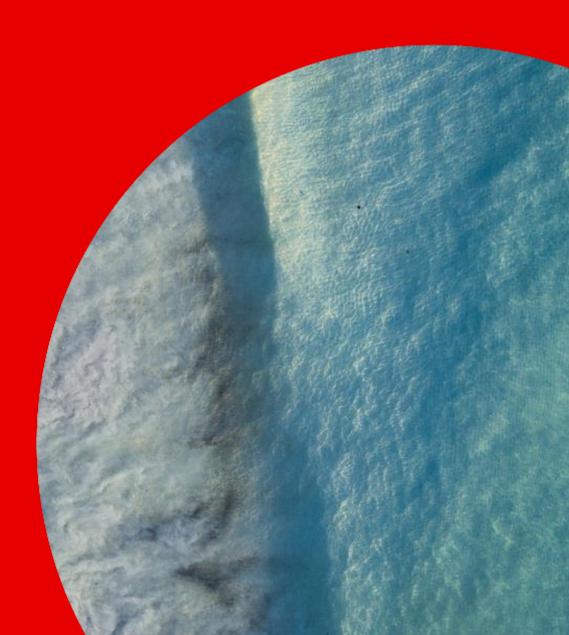


MUFG TRANSIT

Biodiversity and Natural Capital in APAC

May 2024 ESG Finance Department



MUFG Bank, Ltd.

A member of MUFG, a global financial group

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Section I: Overview of Natural Capital and Biodiversity Financing



Natural Capital I All living and non-living natural assets that we are benefiting from

Human-induced impacts, a major cause of biodiversity loss and ecosystem collapse that is expected to be one of the top five severe global risks over the next decade

80%

UN SDGs dependence on nature

If the issue of biodiversity loss is not addressed, we are unlikely to reach the 2030 targets

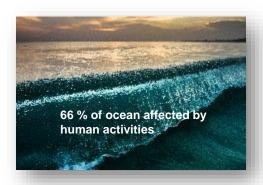






\$1tn

Annual financing needed by 2030 to conserve & protect biodiversity. Current financing size ~\$166 bn (BNEF)



\$19tn

Or 63% of APAC's GDP at risk from nature loss due to nature-related dependencies (World Economic Forum)



58%

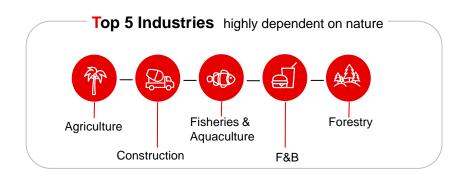
Of APAC stock exchanges' 'market capitalisation' is exposed to material nature risks (*Bloomberg*)



Biodiversity Finance | Activities seeking to generate biodiversity benefits

Biodiversity finance is required to plug the gap between current fund flows and future needs in key areas





Potential Biodiversity Finance Activities

Addressing and <u>reducing</u> biodiversity loss



Productive Land use/Agriculture E.g., Climate Smart / Regenerative agriculture



Marine Sustainable production E.g., Sustainable fisheries and biodiversity-friendly shipping



Waste & Plastic Management E.g., Reduction and Reuse of Plastics



Forestry & Plantations E.g., Reforestation and Afforestation

Biodiversity Conservation



Terrestrial Conservation

E.g., Rewilding and Fire Risk Reduction



Marine Habitat Conservation

E.g., Wetland Conservation

Restoring Biodiversity



Nature based solutions

E.g., Wetland Construction



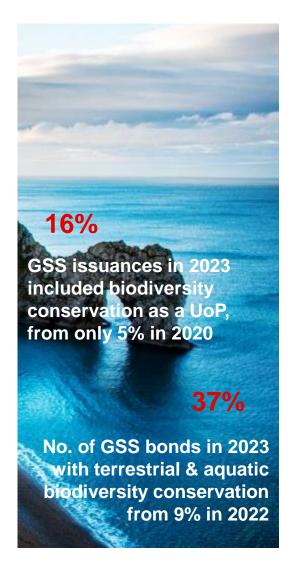
Green Infrastructure

E.g., Water Purification, Water treatment facilities



Biodiversity Finance I Recent market landscape and trends

Labelled debt instruments featuring biodiversity in use of proceeds are gaining traction in the sustainable debt market





Green, Social & Sustainability (GSS) bonds and loans



To promote issuances, industry bodies such as Loan Market Associations have introduced a number of <u>eligible use of proceeds</u> covering the area of biodiversity in their Green Loan Principles



