ANNUAL REPORT
2024

Asian Productivity Organization

ANNUAL REPORT

2024

Asian Productivity Organization

Table of **Contents**

First published in Japan
by the Asian Productivity Organization
1-24-1 Hongo, Bunkyo
Tokyo 113-0033, Japan
www.apo-tokyo.org

The APO Secretariat thanks the NPOs for providing updates on their directory information and some of the project-related images used in this report.

ISBN: 978-92-833-2529-1 (print)
ISBN: 978-92-833-2530-7 (PDF format)

Designed by Designcraft


APO

FOREWORD

> **A willingness** to **embrace innovation** anchored on a strong foundation of results-based management allowed core initiatives to bear encouraging fruits.

I am pleased to present the Annual Report of the Asian Productivity Organization (APO) for 2024, when the APO redoubled efforts to enhance its credibility as an effective international platform for productivity.

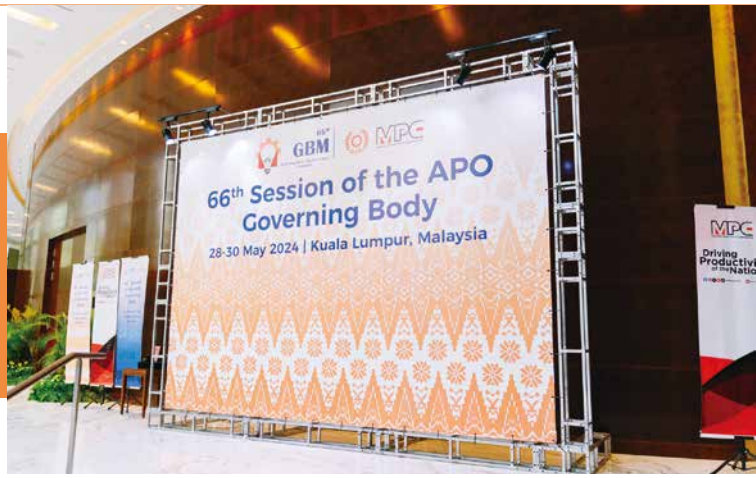
Last year's purposeful engagement of leaders and senior officials improved the APO's ability to cater to the needs of its members, promoted awareness of the APO's activities, and enhanced the coordination between the APO and its local partners. Furthermore, a willingness to embrace innovation anchored on a strong foundation of results-based management allowed core initiatives, such as the Specific National Program (SNP) and Green Productivity (GP) 2.0, to bear encouraging fruits. I am confident that this positive trajectory will continue with the establishment of guidelines for memoranda of understanding (MOUs) and the APO's growing engagement of nonmembers.

The APO also maintained a high standard of transparency, implementing a revised procurement policy, a new IT security policy, and a whistleblowing mechanism to elevate our standards of accountability and internal control based on feedback obtained through independent evaluations. In parallel, the organization remained steadfast in its commitment to improve its digital capability with the introduction of an enterprise resource planning (ERP) system for more effective management of the APO's ever-growing network of resource persons and participants.

Balancing these efforts with implementing 107 multicountry projects, 73 individual-country projects, 13 e-courses, and 34 Productivity Talks (P-Talks) and Productivity Gemba (P-Gemba) videos in 2024 has been a significant learning experience for the APO Secretariat. Utmost efforts have been made to incorporate the lessons learned into the 2025 programs with the support of the 65th Workshop Meeting of Heads of National Productivity Organizations (WSM). These lessons have also informed the APO post-2025 visioning exercise, which heralds the end of the APO Vision 2025 that has guided the organization over the past five years.

As we step onward to a new phase in the APO's journey, I would like to take a pause to express heartfelt gratitude for the unwavering support of all stakeholders who have contributed to this journey throughout the APO's long history. I also invite you to share in the sense of accomplishment for the APO's milestones in 2024, which have been fully captured in this Annual Report, and look forward to a brighter future for the Asia-Pacific region in 2025 and beyond.

Dr. Indra Pradana Singawinata
Secretary-General



66th Session of the APO Governing Body

>> 28–30 May 2024, Kuala Lumpur, Malaysia

The 66th Session of the APO Governing Body (GBM) was held in Kuala Lumpur, Malaysia, 28–30 May 2024.

APO Directors representing 20 member economies, as well as observers representing the Pan-African Productivity Association and presenters from Deloitte Tohmatsu Risk Advisory LLC, attended. Following the welcome remarks delivered by APO Director for Malaysia Datuk Kamaruzzaman Johari, outgoing APO Chair and APO Director for the ROC Sheng-Hsiung Hsu opened the session.

