



STUDY GUIDE

UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)

UNDER SECRETARY GENERAL

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WELCOME NOTE

Dear Distinguished Delegates,

It is with great honor and profound joy for me to welcome you to our 1st Model UN Edition which will be held virtually from January 8th to 10th, 2021.

As the world faces severe implications and tribulations with negative continuity, it has placed a dent to our livelihood. Even with the concrete foundations and infrastructure of science, technology and governance, it is not enough to progress forward and help minimize the existential crisis. Now, it is up to each one of you, to make the initiative to understand in-depth of these problems, covering from human rights contravention and environmental degradation, racial discrimination and financial setbacks.

As my final remarks, I will urge those who are still reluctant, to continue on this path with us and let your enthusiasm resonate in the voice you lift, the resolution you craft, and the relationship you build. That is all from me and I will see you soon with excitement and pride during the conference.

Best Regards,

Mohammad Ruzain Bin Ismail (Brunei Darussalam)

Founder & Director General of GCIMUN 2021



Most esteemed participants,

First of all, I am honored to be the Secretary-General of the first annual session of GCIMUN Training Conference. My name is Elif Aybüke and I, as the Secretary-General of GCIMUN'21 Training Conference, would like to welcome all of you for the first annual session of GCIMUN Training Conference. I, my team, and Dear President Ruzain work so hard to prepare a well-organized MUN with an amazing academic team.

In UNEP, you will discuss environmental issues such as global warming and climate change.

We brought nearly every level of committees for every kind of delegate. Every committee has a specific issue and unique solutions. They are designed for your interests and we hope that they will suit you well. With the magnificent GCIMUN Training Conference Academic and Organization Teams from all around the world, we are looking forward to making you experience an unforgettable Model United Nations conference.

Lastly, I would like to thank the Academic and Organization Team for their amazing work and as well as our President and Vice-President for their contributions.

I hope that this conference will be fruitful and you will have an amazing experience by joining GCIMUN'21 Training Conference.

Best Regards,

Elif Aybüke

Secretary General of GCIMUN 2021



INTRODUCTION TO UNEP

- The United Nations Environment Programme (**UNEP**) is an international organization established in 1972 to catalyze and coordinate activities to increase scientific understanding of environmental change and develop environmental management tools.
- UNEP promotes international cooperation on environmental issues, provides guidance to UN organizations and through its scientific advisory groups, encourages the international scientific community to participate in formulating policy for many of the UN's environmental projects.

IMPORTANCE OF UNEP

- The United Nations Environment Programme (UNEP) is the leading environmental authority in the United Nations system. UNEP uses its expertise to strengthen environmental standards and practices while helping implement environmental obligations at the country, regional and global levels.
- UNEP's mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.



TOPIC | [STRENGTHENING SYNERGIES: How action to achieve post-2020 global biodiversity conservation targets can contribute to mitigating climate change](#)

INTRODUCTION TO THE TOPIC

- The essential contribution of nature to addressing climate change provides an opportunity to strengthen the links between the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity. As we move towards the next Conferences of the Parties of both Conventions, there is a need to assess explicitly the role of nature in helping to meet the goals of these agreements efficiently and effectively.
- This series of reports aims to shed light on this topic by assessing the potential contribution that achieving biodiversity conservation targets can make to climate change mitigation. By doing so, it aims to provide both context and mandate for discussions under both Conventions on the role of nature-based solutions in climate change mitigation and links to biodiversity conservation action. **(ACCORDING TO THE UNEP PRESS RELEASE).**
- The effective conservation of priority locations and landscapes could indeed help secure the future for millions of species and mitigate climate change simultaneously. However, these areas are under varying levels and types of threat. Northern peatlands in Siberia and the Hudson Bay, for instance, are highly vulnerable to permafrost thaw driven by global warming.



- Extensive areas of tropical forests in the Amazon, the Congo Basin and South East Asia are threatened by land use conversion due to agricultural expansion and extractive activities. The nature and magnitude of these threats will ultimately determine the type and feasibility of actions needed to address them effectively.



- Despite growing consensus at the recent United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD) Conference of Parties (COPs) on the need for integrated action at country and local levels to tackle both crises, nature-based solutions are still absent in many national climate pledges and country strategies.
- The postponed COPs of the UNFCCC and the CBD represent an opportunity to bring new scientific advances to bear as countries decide the scale and scope of actions necessary to make progress on meeting the goals of these agendas.