Sustainability bonds which finance a <u>combination of green & social projects</u> help fulfil cross-over between activities to preserve & enhance nature



Sustainability-linked debt instruments help nature-dependent industries incorporate <u>biodiversity-related KPIs</u> to achieve broader commitments e.g. active sectors since 2019 include airports, forest manufacturing & agribusinesses

Recent Transaction: Thailand



Thai Union Group PCL.Sustainability-Linked Loan

THB 11.485 billion Nov 2023

- Successful closure of dual-tranche SLL facility is a strong step forward for Thai Union, global seafood leader, representing its commitment to Blue Finance agenda
- 4 KPIs: Includes 1 biodiversity-related, to achieve a % of Shrimp purchasing volume responsibly sourced through a certification benchmarked by Global Sustainable Seafood Initiative (GSSI) & stated GSSI recognised or a credible Aguaculture Improvement Project (AIP)
- Krunsgri was Mandated Lead Arranger and Bookrunner & Sustainability Coordinator



Biodiversity Finance I Recent market landscape and trends (cont.)

MUFG supports projects leading to conservation of water resources and sustainable use of ocean resources in Japan and overseas

2

Blue bonds



Use of proceeds support ocean & water-related projects, such as sustainable fisheries, wetland & coastal conservation, and water & sewage improvements



Small but promising market could further take-off following greater industry frameworks e.g. the International Capital Market Association (ICMA) released new guidance on blue-themed bonds in Sep 2023



16 bonds

Global Blue bond issuances in 2023, up from only 5 in 2022

Range of Blue Finance support recipients:



Source: MUFG TNFD Report (2024)

Recent Transaction:



Republic of Indonesia

Blue Bond

JPY 20.7 billion

May 2023

- First blue bond issuance in Indonesia & the Samurai Bond market
- Use of proceeds: Includes projects related to marine & coastal protection, biodiversity & ecosystem restoration, sustainable fisheries
- MUFG Morgan Stanley Securities (MUMSS) acted as Joint Lead Manager



Biodiversity Finance I Recent market landscape and trends (cont.)

Through a recognition of an economic value, financial innovations such as debt-for-nature swap are directing financial resources for nature benefits





Hybrid: Debt - for - Nature Swap



New innovative financing tool with dual benefits to refinance debt & set aside new funds to be used for conservation purposes



Mechanism: Creditors provide debt relief in return for a debtor e.g. government commitment to nature or climate actions such as protect biodiversity of forests or reefs

Recent Transaction:



\$1.63 bn

Ecuadorian government bonds exchanged for a \$656m impact loan

- May 2023: Largest debt-for-nature swap sealed following prior successful cases in Belize, Barbados & the Seychelles
- \$1.63 bn Ecuadorian government bonds sold at a 60% discount at market value of \$656m
- In response, Ecuador's government announced committed payouts of \$18m annually across a 20-year period, directed to conservation of the Galapagos Islands via providing vital protection for marine life, promoting sustainable fishing & tourism, ecosystem richness enhancement & climate change resilience



Biodiversity Credits | Potential sources to bridge financing gap

Biodiversity credits could help fund a portion of the annual shortfall of \$700 billion financing gap





- Jun 2023: UK/French-led International Advisory Panel on Biodiversity Credits (IAPB) established as global initiative to unlock significant financing flows through development of high-integrity biodiversity credit markets
- Further traction on biodiversity credits space expected as IAPB plans to deliver first set of outputs for concept of a global biodiversity market during COP16 in Colombia (Oct 2024)

Biodiversity Credits

Generated from activities contributing to longterm conservation & restoration of nature, including:

- Re-establishing forestsRestoring wetlands
- Planting native trees & shrubs
- Connecting wildlife corridors



Source: World Resource Institute

Impact on Nature

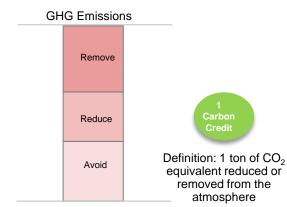
Nature-

positive

activities

Carbon Credits

Generated from 3 main GHG emission reduction activities



Note: At least 9 methodologies are reported to be under development for quantifying biodiversity gains e.g

- Value Nature: 1 biodiversity credit represents protection/restoration of 1 hectare of land over 10 year period
- Terrasos: 1 biodiversity credit represents 30 years of conservation/restoration of 10m² of a threatened ecosystem



