



Toward post-2020 global biodiversity conservation: Footprint and direction in China

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For many millions of years, humans and nature have been inextricably intertwined. In prehistoric civilizations, human survival was completely reliant on the whims of nature, which endowed both fear and respect. With the birth of agricultural civilizations, humans began to alter nature to better use its resources, but with a sustainable and eco-traditional approach. After entering the industrial revolution, however, dramatic increases in population and commodity demand, as well as rapid development of technology to exploit nature, led to a series of environmental crises, which not only threaten nature but the very survival of humans themselves.

China's response to environmental challenges

As the largest developing country in the world, China has experienced biodiversity loss and environmental problems during its rapid economic growth and urbanization over the past few decades. Realizing the magnitude of the environmental challenges and negative outcomes of unbalanced growth, the Chinese government announced an ecological innovation, i.e., Ecological Civilization (EC), at the 17th National Congress of the Communist Party of China in 2007 to reconcile the conflict between economic development and environmental protection. The concept of EC matured as a comprehensive socio-political framework after President Xi Jinping endorsed it as one of the general principles for China's sustainable development. Recognized as an advanced form of civilization and "vital for sustaining the development of the Chinese Nation," EC was included in the national constitution in 2018.

The EC concept consists of six core principles, which are highly compatible with the Sustainable Development Goals of the United Nations.¹ Based on the core EC concept of "harmony between man and nature" and core development principle of "lucid waters and lush mountains are invaluable as-

sets," implementation of the EC framework has achieved significant progress in recent years. With several large-scale ecological restoration programs and regional and local afforestation and regeneration projects, China has not only increased its forest coverage and ecosystem services but also led the increase in the greening of Earth.¹ Several programs targeting biodiversity have also been established, including the renewed protected areas system involving national parks. With advances in law, protective management, and scientific research, the state of many threatened species (e.g., giant panda and crested ibis) has improved in China in recent years.² China's Ecological Conservation Redline (ECR) policy is another innovation that aims to limit anthropogenic alterations to areas critical for national ecological security and essential ecosystem services. The ECR will expand areas under legal protection to about 25% of China's land, thus providing strong shelter and protection for vulnerable species and fragile ecosystems. There has also been steady advancement in pollution and carbon emission control under Chinese leadership. In addition, the recently proposed comprehensive accounting system, named "Gross Economic-ecological product accounting," aims to promote the value of eco-products and shift the economy to resource saving and recycling, renewable energy, and low-carbon emissions.¹

Chinese insights and proposals for global biodiversity conservation

China's strong will on ecological conservation can be expanded. For the first time, China will host the 2021 Conference of Parties to the Convention on Biological Diversity (CBD COP) (Figure 1). In the upcoming 15th CBD COP (CBD COP15) held in Kunming, parties will attempt to reach a consensus on a Post-2020 Global Biodiversity Framework (Post-2020 GBF) for directing biodiversity conservation in the next decade and beyond. According to the

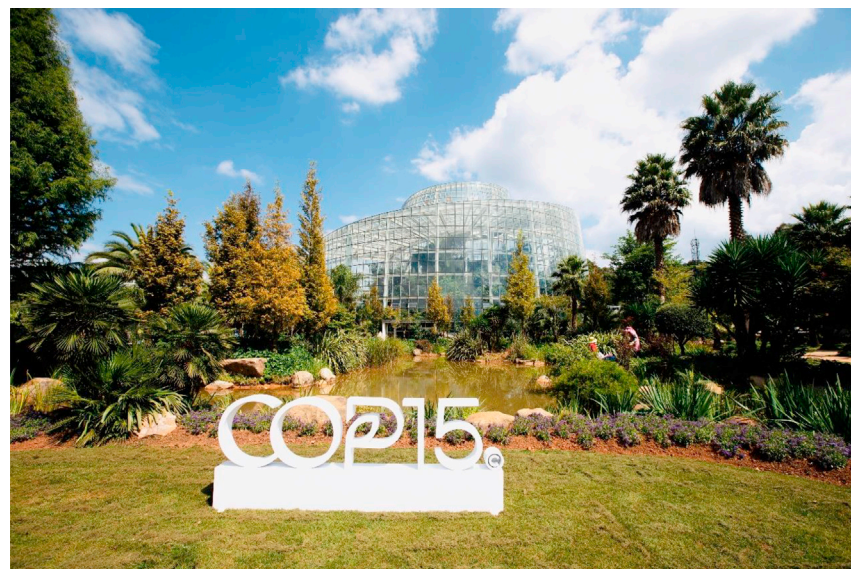


Figure 1. The 15th Conference of Parties to the Convention on Biological Diversity (CBD COP15) will be held in Kunming, Yunnan Province, China Photo provided by Wei GAO, a journalist of Chungheng Evening Post.

