編者言

「多」多益善

世界經濟論壇在今（2024）年發布的《2024 年全球風險報告》（Global Risk Report 2024）中，列舉未來 2 年及未來 10 年全球將面臨的 10 大風險中，「極端天氣事件」均榜上有名，這也不難解釋為什麼近幾年國際間對於氣候變遷議題如此重視，而聯合國每年舉辦的「氣候變化綱要公約締約方大會」（Conference of the Parties, COP）的進展更成為各國媒體積極報導的焦點。然而，大家是否同時注意到，今年 10 月在哥倫比亞第三大城卡利也舉辦了一場 COP 大會，這場大會討論的主題「生物多樣性流失」，雖未出現在《2024 年全球風險報告》未來兩年 10 大風險的排序上，卻被列在未來 10 年全球面臨風險的第三序列。

相較於「氣候變遷」，人類對於「生物多樣性流失」議題的關切，似乎並不強烈，然而，生物多樣性一個如此複雜須充分保持平衡的生態系統，其與維繫地球生命的許多過程（演化、生態及文化）息息相關，系統中任何一個物種的消失，都可能影響整個生態系的穩定狀態，它對於攸關人類生存的糧食安全、醫療健康等面向，均將造成極大衝擊。

因此，1992 年 6 月在巴西里約熱內盧召開的聯合國環境與發展大會上通過並由與會的締約方代表公開簽署《生物多樣性公約》，讓各國藉此共同致力於全球「生物多樣性」的保護和永續行動。儘管過去幾屆的《生物多樣性公約》締約方大會上，與會各國對生物多樣性保護達成了共識，然而這幾年似未有具體進展，例如在第 10 屆締約方大會（COP10）上，通過了「愛知生物多樣性目標」（Aichi Biodiversity Targets），在 COP15 通過了《昆明 - 蒙特婁全球生物多樣性框架》（Kunming-Montreal Global Biodiversity Framework, KM-GBF），然而在這些目標的落實上，仍舊困難重重，例如 2021 年聯合國發表的《全球生物多樣性展望第五版》（Global Biodiversity Outlook, GBO-5）中，檢視 2010 年所訂定的「愛知生物多樣性目標」時，即發現當初制定的 20 個目標竟沒有一項完全達標，這不僅顯示保護生物多樣性行動的緩不濟急，更意味著全球生物物種的急速流失。

今年 10 月 21 日至 11 月 2 日來自全球各國締約方談判代表團、學術研究與政策制定者、原住民與當地社區、工商業與民間社會組織近 1.5 萬名利害關係人代表齊聚在哥倫比亞卡利，參加聯合國《生物多樣性公約》第 16 次締約方大會（CBD COP16），會議的結論雖尚無法解決生物多樣性框架基金（Global Biodiversity Framework Fund, GBFF）缺口的問題，所幸似達成了幾項歷史性的進展，包括將成立原住民常設機構，並要求從生物遺傳資源獲利的企業須撥出一定比例的利潤回饋給新成立的卡利基金（Cali fund），以協助生物多樣性豐富地區的發展。

因此，本期《當季專論》，特以〈國際推動生物多樣性趨勢解析〉為主題，除邀請這次實地

參與《生物多樣性公約》締約方大會的學者，分享對大會的第一線觀察外，也邀請玉山銀行以其執行的計畫為例，向讀者介紹玉山銀行如何運用公私部門合作的方式，協助地方保存生物多樣性。本期內容，亦由國合會分享如何透過保種、育種的方式，推動國際植物遺傳資源保存與利用合作的相關做法。

而本期的《焦點企劃》，則以〈我國推動生物多樣性發展探究〉為題，分別採訪農業部林業及自然保育署林華慶署長、海洋委員會海洋保育署陸曉筠署長及環境部施文真政務次長，邀請他們與讀者分享目前我國政府在森林、海洋及環境保護工作上，推動促進生物多樣性的成果，以及可能面臨的挑戰與因應作為。

