

Towards an Integrated Approach for Biodiversity Conservation

— Lessons from UNDP's work in China

I. Introduction

Biodiversity loss, together with climate change, are among the greatest challenges of our times. The rate of species extinction is accelerating globally, with around 1 million species at risk of being lost, many within decades.¹ As one of 17 of the world's mega-diverse countries, China harbors a large number of species and ecosystems with global significance.² **Its actions and commitments in protecting biodiversity are thus particularly important and will have global impact.**

Conserving biodiversity not only helps maintain a healthy ecosystem, but also ensures sustainable provisions of resources from nature – including food, energy and medicine – essential for people's wellbeing. In addition, **it is also a critical part of the solution to climate change,** as nature can provide up to a third of emission reductions needed by 2030 to keep global temperature rises under 2 °C.³

Given their importance, China has been making positive progress in protecting ecosystems and biodiversity since ratifying the Convention on Biological Diversity (CBD) in 1992. This has gained momentum following China's proposition of "Ecological Civilization" and its newly announced climate targets.⁴ With the Conference on Biodiversity (CBD COP15) taking place in Kunming and the post 2020 global biodiversity framework to be agreed, **2021 marks a critical year, offering valuable opportunities for China and the world to strengthen commitments** and push for transformative change towards sustainability.

In this context, this policy brief presents a timely review of China's past efforts on biodiversity

1. "Summary for policymakers of the global assessment report on biodiversity and ecosystem services", Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, 2019.

2. The 17 mega-diverse countries, including China, are home to the majority of the earth's species, of which many are endemic.

3. Natural climate solutions <https://www.pnas.org/content/114/44/11645>

4. "Ecological civilization" is a concept first proposed by Hu Jintao and it has become one of the key objectives of building a "moderately prosperous society in all respects" at the 17th National Congress of the CPC in 2007. It was written into the Constitution in 2018.

protection and conservation, in which the United Nations Development Programme (UNDP) has been a significant partner, supporting this process. The aim of the brief is to summarize policy contributions made by China and UNDP's support and offer key recommendations on existing policy gaps for future consideration.

II. China's experiences in biodiversity conservation

In recent decades, rapid urbanization and economic development have posed great threats to biodiversity and ecosystems. To address this, China has made continuous efforts in the following three areas:

1) Enhancing the legal framework and policy environment:

- Since joining CBD, the **legal and regulatory environment has been further strengthened** to support biodiversity conservation. A series of laws have been revised and released, such as the Wild Animal Protection Law, the Forest Law, the Grassland Law, etc. Many new regulations have been formulated. Examples are the Nature Reserve Regulation promulgated in 1994 and the Wild Plant Protection Regulation promulgated in 1996. They provide the legal basis for biodiversity and ecosystem protection, laying the foundation for better biodiversity governance.
- Alongside legal changes, China also launched a specific action plan for biodiversity conservation in 1994. Following the COP 10 and adoption of the Aichi targets in 2010, the **National Biodiversity Conservation Strategy and Action Plan was updated**, setting overall strategic goals, priority areas and actions on biodiversity conservation between 2011 and 2030. In addition, the national five-year plans started to put more emphasis on the environment, adopting more environmental targets, such as a forest coverage rate included for the first time in the 11th Five-Year Plan (2006).

2) Expanding biodiversity conservation coverage:

- **Protected areas (PA):** As the most important in-situ conservation approach, China has made significant achievements in increasing its coverage of protected areas. Since the first nature reserve was established in 1956, China's protected areas expanded to 18% of the country's land area and 4.1% of territorial waters, protecting 90% of China's terrestrial ecosystem types and 85% of wildlife populations.⁵
- To complement the protected area system, improve environmental safeguards of other relevant areas and enhance spatial planning, two national policies have been implemented:

The National Ecological Function Zone (EFZ): In 2008, the Chinese Academy of Sciences (CAS) and Ministry of Environment Protection (MEP) jointly released the national ecological function zoning document, which provides a list of regions significant to ecological security and categorized based on their ecological functions and vulnerability.

5. <http://www.forestry.gov.cn/main/65/20200527/110735699913323.html>

Ecological Conservation Redline (ECR): Building on the EFZ work, the ECR approach was first proposed in 2011 to limit human activities in EFZs along with other ecologically sensitive and vulnerable areas. Currently, areas demarcated as ECRs make up 25% of China's total land area.⁶

Both policies provide the basis for designing and implementing spatially differentiated environmental policies, laying the foundation for an effective environmental management system that caters to a range of local contexts.

