

國際開發援助現場季刊

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從聯合國2023 STI論壇談國際援助

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編者言

科技創新浪潮下的國際援助

經濟合作暨發展組織 (Organisation for Economic Cooperation and Development, OECD) 在今 (2023) 年 3 月發表了《科學、技術與創新展望 2023》報告 (Science, Technology and Innovation Outlook 2023)，指出新冠疫情提醒人們，科技創新政策對於建立韌性和調適衝擊至關重要，也是永續轉型的關鍵推動力。特別是在新冠疫情期間，全球能在很短的時間內，研發出快篩試劑、疫苗等，讓全球各國能夠對疫情的蔓延做出應對，可歸功於過去數年來，各國政府在科技創新政策上的投入。而在後疫情時代，更需要透過科技創新的力量，讓各國的經濟走出疫情的低谷，這也是為什麼聯合國將今年舉行的 STI 論壇主題訂為「科學、技術與創新加速 COVID-19 疫後復甦與全面性落實 2030 永續發展議程」，論壇中除針對如何透過 STI 來加速永續發展目標的落實外，也發表了《全球永續發展報告》(Global Sustainable Development Report)。

在這樣的背景下，科技創新對於國際援助工作來說更顯重要，尤其是開發中國家，疫情對他們經濟衝擊更劇，因此，若能善用科技創新工具，將能夠更有效率的協助這些國家從疫情中復甦並進一步推動永續發展目標的達成，因此，本期的《當季專論》以〈從聯合國 2023 STI 論壇談國際援助〉為主題，分就聯合國 STI 論壇、日本及韓國的 STI ODA 策略、企業 STI 工具在國際援助的運用，以及我國國際援助發展計畫結合 STI 具體成效等面向進行剖析。

而在本期的《焦點企劃》，則以〈透過 STI 加速疫後復甦與國際援助〉為題，訪問台灣網路資訊中心董事長黃勝雄及國泰醫院資訊部部長曾景平，訪談中黃勝雄董事長以豐富的專業及長期參與國際事務經驗分析，認為國際社會若要寄望科學的解決方案和轉型，此時發展 STI 比過往任何時候都更形重要，而曾景平部長則是以國泰醫院參與國合會巴拉圭醫療資訊系統計畫的經驗，與讀者分享 STI 工具如何在援外計畫中落實。

隨著科技的高度發展，國際援助工作能夠運用的工具也日益多元，臺灣自 1959 年展開對外援助工作以來，援助的專業與技術也堅持與時俱進，不斷地將新科技例如：衛星遙測、智慧農業、空拍機、遠距教學等融入援助計畫中，因此，希望透過本期文章，讓讀者認識目前國際間 STI 發展的新趨勢外，也期待藉由他山之石，為我國援外工作在 STI 工具的運用上提供不同面向的思維。

當期論文摘要

翻轉臺灣科研範型，加速實踐永續發展目標

（趙家緯，台灣環境規劃協會理事長）

距離《2030 永續發展議程》僅剩 7 年，然而歷經疫情、通膨、戰爭等多重危機後，諸多永續發展目標進程已見落後，因此善用科技創新，更為關鍵。聯合國相關組織與國際科研社群於此時發表旗艦報告，提出擴大 SDG 相關研發支出、藉由能力建構發揮數位化之綜效、強化「科學-政策-社會」對話平台、任務導向（mission-led）科研機制等建言。臺灣永續、科研與國際發展主管機關，應參考前述建言，從研擬「科學，技術和創新促進永續發展目標路徑圖」、建立國內 SDG「科學-政策-社會」平台、強化 SDG 相關科研議題策略性支持、共同推動大型永續科學國際合作計畫四大面向，翻轉臺灣科研典範，以加速 SDGs 之實踐。

日韓推動 STI ODA 的做法對我國之啟發

（蘇怡文，中華經濟研究院 WTO 及 RTA 中心分析師）

加速科學、技術與創新（science, technology and innovation, STI）是實現聯合國永續發展目標（Sustainable Development Goals, SDGs）的關鍵；政府開發援助（official development assistance, ODA）是各國協助開發中國家實踐 SDGs 的主要方法。COVID-19 疫情之後，透過 STI 實現經濟復甦與永續發展更成為國際社會注目的焦點。目前日韓皆積極以科學技術領域的實力做為 ODA 核心手段之一，協助開發中國家發展數位轉型；日本起步相對較早，韓國則是近年開始推動；兩國皆注重協助建立基礎設施，惟日本關注於大型工程建設，韓國則聚焦於協助發展「數位政府」之制度建立，並著眼於中小企業技術商業化。日韓的做法與策略或可對我國持續擴展 ODA 計畫之規劃有所啟迪。