Several important matters were discussed and decided on in the 66th GBM:

- Adoption of the following reports: Annual Report of the Secretary-General, Financial Report for the Year 2023, and Report of the 64th WSM to the Governing Body (GB).
- In-principle approval of the APO preliminary budget for the 2025–26 biennium and of *The APO Secretariat Third-party Evaluation Report: Assessment of APO Secretariat's Performance, Management, and Compliance (2023–24)*, submitted by Deloitte Tohmatsu Risk Advisory LLC. A revised report incorporating the deliberations of the 66th GBM obtained final approval of the GB by circulation in August 2024.
- Endorsement of the following progress reports: Report of Action Taken after the 65th GBM; Strengthening the APO Secretariat's Digital Capability; Update on the APO Specific National Program; Update on the APO Accreditation Program; Remediation Actions to Improve the APO Secretariat's Performance, Management, and Compliance; and APO Regional and Meritorious and Distinguished Awards 2024.
- Endorsed the approaches and roadmap in the *APO Green Productivity 2.0: The Road Ahead* report and approved the subsequent implementation of GP 2.0 initiatives.
- Endorsed the recommendations from the APO Vision 2025: Pause-and-reflect Activity, as well as the utilization of the unappropriated surplus to engage external assistance to incorporate the recommendations in the visioning exercise for 2026 and beyond.
- Established a task force to develop a model for MOUs led by national productivity organizations (NPOs) with implementation facilitated by the APO, along with related guidelines.

The 66th GBM also witnessed the conferment of two APO Regional Awards and five APO Meritorious and Distinguished Awards.

The session was closed by incoming APO Chair and APO Director for Fiji Jone Maritino Nemani, and the 66th GBM concluded with an Experiential Learning Program in which delegates explored the city of Kuala Lumpur through a guided tour or immersed themselves in local culture and nature through an excursion offered by the agrotourism program.

65th Workshop Meeting of Heads of NPOs

>> 23–25 October 2024, Nadi, Fiji

The 65th Workshop Meeting of Heads of NPOs (WSM) was held in Nadi, Fiji, 23–25 October 2024. It was attended by 37 NPO delegates and 14 advisers from 19 APO members.

APO Chair 2024–25 and Director for Fiji Jone Maritino Nemani extended a warm welcome to all delegates. This was followed by a statement from APO Secretary-General Dr. Indra Pradana Singawinata. The inaugural address was delivered by guest of honor Deputy Prime Minister and Minister for Trade, Co-operatives, Small and Medium Enterprises and Communications of Fiji, Hon. Manoa Kamikamica. This was followed by a special presentation by Prof. Yoichiro Matsumoto, Science and Technology Advisor to the Minister for Foreign Affairs of Japan and GP Advisory (GPA) Council member, which concluded with the presentation of the *APO Green Productivity 2.0: The Road Ahead* report to the APO Chair, marking the launch of GP 2.0.

The 65th WSM received the following reports and recommendations from the APO Secretariat:

- 2023 Annual Project Review by the APO Secretariat
- Independent Impact Evaluation of 2022/2023 APO Programs and Projects
- Progress on the recommendations from the APO Vision 2025: Pause-and-reflect Activity
- APO Accreditation Program
- Strengthening the APO's digital capability
- Travel arrangements for participants

Delegates at the 65th WSM also received a warm welcome at the dinner hosted by APO Director for Fiji Jone Maritino Nemani, which was graced by then-President of Fiji His Excellency Ratu Wiliame Maivalili Katonivere in support of the APO's work in promoting GP to combat climate change.

The meeting endorsed the above reports and recommendations before proceeding to discuss the APO programs for 2025, including the Secretariat's proposed revisions to projects focusing on GP and AI and the reconfirmation of programs in 2025 in the Strategic Planning Session. This was followed by a discussion of expected approaches and timelines of APO programs for 2026, factoring in the ongoing post-2025 visioning exercise.

Thematic presentations related to GP were delivered by representatives from the Ministry of Foreign Affairs (MOFA) of Japan and the Center for Green Economy, Chung-Hua Institution for Economic Research, the ROC. In addition, presentations were given by selected NPO Heads on the national productivity master plans for Fiji, Malaysia, Pakistan, and Vietnam.