Biodiversity Credits | An evolving concept centred around nature-positivity outcomes

According to WEF, a biodiversity credit is an economic instrument used to finance activities that deliver net positive biodiversity gains



 Also termed as "biodiversity certificates" for some jurisdictions/regulations at hand such as Australia



 UK is first market to declare & mandate net gain on biodiversity
 with a <u>fixed threshold(10%)</u> while
 most other markets have only
 worked towards no net loss through
 offsetting

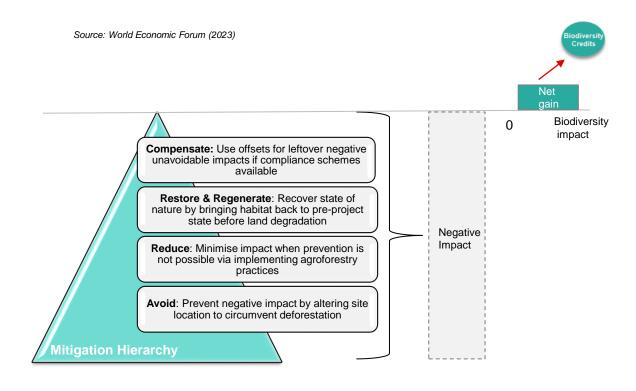


 New Zealand closed public consultation on biodiversity credit system modelled after Australia in Nov 2023



 Japan piloted non-tradeable biodiversity support certificates in Nov 2023 for companies supporting government-certified biodiversity projects to utilise in TNFD reporting

Case example: How to position use of biodiversity credits for a soybean producer





UK | The world's first mandatory biodiversity credit market, prioritising improvement in habitats for wildlife



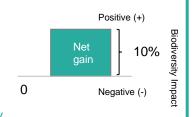
UK - Biodiversity Net Gain legislation

Requirement

- All new developments to deliver 10% net gain on biodiversity(BNG)
- Habitats for wildlife must be in an improved state compared to before the development

Mechanism

- Land developers to create/enhance a natural habitat on-site or off-site to generate BNG units
- 2. Buying statutory credits from government allowed as last-resort to meet mandatory commitment



Methodology

Biodiversity Metric 4.0 – jurisdictionspecific document published by Natural England measures BNG units based on habitat features e.g. size, distinctiveness, condition, quality & location

Case study: Low Carbon - A UK-based Renewable Project Developer

- Low Carbon is a large developer of solar, wind & energy storage projects across the UK, Germany, Netherlands, Poland & the US
- Focus of projects on natural rewilding with enhancement of vegetation & introduction of grazing sheep or reptile habitats to boost biodiversity



Expected to generate 2,000 BNG units from 10 upcoming projects



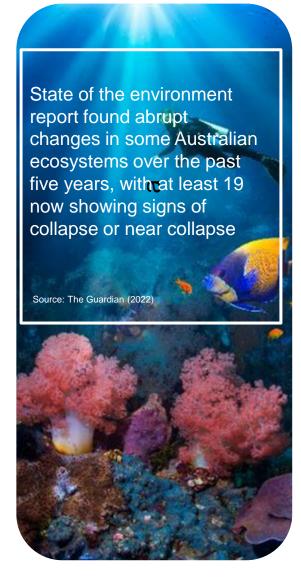
80-150% planned increase in biodiversity from site operation & construction, well above 10% legislated threshold



Excess BNG units to be sold to other developers unable to meet mandatory threshold of 10% BNG



Australia | Introducing a voluntary biodiversity credit to speed up private sector capital mobilisation for nature preservation and restoration





Australia 💮

- Home to world's oldest biodiversity-offsetting markets where 8 Australian states & territories had compliance-based biodiversity offsetting schemes
- Shifting away from traditional offsetting towards reforming a primary market for biodiversity credits to prevent the indiscriminate use of offsets for "averted loss" & double-counting

State-based Compliance Biodiversity Offsets Scheme

Requirement

Local developments and clearing of native vegetation in urban & conservation zones that meet certain thresholds to achieve standard of no net loss of biodiversity



Nature Repair Act (NEW)

- National commitment to protect 30% of Australia's land & seas by 2030
- Dec 2023: Established legislative framework for world's first national voluntary biodiversity market
- Administered by Clean Energy Regulator for alignment with Australian Carbon Credit Unit (ACCU) Scheme