3) Improving the coordination and effectiveness of protected areas management:

- In 2019, the State Council issued the Guideline to Establish the Mechanism of Natural Protected Areas with National Parks as a Major Component, providing a top-level policy aiming to re-establish a unified system for protected areas management. The guideline seeks to address the fragmented nature of regulations for protected areas that has emerged with time, creating significant challenges for effective coordination and management.

III. The role of UNDP in supporting China's biodiversity conservation work

Over the past two decades, as an International Implementing Agency (IA) of the Global Environment Facility (GEF)⁷, UNDP has collaborated with more than 10 ministries and most provinces in China on protecting biodiversity. 24 UNDP-GEF biodiversity projects were carried out between the GEF-3 (2003-2006) and GEF-7 (2018-2022) periods in China, covering major thematic fields in biodiversity, including wetlands, marine areas, agriculture, protected areas, national parks, access and benefit sharing (ABS) along with traditional knowledge, payment for ecosystem services (PES), disaster response, etc. These projects made significant contributions and supplement China's efforts in three main areas:

1) Enhancing the policy environment through biodiversity mainstreaming

The Conservation Engineer Plan of National Wetlands, supported by a UNDP-GEF project during the GEF-3 period, was approved by the State Council. The central government allocated RMB 9 billion for its implementation and wetland protection.

Biodiversity mainstreaming is one of the key priorities of UNDP-GEF projects. Through a series of projects, UNDP has helped to integrate biodiversity into government policies, regulations, programmes and planning at all levels.

6. ECR contains most protected area in China, it also covers EFZ.

http://gdee.gd.gov.cn/qtwt/content/post_3072299.html

7. The Global Environmental Facility is independently operating financial organization and serves as a financial mechanism for the Convention on Biological Diversity, among others. It was established in 1992 and had seven replenishment periods during the past 29 years of four years each.

Among these, UNDP facilitated the formulation of the biodiversity conservation plan, particularly for wetlands. At the national level, The Conservation Engineer Plan of National Wetlands, supported by a UDNP-GEF project during the GEF-3 period, was approved by the State Council. The central government allocated RMB 9 billion for its implementation and wetland protection. Following the plan, specific actions to strengthen wetland biodiversity conservation were reflected in the 11th Five-Year Plan of National Forestry Administration. At the local level, the GEF-4 Qinghai Project⁸ facilitated the inclusion of biodiversity conservation goals and other specific measures into the provincial 13th Five-Year Plan.

Policies, regulations and standards have been established and improved with UNDP support. One example is the implementation of “Strengthening the Management Effectiveness of the Sub-system of Wetland Protected Areas for Conservation of Globally Significant Biodiversity”, hereinafter referred to as the “GEF-5 MSL Programme.” The programme not only facilitated the formulation of National Wetland Conservation and Recovery Schemes in 2016, but also supported 31 provinces in formulating provincial implementation plans.⁹ In 2017, the Ministry of Land and Resources classified wetlands as a new type of land use and wetland conservation has gradually gained importance in the policy domain.

UNDP-GEF projects have also contributed to the improvement of relevant technical standards concerning biodiversity. For example, Certification of Important Wetlands and Normal Wetlands in Hainan Province (DB46/T448-2017) was formulated with support from the GEF-5 Hainan Project. Meanwhile, the GEF-5 Anhui Project supported the formulation of Standards on Provincial Wetland Park Construction, as well as Technical Statute of Wetland Vegetation Recovery in Anhui Province (DB34/T2831-2017).

2) Expanding biodiversity conservation coverage through improving the coverage of PAs

■ ■ ***Of the approximately 2.96 million hectares of newly established wetland PAs in China in that period, 1.9 million hectares were built in the six demonstration provinces with the support of UNDP-GEF projects.*** ■ ■

One of the major contributions of UNDP-GEF biodiversity projects is promoting biodiversity conservation in local areas through the expansion of protected areas. Based on the analysis of existing PAs and national ECR policies, UNDP has helped to improve the coverage of PAs.

Under the GEF-5 MSL Programme (2013-2019), UNDP - GEF projects effectively increased the number of PAs. Of the approximately 2.96 million hectares of newly established wetland PAs in China in that period, 1.9 million hectares were built in the six demonstration provinces with the support of UNDP-GEF projects. Within the same period, the proportion of wetland ecosystems being protected increased from 43.5% to 49.0%, with 600 new national wetland parks built and 16 ratified as Ramsar Sites.¹⁰

8. The GEF-4 Qinghai Project is the “Strengthening the Effectiveness of the PA Systems in Qinghai Province, China to Conserve Globally Important Biodiversity” project.

9. The scheme outlines the institutional arrangement for wetland conservation and recovery, which includes setting up the wetland management and evaluation systems, as well as mechanisms to monitor the use of wetlands.