被稱為「達爾文的天然繼承人」、「生物多樣性之父」的威爾遜（E.O.Wilson）曾在他的著作《造物》中提到：「無論生物多樣性是如何產生的，它們都不是安置在地球上被任何一個物種用來消滅的。」，這段意味深長的話彷彿在提醒世人，每個物種不管再怎麼渺小，它的存在都有其各自的道理，整個生態系就是仰賴各種不同的物種維繫著深邃而微妙的平衡。透過本期文章，希望讓讀者能夠進一步認識到生物多樣性的重要性，以及我國公私部門致力於維護生物多樣性的努力。

當期論文摘要

透過里山倡議地景與海景整體取徑實現 2050 人與自然和諧共生之願景

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近年國際多項研究顯示，若能夠採取整合策略積極投入保育行動並結合永續生產和消費，有可能及早在 2040 年之前彎曲生物多樣性下降曲線，並最大程度地減少生物多樣性損失。本文說明，近十餘年來里山倡議以及地景與海景整合取徑已被視為最有效的永續性整合策略之一。兩者適用於在地、區域和國家等多元層級的推動與整合，也適用於自然地區、鄉村地區和都市地區的串連與互惠，因此非常有潛力回應《昆明 - 蒙特婁全球生物多樣性框架》（Kunming-Montreal Global Biodiversity Framework, KM-GBF）的緊急呼籲。在實務推行方面，里山倡議的「三摺法」—願景、3 大原則及 5 大行動面向，涵蓋了整合策略的保育行動、永續生產和消費等面向，再搭配本文提出的地景與海景整合取徑 6 個核心操作要素「6Ps」:「人、事、時、地、務、擴展」，相當適合做為國內外農漁山村整體的策略及行動計畫規劃架構，建議納入國合會國際開發援助相關計畫的能力培育以及計畫規劃和執行的參考，以及納入國際高等人力培訓外籍生獎學金計畫的學程主題，培育未來人才。最後，本文介紹國際里山倡議對應 KM-GBF 目標的新策略和行動計畫，並分析 CBD COP16 相關重要決議如何對接於國合會協助友好或開發中國家的相關政策。

公私合作推動生物多樣性：玉山瓦拉米計畫的實踐與啟示

（吳欣樺，玉山銀行風險管理處資深專員；張清玉，玉山銀行風險管理處協理；
鐘世軒，玉山銀行風險管理處經理；徐代衡，玉山銀行風險管理處專員）

氣候變遷與生物多樣性流失為全球當今面臨的重大挑戰，極端氣候和生態系統的改變為經濟和社會穩定造成之潛在威脅不容小覷。儘管聯合國已訂定全球於 2030 年前保護 30% 的地球自然資源之目標，經濟誘因、技術門檻以及行動規模等因素，仍使生物多樣性保護行動難以推展。

玉山金控自 2014 年啟動「玉山瓦拉米計畫」，與政府、企業及非營利組織合作，推動花蓮南安部落轉型有機農法，實現「人與自然和諧共生」的願景。透過多方協作模式，從資金、技術和行銷等方面支持當地社區農業轉型，推動有機農業並恢復生物多樣性。本文以玉山瓦拉米計畫為案例，解析計畫運作模式及成功關鍵，以為更廣泛之地區提供借鑒，進而推動全球的生物多樣性保護及永續發展。

國際植物遺傳資源保存與利用：臺灣對外技術合作經驗與啟示

（陳炤曄，財團法人國際合作發展基金會技術合作處副管理師）

隨著生物多樣性喪失和氣候變遷威脅加劇，植物遺傳資源已成為應對氣候變遷和保障糧食安全的重要資源。本文章探討植物遺傳資源保存的重要性，介紹國內外主要保種機構，並說明財團法人國際合作發展基金會（國合會）在此領域的合作實踐。國合會作為臺灣政府開發援助的執行機構，積極推動互惠互助的國際植物遺傳資源保存與利用合作，包括透過駐外技術團支援友邦發展農業技術，保存當地優良品種並提升其自給能力。同時，國合會也蒐集駐在國的優良地方品種，擴大我國的資源保存範圍。此外，國合會在索羅門群島進行植物資源調查與編纂植物誌，在海地和尼加拉瓜推動稻米品種保存，在帛琉保護傳統芋頭品種，在沙烏地阿拉伯保存珍稀棕櫚資源，並在宏都拉斯發展馬鈴薯健康種薯體系。這些國際合作計畫透過技術轉移、資源共享和法規保障，落實植物遺傳資源的互惠互助，永誌合作情誼並促進全球農業的永續發展。