Case study: Wilderlands - A local biodiversity credit developer

Credit Generation

- · Wilderlands has total available supply of 5 million biodiversity credits
- 20-years of active project oversight for effective monitoring for credibility
- Target massive scale-up to protect
- 1 million m² land over next year

1 biodiversity credit issued from protecting 1m² land area

Buyers

Targets early adopters of TNFD with inclusion of nature into ESG commitments to purchase these biodiversity credits



Section II: Biodiversity Regulatory Developments



Global Biodiversity Regulatory Developments I Heightened momentum since the turn of this decade



Sep-23

Dec-23

Jan-24

UN Biodiversity Conference (COP15)

- Launch of Kunming-Montreal Global Biodiversity Framework(GBF)
- Launch of Nature Action 100: Push from 190 investors for commitment among world's 100 leading corporates to reduce nature loss

TNFD publishes final recommendations



Task Force for Nature-related Financial Disclosures: Aligned for interoperability with other frameworks as a global baseline for nature-related financial disclosures

COP28 UAE

Launch of Nature ECONOMIC . **Solutions** Finance Hub for APAC - \$2bn target by 2030 through blended finance led by ADB

WEF Davos Nature & **Biodiversity**



- 320 TNFD Early Adopters list was announced
- Release of interim report of 17 companies' pilot to develop nature science-based targets via Science Based **Targets Network**
- Launch of Nature Tech Alliance to produce & scale data driving conservation & restoration of natural ecosystems



Kunming-Montreal Global Biodiversity Framework(GBF)

Landmark agreement to "halt & reverse" biodiversity loss by decade-end

Key targets:

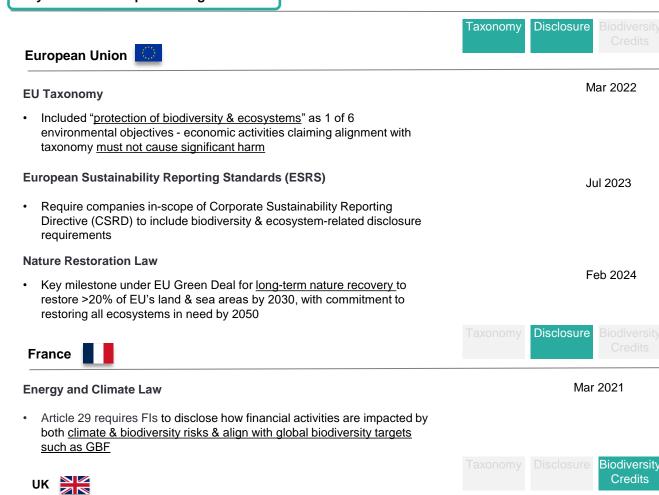
- 30 by 30 target: Conserve 30% of the world's land & ocean by 2030
- Target #15 calls upon business to assess, disclose & reduce biodiversity risks with TNFD listed as a core indicator
- Calls upon legal, administrative or policy measures to achieve the above with guiding questions to push for national target-setting



Biodiversity Regulatory Developments I Taking the global lead to mainstream nature alongside climate



Key Jurisdiction-specific Regulations



Environmental Act Feb 2024

Launch of new Biodiversity Net Gain legislation as world's first mandatory biodiversity credit market



APAC Biodiversity Regulatory Developments | Documenting biodiversity risks alongside climate





Adopting the concept from EU Taxonomy, APAC taxonomies introduced biodiversity into EOs, subject to DNSH

















ASEAN

Indonesia

Malaysia

Singapore

South Korea Thailand



Singapore

Excerpt criteria from Singapore-Asia Taxonomy:



o Installation of a new solar PV site should "entail necessary mitigation measures in place to reduce impacts on species & habitats"



 For construction sector, new projects must not be built on "arable/greenfield land of recognised high biodiversity value/serves as habitat of endangered species (flora & fauna)"

Central banks incorporated biodiversity into risk management guidelines for FIs to shape guidance for pricing such risks into decision-making



China

Apr 2023: Standard for Financial Institutions on Biodiversity Risks Management launched by People's Bank of China & academia



Malaysia

Dec 2023: In collaboration with World Bank. Bank Negara Malaysia released a risk assessment guide during COP28 for Malaysian Fls & businesses, developed in consultation with the TNFD



Singapore

- 2020: MAS issued Environmental Risk Management guidance for FIs, encouraging consideration of biodiversity risks alongside climate change
- Oct 2023: MAS released guidelines for FI transition planning with "loss of natural capital & biodiversity" indicated as risks in addition to climate



Section III: Biodiversity Disclosures



The Taskforce on Nature-related Financial Disclosure (TNFD) I A guideline to address nature impacts

TNFD, a market-led initiative responds to the need to address nature impacts with better clarity and transparency on nature-related risks

What is TNFD?