NPO Head for Fiji Dr. Isimeli Waibuta Tagicakiverata closed the session as Chair of the 65th WSM, which was followed by farewell remarks by the APO Chair 2024–25 and Director for Fiji Jone Maritino Nemani. The 65th WSM concluded with a Fijian cultural village tour and visit to the town of Nadi, which showcased Fiji's rich heritage.

APO **2024 Projects** at a Glance (2024 Data)

Individuals participating in APO projects **6,612**

Individuals trained (e-courses) **2,119**

e-Courses developed in 2024

13 Total available e-courses in 2024: **100**

Publications released in 2024

32

APO publication downloads **17,302**

Monthly average engagement rate on APO social media platforms

Facebook: **5.97%**

X: **4.41%**

LinkedIn: **7.63%**

P-Talk/P-Gemba series videos released in 2024

P-Talk: **28** P-Gemba: **6**

APO YouTube views (includes views across P-Talks, P-Gemba series, e-courses, and other APO video content) **50K+**

Active APO website users

English: **96,000** Japanese: **3,900**

Media citations of APO initiatives **2,690**

Technical Expert Services (TES) projects for NPOs and other organizations

28

Newly established APO-accredited certification bodies (CBs) in 2024

Green Productivity Specialist scheme CBs: **2**

Total CBs operating in 2024: **9** (6 Productivity Specialist scheme CBs, 3 Green Productivity Specialist scheme CBs)