The More, the Better

The "*Global Risk Report 2024*" released by the World Economic Forum this year has identified "extreme weather events" as one of the top 10 global risks for the coming decade. This helps explain why there has been so much international attention to climate change in recent years, exemplified by the annual Conference of the Parties (COP) convened under the United Nations Framework Convention on Climate Change (UNFCCC). The most recent COP conference, held in October in Cali, Columbia, focused on biodiversity loss. Although not listed among the top 10 risks for the next two years in the *Global Risk Report 2024*, loss of biodiversity was ranked third in the report among the major risks of the next decade.

Concern for biodiversity loss has been relatively muted in comparison to that for climate change. However, biodiversity relies on a complex and delicately balanced ecosystem, the entirety of which can be destabilized by the loss of any species. That would have profound implications for food security, healthcare, and other facets of human survival.

In response to the need to protect ecosystems, the Convention on Biological Diversity (CBD) was adopted at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in June 1992, and signed by participating country representatives. This agreement aimed to promote global efforts to protect biodiversity and promote sustainable practices. Although previous COP meetings have reached consensus on biodiversity protection, concrete progress has been slow in recent years. For example, at COP10 member countries adopted the Aichi Biodiversity Targets, and COP15 established the Kunming-Montreal Global Biodiversity Framework. However, countries have faced many difficulties in implementing these targets. For instance, the 2021 United Nations "*Global Biodiversity Outlook 5*" found that none of the 20 Aichi Biodiversity Targets, set in 2010, had been fully achieved. Progress on such targets is imperative given the urgent need for biodiversity protection amid the rapid loss of species globally.

From October 21 to November 2 this year, nearly 15,000 stakeholders comprising government delegations, academic researchers, policymakers, indigenous groups, local communities, businesses, and civil society organizations gathered in Cali, Colombia, for the 16th Conference of the Parties to the Convention on Biological Diversity (CBD COP16). Although the meeting did

not resolve the funding gap of the Global Biodiversity Framework Fund (GBFF), some historic progress was made, including the establishment of a permanent indigenous peoples' body, and the requirement for companies benefiting from genetic resources to contribute a portion of their profits to a newly established Cali Fund to support the protection of biodiversity-rich areas.

In this issue, we explore the topic of biodiversity in an article titled "Analysis of International Trends in Biodiversity Promotion." In addition to sharing the observations of scholars who participated in the COP16 meeting, we also include a case study from E. Sun Bank, which demonstrates how the bank uses public-private partnerships to support local biodiversity conservation efforts. The issue also features an introduction to the TaiwanICDF's initiatives aimed at promoting international plant genetic resource conservation and utilization through species protection and breeding.

The issue's special report includes interviews with experts who talk about Taiwan's efforts in the area of biodiversity conservation. Those interviewed include Dr. Hua-Ching Lin, Director-General of the Forestry and Nature Conservation Department of the Ministry of Agriculture; Dr. Shiau-Yun Lu, Director-General of the Marine Conservation Department of the Ocean Affairs Council; and Dr. Wen-Chen Shih, Deputy Minister of the Environmental Protection Administration. They shared the government's achievements in promoting biodiversity through forest and marine conservation, as well as the challenges they face and the actions they are taking to address these challenges.

E.O. Wilson, known as the "natural heir to Darwin" and the "father of biodiversity," once stated in his book *The Creation*: "No matter how biodiversity arises, it is not placed on Earth to be destroyed by any species." This profound statement serves as a reminder that every species, no matter how small, has its role to play, and the entire ecosystem depends on various species to maintain a deep and delicate balance. Through this issue, we aim to deepen readers' understanding of biodiversity's importance and highlight the efforts of Taiwan's public and private sectors to safeguard this critical natural heritage.