從企業角度探討 STI 工具在國際援助的運用 - 以再生能源應用為例

（蔡知達，泓德能源科技股份有限公司研發長）

於 2015 年聯合國發展高峰會，所發佈的《2030 永續發展議程》（2030 Agenda for Sustainable Development）除包括永續發展目標（Sustainable Development Goals, SDGs）的 17 項目標（goals）及 169 項細項目標（targets），並以科學、技術、創新（science, technology, innovation, STI）為實現永續發展目標的重要作法，以解決人類永續發展所面臨問題。本文以再生能源微電網應用為主軸，透過 STI 的作法進行案例介紹說明，以作為國際援助運用參考。

STI 下的臺灣對外援助：國合會的經驗與成效

（顏銘宏，國合會技術合作處處長；王雲平，國合會技術合作處副處長；
葉昱嫻，國合會技術合作處組長；張耕華，國合會技術合作處管理師；
張雯琪，國合會技術合作處助理管理師）

我國援外計畫強調導入臺灣比較優勢技術能力，因應夥伴國需求解決發展問題，國合會在援外合作導入 STI 架構，提倡學術界及產業界之共同研究，並透過高等教育獎學金，厚植友邦的科學研究人才；另以共同研究基礎，發展具實用性、問題解決導向且能在地執行之應用技術；最終協助受援國進行產業轉型及商業模式創新。

綜整我國結合 STI 援外經驗，未來可持續營造一個公私部門共同參與之國際合作平台，強化夥伴關係及資源整合，鼓勵私部門加入國際合作，將臺灣民間成熟的應用科技及創新商業模式導入援助事務；並與理念相近國家與機構共同協助夥伴國在地人才培育，打造「在地問題，在地解決」之模式，輔導夥伴國進行數位、科技轉型，擴大臺灣國際參與之價值及影響力。

The Rise of Science, Technology and Innovation in International Aid

Science, Technology and Innovation Outlook 2023, released by the Organisation for Economic Cooperation and Development (OECD) in March 2023, highlighted the critical importance of science, technology, and innovation (STI) policies since the emergence of COVID-19. Such policies are core to building resilience and adapting to emerging challenges, and they also serve as a key driver for sustainable transformation. In fact, the rapid tests, vaccines, and other tools developed soon after the pandemic began, which were vital for the global response to COVID-19's spread, can be attributed to STI policy investments made by governments over the past few years.

In the post-pandemic era, there is an even greater need to harness the power of STI to help economies recover from the pandemic's impact. This is reflected in the theme of this year's United Nations STI Forum: Science, Technology and Innovation in Accelerating the Recovery from the Coronavirus Disease (COVID-19) and the Full Implementation of the 2030 Agenda for Sustainable Development at All Levels. The forum not only addressed STI's role in accelerating the Sustainable Development Goals (SDGs) but also featured the release of the *Global Sustainable Development Report*.

In this context, STI has become even more crucial for international assistance, especially in developing countries where the pandemic has had a greater economic impact. STI tools help these countries recover from the pandemic and strive toward achieving the SDGs. Thus, this issue is themed *Discussing International Assistance in the Context of the United Nations 2023 STI Forum*. We will approach this topic from multiple angles, including through articles discussing the United Nations STI Forum, Japan and South Korea's STI-based official development assistance (ODA) strategies, corporate STI tools in international assistance, and the impact of Taiwan's STI-based international assistance programs.

The special topic of this issue is *Accelerating Post-Pandemic Recovery and International Assistance Through STI*. Interviews were conducted with Dr. Kenny Huang, Managing Director of the Taiwan Network Information Center (TWNIC), and Mr. Ching-Ping Tseng, Chief of the Department of Information Technology, Cathay General Hospital.

Dr. Huang emphasized the growing importance of STI for the international community in his interview, drawing from his extensive expertise and longstanding involvement in international affairs. If the global community wants to tackle its challenges with science and progress, he emphasized, then

STI policies are more crucial than ever.

In contrast, Mr. Tseng approached the topic from his unique vantage at Cathay General Hospital, which partnered with the TaiwanICDF in the Health Information Management Efficiency Enhancement Project in Paraguay. He discussed how STI tools can be effectively implemented in foreign aid programs.