National master plans/roadmaps developed through SNP (completed) **2**

APO members with long-term productivity roadmaps assisted through SNP **2**

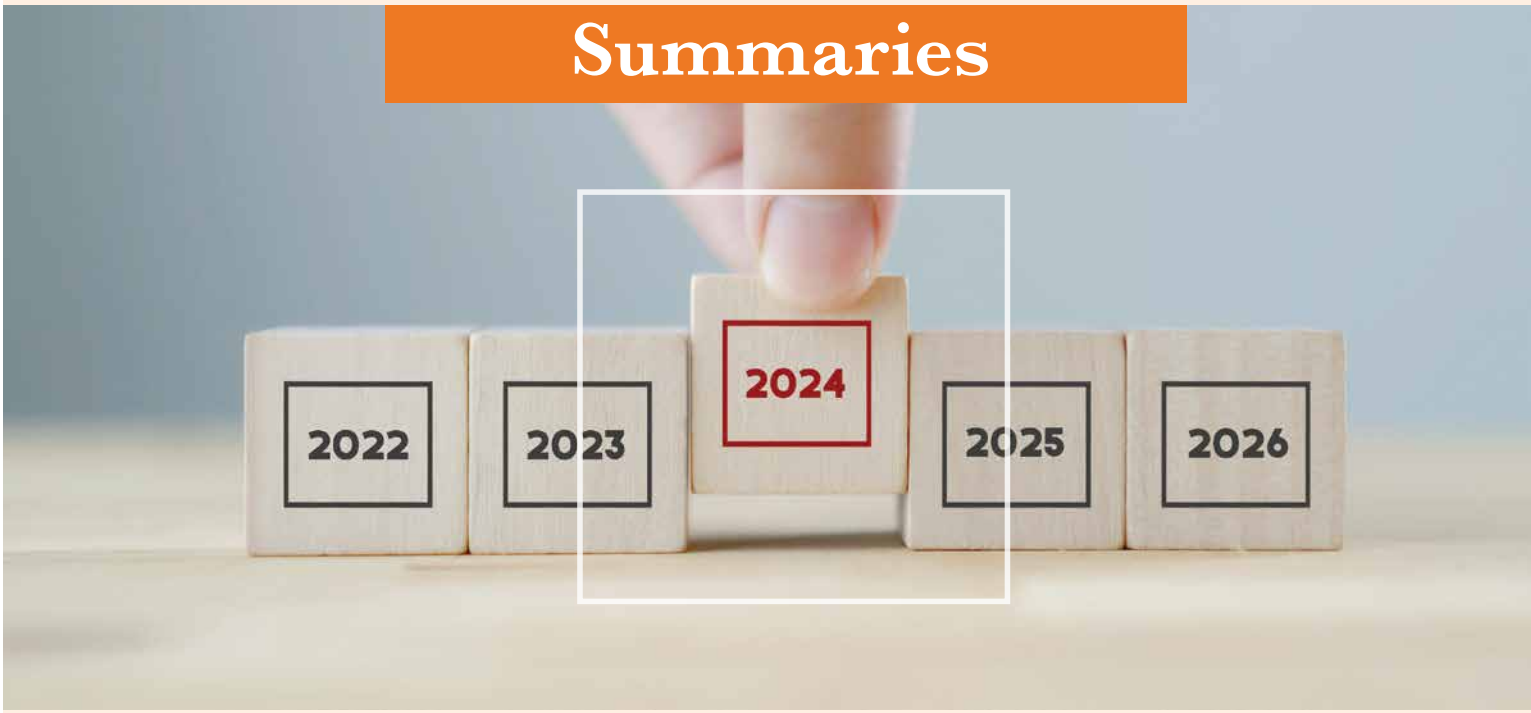
Experts engaged in 2024 **590**

APO model companies/organizations developed/assisted through the development of demonstration companies (DMP) (completed) **11**

APO members that established model companies/organizations (completed) **3**

Activity Report

Highlights and Summaries



01 Multicountry Program

Reinvigorating Face-to-face Learning

The APO continued to champion productivity enhancement across member economies through its dynamic Multicountry Program in 2024. APO members overwhelmingly favored in-person learning, leading the Secretariat to reduce the number of online projects and focus resources on high-quality, face-to-face training. This strategic shift increased nominations, deepened peer-to-peer learning, and aligned multicountry projects more closely with national follow-up programs.

Executive Leadership and Institutional Capacity Building

Executive Leadership Programs for NPOs, France

To elevate leadership capabilities within the productivity movement, the APO partnered with the prestigious INSEAD business school to deliver a high-impact executive leadership program tailored for NPOs. Held at INSEAD's Europe Campus in Fontainebleau, France, the program brought together 12 senior NPO representatives for an intensive, future-focused learning experience. Guided by eight world-renowned experts in economics, innovation, and public policy, these NPO representatives were

empowered to address pressing productivity challenges, lead transformative change, and become catalysts for productivity-led prosperity in the Asia-Pacific region. The program also highlighted the importance of leveraging technologies such as AI and productivity strategy to drive this prosperity.

Synergizing Smart Manufacturing and Digital Transformation

The APO Center of Excellence (COE) on Smart Manufacturing, approved in April 2019 and formally launched in Taichung, the ROC, in August 2019, serves as a hub for disseminating knowledge and best practices to member economies through various APO initiatives. A training course for smart manufacturing specialists held in 2024 enabled participants to learn from the ROC's IoT and smart machinery experience. Graduates helped design follow-up national courses, such as Sri Lanka's training on leveraging artificial intelligence for small and medium-sized enterprises (SMEs). Additional individual-country observational study missions (IOSMs) and national-level training courses are scheduled for 2025.

Training Course on Smart Manufacturing Specialists, ROC

Integrating Digital Kaizen and Continuous Improvement

To complement the traditional productivity philosophy of kaizen with modern tools, the APO introduced "digital kaizen" in 2024. A new multicountry training course hosted by Japan taught SMEs how to blend continuous improvement with digital technologies. The course included factory visits and hands-on exercises. In August 2024, with the support of a special cash grant from the ROC, the APO collaborated with the NPOs of the ROC and Japan to publish the *Digital Kaizen Guidebook*. The guide explains how digitalization and continuous improvement can coexist and provides tools and techniques for manufacturing SMEs. This guidebook now anchors the training curriculum and will be used to implement demonstration projects planned for 2025.

Strengthening Sectoral Value Chains

A multicountry workshop on gemstones held in Pakistan built on an IOSM to Thailand in 2023. To maximize impact, it was combined with an individual-country Technical Expert Services (TES) project that trained 190 participants from industry associations and universities on gem identification, certification, and advanced cutting techniques. Pakistan possesses the world's fifth-largest gemstone reserves, yet the sector struggles with outdated cutting and polishing techniques and limited access to gemological testing. The TES and multicountry projects emphasized resource-efficient production, compliance with international standards, and ethical sourcing. They improved participants' knowledge of international standards and value chain development and built a strong foundation for cooperation in the gemstone industry. By linking the APO's Multicountry and Individual-country Programs, the initiative created a pipeline from training to sectoral reform and strengthened collaboration between Pakistan and Thailand.

