forests? In addition, an examination of the company's strategy to reduce its impacts on biodiversity is an important factor in the process. All this information helps identify companies that are leading the transition (A) and those that are falling behind (D).

3.3. Identify nature-related risks & impacts

Conducting an impact assessment is another key step. This consists of an analysis of the impact and dependencies of the investments. To calculate the biodiversity footprinting, several measurement tools can be used[11]. Some of these tools are:

- BFFI[12] - Biodiversity Footprint Financial Institutions
- BIA-GBS[13] - Biodiversity Impact Analytics powered by the Global Biodiversity Score

[11] Finance for Biodiversity - Guide on biodiversity measurement approaches
3rd edition. Access: https://www.financeforbiodiversity.org/wp-content/uploads/Finance-for-Biodiversity_Guide-on-biodiversity-measurement-approaches_3rd-edition.pdf
[12] https://www.biodiversity-metrics.org/bffi.html
[13] https://www.carbon4finance.com/bia-gbs-presentation

- CBF[14] - Corporate Biodiversity Footprint
- GBSFI[15] - Global Biodiversity Score for Financial Institutions
- GID[16] - Global Impact Database, Biodiversity Impact Data
- ENCORE[17] - Exploring Natural Capital Opportunities, Risks and Exposure
- IBAT[18] - Integrated Biodiversity Assessment Tool

For instance, financial institutions can use data from ENCORE to identify nature-related risks they are exposed to through their lending, underwriting and investment in high-risk industries and sub-industries. The results from these tools can provide a snapshot of potential risks and dependencies associated with the portfolio.

Once the impact and the risk have been understood, it is also crucial to address risk mitigation. This can be done through the application of investment strategies such as engaging with companies and applying some divestment criteria.

Case Study Example: Assessing Deforestation Risks & Impacts

For instance, if we focus on an example of assessing deforestation risks, some steps that can be followed are:

- Use available tools to gather data. For instance, Forest 500 identifies and ranks the most influential companies and financial institutions in forest-risk commodity supply chains.
- Take a commitment such as elimmitating commodity driven deforestation in the portfolios within a timeline.
- Focus on a particular sector such as high-risk agricultural commodities (soy, palm oil, beef, pulp and paper).
- Implement investment strategies to reduce your risks:
  - Promoting sustainable practices through active ownership and engagement
  - Drive systemic change by engaging with policymakers
  - Putting companies on the observation list or excluding unsustainable businesses from the investment universe

Source: Storebrand

[14] https://icebergdatalab.com
[15] https://www.carbon4finance.com/product/biodiversity-impacts
[16] https://www.impactinstitute.com/products/global-impact-database/
[17] https://encorenature.org/en
[18] https://www.ibat-alliance.org/

3.4. Definition of investment strategies

As anticipated, defining the appropriate investment strategies is key to mitigate the existing risk and reach the desired targets. Two common ones are engagement and exclusion, which can also be developed together.

Engagement can be defined as the interactions between an investor and current or potential investees/issuers, in order to: improve practice on an ESG issue, change a sustainability outcome in the real world or improve public disclosure. Engagement can also be with non-issuers, such as policy makers or standard setters[19]. Engagement at both local and governmental level is an important strategy to help gain a deeper understanding of the cultural, financial and global impact of biodiversity loss. Because location considerations are highly specific, engagement can highlight how a company's activities can impact the local environment. Only by engaging with all companies across the supply chain, urging them to assess and mitigate hidden risks, can financial institutions help drive real change and ensure the adoption of better practices.

Exclusion, also known as negative screening, consists of the exclusion from a fund or portfolio of certain sectors, companies, countries, or other issuers based on activities considered not investable. Exclusion criteria (based on norms and values) can refer, for example, to product categories (e.g., weapons, tobacco), company practices (e.g., animal testing, violation of human rights, corruption), or controversies. In the case of exclusion, some financial institutions are excluding or withdrawing financing from companies undertaking activities that are damaging fragile ecosystems.

3.5. Disclosure and reporting

Finally, it is key to disclose and report annually on the biodiversity footprint as well as against the targets set. As anticipated above (section 2), the TNFD recommendations provide a disclosure framework for organizations to report and act on nature-related risks with the ultimate aim of supporting a shift in global financial flows away from nature-negative outcomes and toward nature-positive outcomes.