10. The Ramsar List is the List of Wetlands of International Importance, sites that are recognized as being of significant value not only for the country or the countries in which they are located, but for humanity as a whole.

As the quantity grew, the scale also increased. UNDP supported the application of Ramsar Sites and international wetland cities under the Ramsar Convention to upgrade and increase the recognition of existing PAs.

- UNDP-GEF projects have proactively supported several wetland PAs with distinctive features to apply for Ramsar Sites, including Shengjin Lake National Nature Reserve in Anhui Province, Daxing'anling Hanma National Nature Reserve in Inner Mongolia and Wanghu Wetland Provincial Nature Reserve in Hubei Province.
- The GEF 5 MSL Programme also provided support to the National Forestry and Grassland Administration (NFGA) to certify, assess and recommend the first batch of international wetland cities in China. During the 13th Conference of Parties to the Ramsar Convention held in 2018, eighteen cities from seven countries were selected as the first batch of international wetland cities, among which six are from China – Harbin, Haikou, Yinchuan, Changde, Changshu and Dongying.

By the end of 2019, China's total area of wetlands covered 53.6 million hectares, with the protection rate reaching 52%. As of September 2020, China had 64 areas designated as Ramsar Sites.

3) Improving effectiveness of PA management by leveraging international best practices and global expertise

■ ■ ***UNDP-GEF projects have formulated several management plans at river basin and PA levels to improve management effectiveness.*** ■ ■

To halt biodiversity loss, ensuring the effective management of PAs is equally important as expanding its coverage. UNDP has helped to strengthen PA management by supporting the adoption of international best practices, including Management Effectiveness Tracing Tools (METT) and formulation of management plans, as well as building capacities to improve management skills.

UNDP-GEF projects have formulated several management plans at river basin and PA levels to improve management effectiveness. For example, the GEF-4 Qinghai Project has supported the formulation of management plans for six nature reserves, resource management plans for 12 villages and signed official joint management agreements with 12 demonstration villages.

UNDP also improved institutional and human resource capabilities through capacity-building using its global expertise and experiences. For instance: Guizhou Environmental Protection Department has set up a dedicated office for planning and managing payments for ecosystem services with the support of UNDP during the GEF-5 Chishui River Project. During the GEF-5 MSL Programme implementation, over 160 training activities were held, with over 6,500 participants, benefiting 42 PAs in total.

IV. Policy recommendations for effective biodiversity protection in China and beyond

To strengthen biodiversity conservation and protection, **based on UNDP's long experiences on the ground, the following are the three targeted policy recommendations and three enabling factors** that are essential for accelerating progress on biodiversity conservation:

Firstly, ecological variety in protected areas needs to be given greater emphasis to effectively protect biodiversity.

Currently, China's total protected area accounts for 18% of land area, surpassing the 17% of Aichi Target 11.¹¹ However, a study suggests that a large proportion of PAs are montane grasslands and shrublands, with less representativeness of temperate and tropical forest ecosystems that harbor the highest number of species.¹² Since 2008, a positive trend has been observed, with China switching towards a more targeted approach in defining protected areas, suggesting a shift away from the sole pursuit of increasing coverage. However, based on the Protected Areas Representativeness Index from the Yale Center for Environmental Law and Policy, China ranks 117 out of 180 countries, pointing to further room for improvement.¹³ A higher degree of ecological variety should be a key consideration in China's future planning for PA expansion.

Secondly, move towards integrated spatial planning, enhancing biodiversity cooperation across ministries and geographic areas.

Biodiversity has no obvious thematic and geographic boundaries. It is closely related to other areas, such as forestry, agriculture, water management, rural development and urban planning, all governed by different ministries. Thus, solving biodiversity challenges requires effective cross-ministry coordination, alignment and consensus among different departments and regions.

While China has already implemented reforms in 2019 to establish a unified PA system for tackling overlapping and fragmented PA management, challenges remain. For example, even if NFGA oversees the management of PAs and National Parks, the actual conservation work still requires effective coordination and alignment with other ministries to ensure policy coherence. Furthermore, it is also important to consolidate the different strategies promoted through the years, integrating management of river basins, ecosystems, water resources.

Thirdly, biodiversity loss and climate change should be tackled together with clear consideration of the trade-offs and synergies between the two.

Biodiversity and climate change are closely linked: climate change – affected by human activities – is a key factor that drives the changes in nature and biodiversity. In

11. Aichi Biodiversity Targets are 20 time-bound, measurable targets to be met by the year 2020 listed under The Strategic Plan for Biodiversity 2011-2020.