- The Convention on Biological Diversity's post-2020 framework offers the important opportunity to address the interactions between climate change and biodiversity and revise biodiversity targets accordingly by better aligning these with the United Nations Framework Convention on Climate Change Paris Agreement and the Sustainable Development Goals. It identifies the considerable number of existing and proposed post-2020 biodiversity targets that risk being severely compromised due to climate change, even if other barriers to their achievement were removed.
- The analysis suggests that the next set of biodiversity targets explicitly addresses climate change-related risks since many aspirational goals will not be feasible under even lower-end projections of future warming. Adopting more flexible and dynamic approaches to conservation, rather than static goals, would allow us to respond flexibly to changes in habitats, genetic resources, species composition, and ecosystem functioning and leverage biodiversity's capacity to contribute to climate change mitigation and adaptation.



INDIRECT CLIMATE CHANGE EFFECTS: COBENEFITS & PITFALLS OF LAND-BASED CLIMATE CHANGE MITIGATION

- Despite the wide range of benefits arising from limiting warming to below 2 °C for all ecosystems and their biodiversity, the way climate change mitigation will be implemented is as critical for the future for land and freshwater ecosystems as limiting warming itself. Several prominent measures to achieve mitigation have been identified as being in conflict with biodiversity conservation, the supply of many ecosystem services and human well-being.
- The current large annual CO₂ uptake in terrestrial ecosystems [~30% of anthropogenic emissions] underpins climate change mitigation scenarios of large-scale growth of bioenergy crops or expansion of forest area, both aiming to achieve negative emissions. As today's land area is already heavily used and food demand is projected to increase substantially, conversion of areas (on average) equivalent to about one-third of today's food crop area or 10 to 15% of today's forest area for mitigation purposes would enhance competition for land, place enormous pressure on existing conservation areas, and impede land-area-related biodiversity conservation measures.
- It would also further aggravate hunger and loss of ecosystem services related to SDGs such as availability of clean water or clean air. These results are particularly pertinent in the light of studies that have raised doubts on whether the projected cumulative carbon uptake on land at the massive scales proposed could, in fact, be achieved.



- In contrast, avoiding further conversion of natural ecosystems into managed lands should be a foremost priority in order to maintain carbon sinks and avoid large carbon emissions, as well as provide large benefits for biodiversity. Given that land use contributed on average 23% to total annual emissions (CO₂ eq in 2007 to 2016) of CO₂, N₂O, and CH₄, multiple mitigation options exist on managed land, especially when complemented by altered consumption and reduced per capita consumption in high-income countries.
- When ecosystem processes are properly taken into consideration, ecosystem-based mitigation measures can have significant and cost-effective adaptation co-benefits that target conservation purposes, supply of multiple ecosystem services, and human well-being.



NEW RESEARCH REVEALS MAJOR BENEFITS OF INTEGRATED APPROACHES TO CLIMATE & NATURE

- The report, Strengthening synergies: How action to achieve post-2020 global biodiversity conservation targets can contribute to mitigating climate change, finds that conserving 30 per cent of land in strategic locations could safeguard 500 gigatons of carbon stored in vegetation and soils – around half the world’s vulnerable terrestrial carbon stocks – and reduce the extinction risk of nearly 9 out of 10 threatened terrestrial species.
- Launched today at an event convened by the UN-REDD Programme as part of the UN Framework Convention on Climate Change’s (UNFCCC) Race to Zero Dialogues – specifically on nature’s pivotal role in the fight against the climate crisis – the report shows that coordinating priority areas to conserve both biodiversity and carbon stocks is key to meeting ambitious goals for both nature and climate. It highlights areas where global conservation action can deliver the most to achieve biodiversity goals and mitigate climate change.
- “There is no climate solution without the full contribution from nature. As the UNEP-WCMC report and the work of UN-REDD show, if we are able to realize the full contribution of nature to climate change mitigation, we will have also achieved the goal of biodiversity conservation,” said Inger Andersen, Executive Director of UNEP.



- Lord Zac Goldsmith, the UK Government Minister for Pacific and the Environment, said: “November marks one year to go until the COP26 climate summit in Glasgow, and as co-hosts, we are in a strong position to galvanize global action. This important research underlines the critically important connections between climate and biodiversity and the urgent need to protect nature.
- In September the Prime Minister committed to protect 30% of our land by 2030 as we work to build back better and greener from the coronavirus pandemic. This builds on our campaign through the Global Ocean Alliance to protect 30% of the world’s ocean by 2030. We are encouraging all countries to increase their efforts to protect and restore nature as a solution not only to climate change, but biodiversity loss and poverty too.”
- November marks one year to go until the UN Climate Change Summit (COP26), which will be hosted in Glasgow next year by the UK in partnership with Italy. On December 12 2020, the UK, United Nations and France will co-host the Climate Ambition Summit alongside partners Italy and Chile, on the fifth anniversary of the landmark Paris Agreement. The findings of the report are expected to contribute to the growing body of knowledge on biodiversity and climate ahead of the start of the UN Decade on Ecosystem Restoration and the UN Decade of Action on the Sustainable Development Goals (2021-2030).