[19] https://www.unpri.org/introductory-guides-to-responsible-investment/an-introduction-to-responsible-investment-stewardship/7228.article

4. Annexe

4.1. Speakers

The masterclass speakers are listed below. The LSFI would like to sincerely thank them for sharing their expertise, insights and best practices with the audience.

- **Bhava Sharma.** Product Manager, Sustainable Investing, Robeco
- **Emine Isciel**. Head of Climate and Environment, Storebrand
- **Eric Schauls**. Attaché, Luxembourg Ministry of the Environment, Climate and Biodiversity
- **Gabriela Hermosilla.** Technical Officer, Nature Team, United Nation Environment Programme Finance Initiative

4.2. References

Documents

- IPBES Global Assessment Report 2019: https://www.ipbes.net/global-assessment
- IPBES Values Assessment (2022): https://www.ipbes.net/the-values-assessment
- Kunming-Montreal Global Biodiversity Framework: https://www.cbd.int/article/cop15-final-text-kunming-montreal-gbf-221222
- The Economics of Biodiversity: The Dasgupta Review: https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review

TNFD Material

- PRB Nature target-setting guidance: the new nature target-setting guidance aims to help the banking industry act on nature loss and set targets to align with the objectives of the Kunming-Montreal Global Biodiversity Framework (GBF).
- TNFD pilots implemented by UNEP FI: This report highlights lessons learned and feedback to the TNFD provided by 40 global financial institutions (including banks, asset managers and insurers) on the feasibility to apply the draft LEAP approach. The report includes case studies and recommendations for financial institutions getting started in their nature journey. This innovative exercise was conducted over 8 months through July 2022-March 2023.
- **TNFD materials highlighted**:
  - LEAP approach guidance – the risk management framework from the TNFD embeds process steps to satisfy the impact materiality assessment requirement in CSRD and the financial materiality assessment requirement in ISSB.
  - Sector guidance for financial institutions – this guidance provides additional guidance for financial institutions to apply the TNFD Recommendations. The guidance applies to banks, insurance companies, asset managers and owners, and development finance institutions.
  - Getting started guidance – this guidance presents seven clear steps to getting started and was built with integrated feedback from financial institutions which piloted tested the TNFD beta framework with UNEP FI.

Initiatives - https://lsfi.lu/initiatives/

- Nature action 100
- Finance for Biodiversity

Tools - https://lsfi.lu/tools/

- ENCORE - Exploring Natural Capital Opportunities, Risks and Exposure
- IBAT - Integrated Biodiversity Assessment Tool
- Trase Finance
- WWF Biodiversity risk filter

Data providers

- Carbon4Finance: https://www.carbon4finance.com
- Iceberg https://icebergdatalab.com/ and its methodological guide https://www.icebergdatalab.com/documents/CBF_client_methodological_guide_April_22.pdf
- Nature Alpha: https://www.naturealpha.ai/

4.3. Acronyms

- BFFI: Biodiversity Footprint Financial Institutions
- BIA-GBS: Biodiversity Impact Analytics powered by the Global Biodiversity Score
- CBF: Corporate Biodiversity Footprint
- COP15: Kunming-Montreal UN Biodiversity Conference
- ENCOR: Exploring Natural Capital Opportunities, Risks and Exposure
- ENCORE: Exploring Natural Capital Opportunities, Risks and Exposure
- GBF: Global Biodiversity Framework
- GBSFI: Global Biodiversity Score for Financial Institutions
- GID: Global Impact Database, Biodiversity Impact Data
- GRI: Global Reporting Initiative
- IBAT: Integrated Biodiversity Assessment Tool
- IFRS: International Financial Reporting Standards
- IPBES: Intergovernmental Platform on Biodiversity and Ecosystem Services
- LEAP: Locate, Evaluate, Assess, Prepare
- PRB: Principles for Responsible Banking
- PRI: Principles for Responsible Investment
- TCFD: Taskforce for Climate Financial Disclosure
- UN SDG: United Nations Sustainable Development Goals
- UNCBD: United Nations Convention on Biological Diversity
- UNEP FI: United Nations Environment Programme Finance Initiative
- UNEP-WCMC: UN Environment Programme World Conservation Monitoring Centre

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