Workshop on Value Addition of Gemstone Products for Compliance with International Standards, Pakistan

02 Individual-country Program

Strengthening National Capacities for Productivity Transformation

In 2024, the APO delivered tailored, results-driven interventions across member economies, supporting the development of resilient, innovation-oriented productivity ecosystems. These interventions were anchored in national priorities, aligned with the APO Vision 2025, and designed to catalyze transformation in key sectors. They targeted institutional development, technology advancement, digital transformation, AI adoption, climate-smart agriculture, and sectoral innovation, ensuring that national priorities and global trends were addressed.

Demonstration Companies and Sectoral Innovation

Workplace Environment Management through Lean Manufacturing in the Surgical Instruments Industry, Pakistan

The Development of Demonstration Companies (DMP) Program produced tangible gains by establishing role-model enterprises adopting lean management, 5S, kaizen, and other productivity tools. A project implemented from July 2023 to September 2024 introduced lean management systems in three state-owned enterprises in Bangladesh's chemical industry, namely, Bangladesh Insulator and Sanitaryware Factory Ltd., Triple Super Phosphate Complex Ltd., and DAP Fertilizer Company Ltd. Guided by a Japanese expert, the companies adopted practices such as 5S, kanban, total productive maintenance, and just-in-time principles to reduce waste and enhance processes. Notably, the Bangladesh Insulator and Sanitaryware Factory reduced rejection rates by 18%, Triple Super Phosphate Complex improved its cooling and dilution efficiency, and the DAP Fertilizer Company achieved a 60% increase in its daily production rate. A dissemination conference shared these successes with around 100 stakeholders and illustrated how lean management practices can be introduced and scaled in other industries and sectors.

A DMP project on productivity improvement in manufacturing SMEs in Sri Lanka launched in December 2023 and concluded in August 2024. It engaged JAK Plastics (Pvt.) Limited, Kiyota Coffee Company (Pvt.) Limited, and Roo Prabha (Pvt.) Limited, with support from the National Productivity Secretariat, Sri Lanka, and the APO Secretariat. Through hands-on guidance from a Japanese expert, the SMEs applied 5S, kaizen, and lean production to reduce waste, reorganize factory layouts, and improve product quality. The concluding conference in Colombo attracted 150 participants from ministries, business associations, and SMEs. It also featured a virtual exchange with Cambodian Chemical Supply Co., Ltd., enabling Sri Lankan and Cambodian companies to share strategies. These success stories set benchmarks for other SMEs and create replicable productivity models.

Workshop on Capacity Development for Soil Carbon Visualization, Japan

Centers of Excellence

The APO expanded its focus on sustainable productivity by launching the COE on Climate-smart Agriculture in 2023. Hosted by Japan's National Agriculture and Food Research Organization (NARO), the COE is the first APO COE in Japan and the APO's first COE in the agricultural sector, and it aims to enhance productivity while reducing greenhouse gas emissions. In October 2024, the COE hosted a workshop on soil carbon visualization as part of a pilot project on

carbon sequestration. The workshop brought together experts from Japan and Thailand and signaled the start of joint projects on soil carbon credit methodologies. These initiatives demonstrate how individual-country programs align with regional research and support member economies in adopting climate-resilient practices.

Specific National Program

In its advisory capacity, the APO contributed to the formulation of a foresight-driven strategy to accelerate the growth and global competitiveness of Vietnam's textile, garment, and footwear industries. Anchored in Decision No. 1643/QD-TTg (29 December 2022) of the Prime Minister of Vietnam, the strategy sets ambitious 2021–2030 targets: achieving USD68–70 billion in export value with 6.8%–7.2% annual growth and raising the localization rate to 56%–60% by 2030, laying the foundation for sustained industry leadership by 2035.

Through the Development of Innovation Management Policy Framework for MSMEs in the Philippines project, the APO strengthened national innovation capacity by delivering targeted training on innovation management principles and survey administration, conducting a comprehensive assessment of survey findings, and formulating actionable policy recommendations. These outputs not only supported the integration of innovation management practices across micro, small, and medium-sized enterprises (MSMEs) but also guided the Department of Science and Technology (DOST) in refining its organizational policies to enhance competitiveness, productivity, and sustainable growth in the sector.

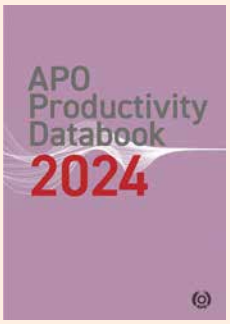
Outreach and Strategic Vision

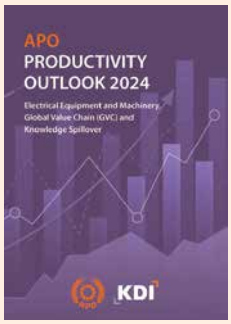
The APO continued to broaden its stakeholder engagement through the APO Vision 2025 Outreach (VSN) Program, which encourages member economies to promote inclusive, innovation-led productivity strategies. Activities focused on youth engagement, digital inclusion, and sustainability, mobilizing stakeholders across government, industry, and civil society to contribute to long-term productivity goals.