WHERE ARE THE WORLD'S KEY AREAS FOR ACHIEVING EMERGING GLOBAL BIODIVERSITY TARGETS AND HOW MUCH CARBON IS STORED IN THEM?

1. Benefits for biodiversity conservation are quantified as the improvement of species' conservation status, assessed individually for each of the world's terrestrial vertebrate species and a representative set of plant species. Benefits for climate change mitigation are assessed based on the amount of carbon stored in the vegetation and soils. Nature Map's multicriteria optimization algorithm uses this information to hierarchically rank the world's terrestrial landscapes based on their relative value in halting biodiversity loss and mitigating climate change. This also allows us to assess trade-offs and synergies across biodiversity and climate change mitigation.
2. Conservation priorities are widely distributed across the planet. Nature Map's analysis identifies as the most important regions to prioritize implementation of nature-based climate solutions well-known biodiversity hotspots such as Brazil's Atlantic Forest, Mesoamerica, large parts of Mediterranean biomes and South-East Asia, but also other hotspots on the coast of West African Coast, Papua New Guinea and the East Australian Rainforest.
3. Other areas show high value mainly because of the vast amounts of carbon they contain, including lowlands south of the Hudson Bay, the Amazon rainforest and the Congo Basin, among others. The effective conservation and sustainable management of such areas, through applying integrated spatial planning to address land use change would make a significant contribution to the achievement of both climate and biodiversity goals.



4. Analyses carried out by the Nature Map Initiative show how explicitly including carbon storage in multi-criteria spatial optimization frameworks can be useful to guide decisions on where to implement NbS to increase nature's contribution to climate change mitigation while safeguarding significant numbers of species on land at the same time.
5. The results of the analysis indicate that the strategic placement of areas to be managed for conservation, to increase global totals to 30% of land – as provisionally stated in target 2 of the zero draft of the post-2020 global biodiversity framework – could protect approximately 378 (if biodiversity is prioritized) to 640 gigatons of carbon (if carbon is prioritized).
6. However, prioritizing both biodiversity conservation and carbon retention could safeguard more than 500 gigatons of carbon, while reducing the extinction risk of almost 88% of the species considered in the study. In other words, concentrating areas to be managed for conservation in priority areas for both benefits could deliver almost 80% of the maximum climate change mitigation benefits while delivering almost 95% of the maximum biodiversity benefits. This illustrates the high potential for maximizing synergies between biodiversity conservation and climate change mitigation on land.



GLOBAL CHANGE & BIODIVERSITY TARGETS

1. About a million plant and animal species are endangered worldwide. At least 13 of the 17 sustainable development goals of the United Nations, however, depend on biodiversity, including species diversity, the genetic diversity within species and the diversity of ecosystems. Biodiversity regulates fundamental processes, such as soil formation and water-, trace-gas-, and nutrient cycles and thus contributes notably to regulating the climate.
2. The continued loss of biodiversity makes humankind face ecological, social, and economic problems. "Apart from the over-exploitation of natural resources on land and in water, or environmental pollution, climate change also causes loss of biological diversity.
3. This impact will increase in future," says Almut Arneth, Professor at the Atmospheric Environmental Research Division of the Institute of Meteorology and Climate Research (IMK-IFU), KIT's Campus Alpine in Garmisch-Partenkirchen. She led an international study that is now published in the *Proceedings of the National Academy of Sciences of the United States of America (PNAS)* under the title "Post-2020 biodiversity targets need to embrace climate change."



4. Because protection and restoration of habitats can contribute substantially to climate change mitigation and adaptation, targets related to reducing the degradation and unsustainable use of land, freshwater, and marine resources thus offer clear cobenefits for jointly achieving biodiversity and climate change objectives. The post-2020 action targets explicitly call for ecosystem-based management to factor in climate change mitigation (POST20 Target 7), strengthening considerably the earlier formulations in the related Aichi Target 15.
5. Enhancing the contribution of biodiversity to carbon stocks through conservation and restoration is important since measures taken could also support a broader range of objectives, such as those related to water (POST20 Target 10) and human health (POST20 Target 11). Successful implementation of these measures is particularly likely if accompanied by actions targeting changes in human consumption, which are being asked for in draft Target 15, which promises to be a considerable step up from Aichi Target 4.
6. Arneth gives an example: A biodiversity target for nature reserves must consider the fact that composition and growth of vegetation will change with climate change and that certain species of plants and animals will either migrate or be threatened, if climatic conditions are changing.
7. For instance, climate change causes mountain glaciers to shrink. In semi-arid regions, however, lower lying valley ecosystems depend on melting water from glaciers in summer. If this melt-water flow will decrease due to retreating glaciers, precipitation alone may not be sufficient to supply the plants in the catchment with water. This will then also affect the animals that are dependent on the plants.