- Set of disclosure guidance for businesses to assess, report and act on their nature-related dependencies, impacts, risks and opportunities.
- Backed by 40 Taskforce Members representing Fls, corporates and service providers with over US\$20 tn in assets.
- Overseen by a stewardship council with government representatives from Australia, Germany, the Netherlands, Norway, Switzerland & UK

What is it for?

- To help companies identify the issues that have a negative impact on their business and/or nature, and integrate nature-related risks and opportunities into their strategy and decision making.
- Sector specific guidance for sectors that are highly dependent on nature such as Forestry, Agriculture, Aquaculture, Metals & Mining etc.

What are the Opportunities?

- Structured approach to identify and assess nature related issues using LEAP method – Locate, Evaluate, Assess and Prepare.
- To benefit from opportunities arising from increased capital flow towards nature-positive initiatives.



What are the Challenges?

- Nature-related risks and dependencies are difficult to identify and often extend beyond a company's value chain.
- No commonly used metric to measure progress and no agreed global goal or target for nature and biodiversity yet.

Other Initiatives

Global Initiatives









Reporting Standards, Frameworks and Questionnaire





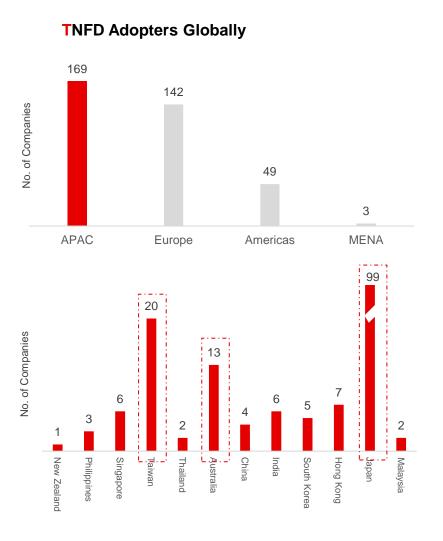




GRI 101: Biodiversity 2024

TNFD I Understanding adopters globally

Led by Japan, Taiwan and Australia, APAC accounts for over 45% of TNFD global adopters reflecting its economic dependence on nature



Japan has led with highest number of TNFD Adopters, having a strong support from the government after hosting Biodiversity COP10 back in 2010 together with its cultural belief in *coexistence living with nature*.

30by30 Biodiversity target - Japanese Government in 2023 started a pilot biodiversity project to increase nature related spending.

44% of the companies in the Taiwanese Stock Exchange are highly dependent on nature.

Taiwan Nature Positive Initiative (2023) has brought early awareness of nature-related issues and opportunities.

About 50% of Australian GDP is directly dependent on nature and is at risk from biodiversity loss.

Australia has made a commitment to zero new extinctions and has several govt initiatives. Such as 30 by 30, Indigenous Protected Areas program, and Saving Native Species program etc.



^{*} Organisations who have committed to align their disclosures as per TNFD requirements from 2024 (or earlier) or by 2025

Spotlight MUFG | MUFG's highlighted initiatives

MUFG was registered as an early adopter of the TNFD in Feb 2024

Initiatives for Protecting Natural Capital and Biodiversity

MUFG's 5 Natural Capital Focus Areas



Consulting



Partnership



Start-up & Collaboration



Blue Finance



Initiatives in the Food Sector



⊙ MUFG

30by30 Alliance for Biodiversity

Declaration of Biodiversity by Keidanren

Cyclic utilisation of forests

Investment in a Startup that Operates a Closed Recirculating Land-Based Aquaculture System

ACOM no Mori (ACOM's Forest)

. .

MUFG focuses on providing natural capital solutions in FIVE AREAS that leverage our strengths. Each of these initiatives represents a new business opportunity related to natural capital, and MUFG intends to further materialise them in the future.