latest draft of this framework, the 2050 vision from the last strategic plan will be inherited and we will need “to take urgent action across society to conserve and sustainably use biodiversity and ensure the fair and equitable sharing of benefits from the use of genetics resources, to put biodiversity on a path to recovery by 2030 for the benefit of planet and people” to accomplish the 2030 mission.³

Based on global assessment, scientific research, and multi-stakeholder discussions, successful turnaround of biodiversity loss will need to incorporate ambitious vision, strong political will, SMART (specific, measurable, ambitious, realistic, and time-bound) goals and targets, and solid implementations. Drawing on traditional Taoist philosophy, Chinese scientists have proposed a novel 2050 vision, named “Unity of Nature and Man” (UNM), for the Post-2020 GBF.⁴ In the context of this vision, humans and nature should be recognized as one, rather than as separate individual entities, and the needs of both should be considered equally with the adoption of sustainable production and consumption.² The UNM vision calls for a value-system transformation, incorporating holistic thinking and interconnected approaches to trigger broader transformative changes in other political, social, and economic aspects. Thus, while the UNM vision is ambitious, it also holds huge potential.

The EC concept has been identified as the theme of CBD COP15. EC aims to address multiple environmental problems in a comprehensive and integrated manner to drive active exploration of new political tools and implementation approaches. Within this context, the ECR is considered a critical component of the EC. Based on national spatial planning, implementation of ECR policies can conserve biodiversity, secure ecosystem services, and reduce disaster risks, thus reflecting the salient features of nature-based solutions. As plants, soils, and oceans can store a considerable amount of carbon dioxide, the conservation of forests, grasslands, and other ecosystems will also provide climate-adaptation benefits. Thus, scientists are proposing

to integrate climate, biodiversity, and sustainable land-use strategies to strengthen the synergy between biodiversity conservation and climate change mitigation and maximize co-benefits.⁵

Upcoming CBD COP15

Nature knows no borders, and no country is immune to ecological crises. To this end, international communication, consensus, and cooperation are necessary to reverse global biodiversity loss. Both the EC and UNM concepts are promising platforms for the robust exchange of theories and perspectives of different parties and stakeholders. China is willing to share its experience as it strives toward EC development, which will help support countries tackling similar biodiversity and environmental challenges. With the commencement of the CBD COP15, and with an open mind and strong sense of responsibility, China can play a leading role at this critical turning point in the conservation of biodiversity by uniting global forces toward a more nature-positive and sustainable world.

REFERENCES

1. Wei, F., Cui, S., Liu, N., et al. (2021). Ecological civilization: China's effort to build a shared future for all life on earth. *Natl. Sci. Rev.* **8**, nwa279.
2. Huang, G., Ping, X., Xu, W., et al. (2021). Wildlife conservation and management in China: achievements, challenges and perspectives. *Natl. Sci. Rev.* **8**, nawab042.
3. Secretariat of the Convention on Biological Diversity (2021). First Draft of the Post-2020 Global Biodiversity Framework. <https://www.cbd.int/doc/c/abb5/591f/2e46096d3f0330b08ce87a45/wg2020-03-03-en.pdf>.
4. Ma, T., Hu, Y., Wang, M., et al. (2021). Unity of nature and man: a new vision and conceptual framework for the post-2020 global biodiversity framework. *Natl. Sci. Rev.* **8**, nwa265.
5. Schmidt-Traub, G., Locke, H., Gao, J., et al. (2021). Integrating climate, biodiversity, and sustainable land-use strategies: innovations from China. *Natl. Sci. Rev.* **8**, nwa139.