Summaries

Realizing the 2050 Vision of Living in Harmony with Nature through the Satoyama Initiative and Integrated Landscape and Seascape Approaches

(Paulina G. Karim, Post-doctoral researcher and CEO, @ScapesLab, Center for Sustainable Development, National Dong Hwa University; Kuang-Chung Lee, Professor and Director, @ScapesLab, Center for Sustainable Development, National Dong Hwa University)

Recent international studies have shown that it is possible to bend the curve and minimize biodiversity loss as early as 2040 by adopting an integrated strategy of proactive conservation action and combining sustainable production and consumption. This paper discusses the Satoyama Initiative and integrated landscape and seascape approaches (ILSA) that have been recognized as one of the most effective sustainable integrated strategies of the past decade. It is applicable at various levels including the local, regional, and national, and can be implemented across natural, rural, and urban areas, enabling the realization of vision, goals and targets of the Kunming-Montreal Global Biodiversity Framework (KM-GBF). In terms of practical implementation, the three-fold approach of the Satoyama Initiative – vision, three main principles and five key social-ecological perspectives – embrace the conservation, sustainable production and consumption aspects in an integrated way. This approach is further supported by the six strategic domains for operationalization of ILSA – the '6Ps': Place, People, Problems, Process, Progress, and uPscaling. The Satoyama Initiative and ILSA offer a robust model for planning strategic actions and programs for rural, coastal and mountainous villages in Taiwan and abroad. It is also recommended to be incorporated into capacity development projects for nurturing future talent, which may include TaiwanICDF's foreign aid initiatives and scholarship programs for international graduate students. Finally, the paper introduces a set of 2023-2030 strategic objectives promoted by the International Partnership for the Satoyama Initiative in response to KM-GBF action-oriented global targets and analyzes how some important decisions of CBD COP16 align with relevant policies supported by TaiwanICDF for friendly or developing countries.

Public-Private Cooperation to Promote Biodiversity: The Practice and Insights of the E. Sun Bank Malavi Project

(Xin-hua Wu, Senior Officer, Risk Management Division, E. Sun Bank;
Oliy Chang,Senior Vice President, Risk Management Division, E. Sun Bank;
Danny Chung, Manager, Risk Management Division, E. Sun Bank;
Dai-heng Hsu, Officer, Risk Management Division, E. Sun Bank)

Climate change and biodiversity loss represent critical global challenges in contemporary society. Extreme weather and changes to ecosystems pose significant threats to economic and social stability. Although the United Nations has set a target to protect 30% of Earth's natural resources by 2030, factors such as economic incentives, technical barriers, and the scale of actions continue to hinder biodiversity conservation efforts.

In 2014, E. Sun Financial Holdings launched the Malavi Project, collaborating with the government, enterprises, and non-profit organizations to promote organic farming among indigenous residents in Hualien’s Zhuoxi Township, realizing a vision of harmony with nature. Through multi-stakeholder collaboration, the project supports local agricultural transformation with funding, technology, and marketing, promoting organic farming and restoring biodiversity. This article takes the Malavi Project as a case study to analyze its operational model and key success factors, offering insights for broader regions to advance global biodiversity conservation and sustainable development.

International Plant Genetic Resources Conservation and Utilization: Taiwan's Experience in Foreign Technical Cooperation

(Chao-Yeh Chen, Junior Specialist, Technical Cooperation Department, TaiwanICDF)

With the escalating threats of biodiversity loss and climate change, plant genetic resources have become a critical asset for ensuring food security. This article discusses the importance of plant genetic resource conservation, highlights major domestic and international conservation institutions, and explains the International Cooperation and Development Fund’s (TaiwanICDF) practices in this field.

As Taiwan’s implementing agency for official development assistance, the TaiwanICDF

actively promotes mutual support in international plant genetic resource conservation and utilization, including supporting allied countries in achieving food self-sufficiency through agricultural technology and the preservation of local varieties. The TaiwanICDF also collects excellent local varieties from partner countries to expand Taiwan's conservation range. Moreover, the TaiwanICDF has conducted plant resource surveys and compiled plant catalogs in the Solomon Islands, promoted rice variety conservation in Haiti and Nicaragua, protected local varieties of taro in Palau, preserved rare date palm resources in Saudi Arabia, and increased potato production in Honduras. Through technology transfers, resource sharing, and regulatory protection these international cooperation projects fulfill the principles of mutual support in plant genetic resource conservation, reinforce cooperative ties, and contribute to the sustainable development of global agriculture.