Capital

Mitsubishi UFJ Financial Group

Consulting

Provide consulting services according to the stage of our clients' response to natural

Specific initiatives

In April 2024, the Bank released the "TNFD Initial Support Tool" Consulting services provided by MURC*



Partnerships

Solution development with partner companies

Specific initiatives

Signed a memorandum of understanding (MOU) with Fujitsu Limited to collaborate in solutions development



Start-up & Collaboration

Collaboration with startups and enhancement of value to promote innovation

Specific initiatives

MUFG Bank, Mitsubishi UFJ Capital, and MUIP*2 have invested in 14 startups related to natural capital such as forests and soil



Blue Finance

Expand support for companies and businesses related to marine and water Resources

Specific initiatives

Supported blue bonds and sustainability-linked loans to domestic and overseas business companies and national and local governments



Initiatives in the Food Sector

Contribute to solve social issues, including natural capital related to food

Specific initiatives

Launched Food-X PT*3 to promote food-related Initiatives such as the creation of food ecosystems and sustainable agriculture



^{*1} Mitsubishi UFJ Research and Consulting Co., Ltd. *2 Mitsubishi UFJ Innovation Partners Co., Ltd. *3 Food Transformation Project Team Source: MUFG compiled from internal sources including recently released TNFD report

Appendix



Appendix

Glossary		
Gouvention on Biological Diversity	1992	An international treaty established in 1992 as the primary global agreement addressing biodiversity conservation & sustainable use.
SCIENCE BASED TARGETS NETWORK GLOBAL COMMONS ALLIANCE	2019	Founded in 2019 , it is a collaboration of leading global non-profits and mission-driven organisations helping companies and cities adopt a science-based roadmap for integrated action on nature and climate.
PBAF Partnership for Biodiversity Accounting Financials	2019	Founded in 2019 , it is a collaborative initiative which developed standard that enables financial institutions to assess and disclose impact and dependencies on biodiversity of loans and investments.
Aligning accounting approaches Align for nature	2021	Launched in 2021 , it is a project assisting the European Commission's efforts to support businesses, financial institutions and other stakeholders to develop standardised natural capital accounting practices by establishing a standardised approach to biodiversity measurement and valuation.
CDP COURSE HEN- ACTION	2022	CDP established as 'Carbon Disclosure Project' in 2000, asking companies to disclose their climate impact, it expanded its work in 2022 to include questions on the corporate approach to biodiversity, aiming to render global investment decision-making more transparent by including biodiversity data.
The Kunming-Montreal Global Diversity Framework	2022	The Framework was adopted in December 2022 at the 15th meeting of the COP to the Convention on Biological Diversity (CBD). It features 23 targets to be met by 2030 and 4 global goals to preserve biodiversity & to protect 30 percent of land and sea area by 2030.
T N Taskforce on Nature-related Financial Disclosures	2023	TNFD is a global initiative which has developed a set of disclosure recommendations & guidance for companies to assess and disclose their nature-related risks & opportunities. The recommendations were published in Sept 2023.
Sustainability	2024	IFRS' ISSB is currently analysing the responses on public consultation to prioritise research projects including on biodiversity, ecosystems and ecosystem services, for which a 2-year workplan is to be agreed in the first half of 2024.
GRI GRI 101: Biodiversity 2024	2024	It is one of the Topic standards of GRI that contain disclosures for organisations to report information about their biodiversity-related impacts and how they manage these impacts. It was introduced in 2024 as a replacement for GRI:304.
European Financial Reporting Advisory Group	2024	ESRS E4 is a standard developed by EFRAG, applicable in EU from January 2024 , under which companies are expected to report on their actions & outcome to prevent, mitigate or restore existing or potential adverse impacts on biodiversity and ecosystems.



Appendix

Glossary	
Climate-Smart / Regenerative agriculture	Agricultural practices such as efficient irrigation, precision farming etc. to mitigate & adapt to the effects of climate change, enhance soil health while producing quality food.
Rewilding	The process to protect and restore biodiversity and bring back to its natural state via planned reintroduction of a plant or animal species.
Wetland	An area of water that covers the soil/land for varying periods of time during the year. Wetland provide benefits such as flood protection, shoreline erosion control etc.
Biodiversity Hotspot	Biodiversity Hotspot is an area threatened by human activities such as - deforestation, habitat destruction etc. To qualify as a hotspot, a region must meet two criteria: a) Must contain at least 1500 species of vascular plants as endemics b) Must have lost at least 70% of its primary vegetation
Natural Capital Accounting	Natural capital accounting is a tool to measure the changes in the stock and condition of natural capital.



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