With the rapid development of technology, tools available for international assistance have become increasingly diverse. Since Taiwan began its foreign aid in 1959, it has consistently kept pace by integrating new technologies such as satellite remote sensing, smart agriculture, drones, and distance learning into its aid programs. Therefore, this issue aims to not only acquaint readers with the latest trends in international STI development but also draw lessons from the experiences of the contributing authors to provide a multifaceted perspective on STI tools.

Summaries

Transforming Taiwan's Research Paradigm to Accelerate Progress Toward the Sustainable Development Goals

(Chia-Wei Chao, Chair of the Taiwan Environment & Planning Association)

With just seven years left to achieve the 2030 Agenda, numerous SDGs have fallen behind due to crises like the pandemic, inflation, and geopolitical conflicts. Therefore, harnessing STI becomes even more critical at this juncture. Accordingly, UN-related organizations and the international research community have released flagship reports advocating for increased R&D expenditure related to the SDGs. They often propose leveraging digitalization to facilitate capacity building, strengthen science-policy-society dialogue, and support mission-led research mechanisms, among other recommendations.

Taiwan's agencies responsible for sustainability, research, and international development should consider these suggestions. They can do so by developing an STI for SDGs Roadmap, establishing a domestic science-policy-society platform for SDGs, enhancing strategic support for SDG-related research topics, and promoting large-scale international cooperation projects in sustainable science. This approach will help transform Taiwan's research paradigm and accelerate progress toward the SDGs.

Looking to Japan and South Korea's STI ODA as an inspiration for Taiwan's own foreign aid

(Yi-Wen Su, Analyst at the Taiwan WTO and RTA Center)

Accelerating STI is crucial for achieving the UN SDGs. At the same time, ODA is the primary method for assisting developing countries. However, the focus on using STI to achieve economic

recovery and sustainable development has become even more prevalent in the global community following the COVID-19 pandemic. Currently, the ODA strategies of both Japan and South Korea leverage their strengths in science and technology to assist developing countries in digital transformation. Japan has been involved in this trend for a longer period, with a focus on large-scale infrastructure projects. Meanwhile, South Korea began its efforts more recently, with a concentration on building frameworks for digital governance and promoting technology commercialization for small- and medium-sized enterprises. The practices and strategies of Japan and South Korea may provide valuable insights for Taiwan as it continues to plan and expand its ODA projects.

STI Tools in International Assistance from a Corporate Perspective - A Case Study on Renewable Energy

(Marco Tsai, R&D Chief of HD Renewable Energy Co.)

At the 2015 United Nations Development Summit, the *2030 Agenda for Sustainable Development* was unveiled. It encompasses 17 SDGs with 169 targets and emphasizes the role of STI for achieving these goals and addressing the challenges faced in sustainable development. This article focuses on renewable energy microgrids as a case study to illustrate how STI practices can be employed in aid projects, serving as a reference for international assistance.

Taiwan's Foreign Aid under STI: The Experience and Impact of the TaiwanICDF

(Ming-Hong Yen, Director of the Technical Cooperation Department, TaiwanICDF;
Yun-Ping Wang, Deputy Director of the Technical Cooperation Department, TaiwanICDF;
Emma Yeh, Division Chief of the Technical Cooperation Department, TaiwanICDF;
Keng-Hua Chang, Specialist in the Technical Cooperation Department, TaiwanICDF;
Wen-Chi Chang, Assistant Specialist in the Technical Cooperation Department, TaiwanICDF)

Taiwan's foreign aid programs emphasize leveraging Taiwan's technological advantages to address development challenges in partner countries. The TaiwanICDF adopts an STI framework in foreign aid cooperation, promoting collaboration between the academic and industrial sectors. It nurtures research talent in friendly countries through higher education scholarships. Additionally, by establishing foundations for collaborative research, it develops applied technologies that are practical and tailor-made to local circumstances. Ultimately, this assistance facilitates industrial transformation and business innovation in recipient countries.

By combining Taiwan's experience in STI and foreign aid, the TaiwanICDF has created a sustainable international cooperation platform that attracts both the public and private sectors. In addition to encouraging businesses to participate in international cooperation, the platform also strengthens partnerships and resource integration among various aid providers. It also facilitates the

incorporation of mature Taiwanese technologies and business models into foreign aid.

Furthermore, by collaborating with like-minded countries and organizations, the TaiwanICDF assists partner countries in nurturing local talents and fostering a “local issues, local solutions” approach. This model guides partner countries as they undergo digital and technological transformations, expanding Taiwan’s international engagement and influence.