8. The study underscores the demand to quickly and significantly reduce anthropogenic greenhouse gas emission and to halt climate change. Vice versa, it also shows that measures to protect biodiversity would contribute to climate protection.
9. The next set of targets in the post-2020 global biodiversity framework are currently being designed. At this point in time, four goals corresponding to the 2050 Vision on Biodiversity are proposed, together with 20 action-oriented targets with a time horizon of 2030, many of which can be mapped onto the existing targets. In a similar spirit to the Aichi Targets, Goal A of the post-2020 biodiversity framework calls for substantial (as yet unquantified) reduction of the number of species threatened with extinction, without acknowledging climate change as a factor that could potentially impede the success of any of the implemented conservation measures.
10. Minimizing additional stressors on ecosystems is vital for maintaining resilience in the face of climate change, but ecosystems in many locations, including tropical coral reefs, rainforest and savannas, or (sub-)arctic tundra, will be unable to adapt to moderate to high levels of climate change even when other stressors are addressed; climate change will enhance the risk of extinction for a considerable number of species.
11. Climate change interactions with land use and fisheries management are not considered in the relevant draft post-2020 action targets (POST20 Targets 8 and 9). The current version of the post-2020 targets only explicitly addresses climate change and climate impacts in 1 of 20 proposed targets (POST20 Target 7).



RESEARCH SUMMARY

1. This document illustrates the role that increasing the area managed for conservation—through legally protected areas or other effective area-based conservation measures, such as territories conserved by indigenous peoples and local communities, hunting reserves or military training areas—can play in mitigating climate change.
2. It highlights the importance of tools for strategically selecting the location of those areas, based on the best available data and scientific methods to support culturally inclusive participatory planning processes at national and local level, and help maximize their contribution to achieving multiple policy goals.
3. Additionally, it provides information that can be used in prioritizing actions aiming to contribute to targets 2 and 7 of the zero draft of the post-2020 global biodiversity framework to maximize synergies across the climate and biodiversity conventions. Priority areas for achieving different biodiversity targets are under varying levels and types of pressure.
4. The effective conservation of priority locations and landscapes could indeed help secure the future for millions of species and mitigate climate change simultaneously. However, these areas are under varying levels and types of threat. Northern peatlands in Siberia and the Hudson Bay, for instance, are highly vulnerable to permafrost thaw driven by global warming.
5. Extensive areas of tropical forests in the Amazon, the Congo Basin and South East Asia are threatened by land use conversion due to agricultural expansion and extractive activities. The nature and magnitude of these threats will ultimately determine the type and feasibility of actions needed to address them effectively.



6. As global progress is driven by national and local action, it will be crucial to apply these analytical approaches to inform national and sub-national scale decision-making. The Nature Map Initiative is working with a set of pilot countries to explore how these analyses can be adapted to fit national circumstances and priorities and help guide national efforts under the biodiversity and climate conventions.
7. The outcomes of this work are expected to provide the knowledge base needed for developing 5 11 similar approaches in a much wider range of countries and in this way, inform decision-making and action towards achieving climate and biodiversity goals.
8. Since the strongest impacts of climate change are expected to emerge in many regions from around midcentury onward, even if biodiversity goals were seemingly achieved by 2030, such an apparent achievement could well lead to a false sense of success as it could be rapidly reversed in the decades to follow.
9. Formulating “climate-informed targets” and the associated dynamically responsive policies is an immense challenge. Enhancing the dialogue between important conventions, such as the United Nations Framework Convention on Climate Change (UNFCCC) and on Biological Diversity (CBD), and the associated science-policy platforms of the IPCC and IPBES could help align policy and create added value to address this challenge.
10. The POST20 targets could become one further element in the global strategy against climate change. A better alignment of conventions and scientific assessments could also stimulate the urgent decarbonization of the economy and ensure that climate change is minimized through actions that benefit from rather than compromise biodiversity protection.



QUESTIONS A RESOLUTION MUST ANSWER (QARMAs)

1. How will the existing literature unequivocally towards disproportionate climate change impacts on poor societies both for material and Non-material benefits with scarce global-scale simulation studies?
2. Can a large variety of consequences for biodiversity, ecosystem function and services have a high impact on the mean global temperature?
3. Would adoption of more flexible and dynamic approaches to conservation, rather than static goal, allow us to respond flexibly to changes in habitats, genetic resources, species composition and ecosystem functioning and leverage biodiversity's capacity to contribute to climate change mitigation and adaptation?
4. What are the ways for the implementations of suitable conservation measures based on static targets?
5. What significant and cost-effective adaptation cobenefits will the ecosystem-based mitigation measures have that targets conservation purposes, supply of multiple ecosystem service and human well-being?
6. Could the projected cumulative carbon uptake on land at the massive scales proposed be achieved?



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**GOOD LUCK TO ALL
DELEGATES!**