12. How China expanded its protected areas to conserve biodiversity Binbin V. Li and Stuart

13. <https://epi.yale.edu/epi-results/2020/component/par>

turn, biodiversity contributes to climate change mitigation and adaptation through the ecosystem services it supports. Thus, they should be tackled together, to reach optimal outcomes and avoid a vicious cycle, as they mutually reinforce each other.

Given China's 2060 carbon neutrality agenda, it is particularly relevant to explore the nexus between biodiversity and climate governance: the conservation of biodiversity and ecosystems can be considered a natural climate solution. For example, ecosystems serve as carbon sinks that help absorb and capture carbon dioxide. The Chinese Academy of Sciences (CAS) found that from 2001-2010, annual carbon sequestration of terrestrial ecosystems was equal to offsetting 14.1% of China's fossil fuel emissions.¹⁴ In this regard, nature-based solutions (NBS) should be further promoted, as they have the potential to contribute to both areas.

Additionally, trade-offs between tackling climate change and protecting biodiversity should also be considered in future policymaking. As emphasized in a recently issued report from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), some narrowly focused actions to combat climate change can directly and indirectly harm nature and vice-versa. For example: the development of renewable energies may result in increasing mining activities and land use changes, which could affect ecosystems and biodiversity.

Against these recommendations, three enabling factors are essential in accelerating progress on biodiversity conservation: **financing, technology, as well as human and institutional capacities.**

Biodiversity finance

There is a big gap between expectations and real practices in biodiversity finance. Globally, the annual amount needed for protecting nature is estimated between US\$ 722-967 billion. However in 2019, less than US\$143 billion was spent on biodiversity, suggesting an urgent need for resource mobilization.¹⁵ Private capital investments into biodiversity are currently limited. According to an OECD report, SDGs 14 and 15, preserving life in the oceans and on land, are two of the least funded SDGs by blended finance.¹⁶

In China, biodiversity conservation heavily relies on public finance. **To scale-up conservation efforts and secure sustainable funding, it is essential to leverage private capital and explore innovative financing tools.** A key challenge is that it is very hard to quantify the value of nature. Thus, putting a price on ecosystem services provided by nature is essential in mobilizing funding for biodiversity and ecosystem conservation. Some innovative financing mechanisms, such as payment for ecosystem services (PES), have been applied in China with UNDP's support.¹⁷ Another mechanism that holds the potential to mobilize resources for nature protection in developing country is Debt for Nature Swap, through which debtor country reduce its debt stock in exchange for a commitment to protect nature domestically. Moving forward, these tools should be further expanded.

14. The Institute of Geographic Sciences and Natural Resources Research, CAS http://www.ignrr.cas.cn/xwzx/xwdt_cmsm/201804/t20180419_4999228.html

15. <https://www.paulsoninstitute.org/key-initiatives/financing-nature-report/>

16. OECD, 2018. Making Blended Finance Work for the Sustainable Development Goals

17. PES refer to a market-oriented mechanism that sets up the contract between buyers and sellers of ecosystem services through voluntary negotiation. UNDP has supported the establishment of Payment for Watershed Services scheme in the Chishui River Basin

Cutting-edge science and technology

Monitoring and evaluation are crucial for effective management and planning. Without relevant, timely data and information to evaluate the current progress of biodiversity conservation, it will be very challenging to make informed decisions that can guide biodiversity protection planning and identify resource needs. New cutting-edge technologies, such as AI and big data, have potential in this regard. **In addition to data collection, they can also help to enforce conservation measures, through real-time tracking and monitoring that can enhance early warning systems.** For example, China has deployed drones to monitor and track the wandering elephant herds that left their habitat in Yunnan Provinces.

Strengthening expertise for effective biodiversity conservation

Equally important is strengthening human and institutional capacities for managing effectively and conserving biodiversity. In this regard, it is necessary to further strengthen the capacity of relevant government officials, nature reserve staff and other key stakeholders. Capacity-building has been a core element in UNDP-GEF projects.

Overall, UNDP, through its Biodiversity Finance Initiative (BIOFIN) programme, GEF-related and other relevant projects, will continue to support China's efforts on all these fronts and adapt to its evolving needs. Specifically, the BIOFIN program in China will help develop Biodiversity Finance Plan for Shanghai through a review of current policy and biodiversity expenditure, as well as an assessment of finance needs. With the upcoming COP15, UNDP will further innovate and continue to cooperate with Chinese government agencies, along with other key stakeholders, to achieve eco-civilization objectives and the SDGs, enabling a planet that can sustain life for generations to come.¹⁸

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18. “Building a Community of Life Together” is a quote from Xi Jinping’s speech at the Leaders’ Summit on Climate held in April 2021.