The 2024 Individual-country Program demonstrated the APO's commitment to tailor interventions to each member's needs while focusing on outcome-oriented delivery. By combining world-class leadership training, hands-on demonstration projects, and thematic centers of excellence and aligning them with national strategies, the APO supports member economies in building resilient, innovation-driven productivity ecosystems that respond to local needs and promote regional cooperation and sustainable growth.

APO Vision 2025 Outreach Program, Bangladesh

03 Research Program





Under the Regional Catalyst focus area, Research and Program Development is a major program that contributes to the think-tank and advisory roles of the APO. To strengthen such roles, research projects in 2024 included topics that aimed to achieve meaningful improvements in people's lives and boost overall economic performance through productivity-related policymaking. Research topics included raising informal-sector productivity, economic upgrading strategies for productivity growth, technological capability enhancement for SMEs, enhancing productivity among persons with disabilities for social inclusion, crowdsourcing for the public sector, government rightsizing and restructuring of member governments, women's empowerment in the agriculture sector, and productivity gainsharing best practices in the agrifood sector. Analyses of the emerging trends in the region, APO members' needs for program development, and the productivity readiness of member economies were also conducted. The APO continues to conduct research on the productivity performance of members through the Productivity Analysis series, the Productivity Outlook series, and the annual *APO Productivity Databook*.

04 Digital Learning Program

The Digital Learning Program is a major initiative continually implemented by the APO to disseminate knowledge on productivity-related topics. The digital learning projects are open to individuals from both members and nonmembers. Since its implementation, the program has strengthened the reputation and raised the visibility of the APO both within and outside the Asia-Pacific region. To intensify the Digital Learning Program in 2024, 13 new courses related to the agriculture, industry, public, and service sectors; GP; and productivity tools and techniques were initiated. In addition to these new courses, 87 existing courses covering various topics were retained due to high public demand. The appendices contain detailed information on the courses, the number of participants who registered and completed the courses, and the number of participants who passed the course exams and were issued with an APO certificate of completion.

The APO P-Talks continued to be broadcast on the APO YouTube channel in 2024. Twenty-eight sessions were organized, featuring 41 speakers from members and nonmembers. The P-Talk sessions had an average of 4,000 views per month, and the APO YouTube channel had more than 5,500 YouTube subscribers by the end of 2024.

05 Accreditation and Certification Program

In 2024, the APO continued to strengthen its Accreditation and Certification Program by expanding certification body (CB) development and building institutional capacity across member economies. Two new CBs, the Singapore National Productivity Organization Certification Body and the Thailand Productivity Institute Center of Professional Certification, were accredited under the Green Productivity Specialists certification scheme, bringing the total number of APO-accredited CBs to nine. As of 31 December 2024, a total of 168 individuals had received certification from the CBs.

To promote collaboration and knowledge exchange, the inaugural Workshop Meeting of Heads of APO Certification Bodies was held in Tokyo in July. The workshop participants discussed enhancing

CB sustainability, standardizing practices, sharing operational challenges, and advancing mutual recognition frameworks.

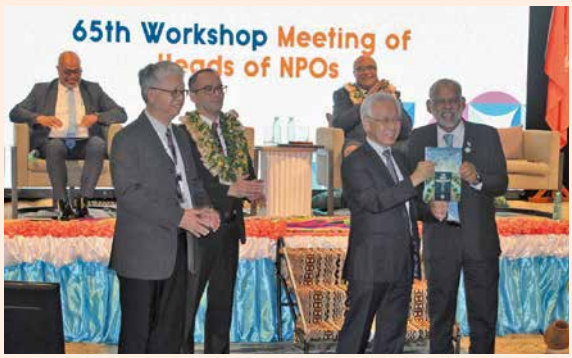
Workshop Meeting of Heads of APO Certification Bodies, Japan

In parallel, the APO conducted three specialized training courses to develop a qualified pool of assessors. A training course for APO Accreditation Body (APO-AB) assessors was held in Thailand to enhance their competencies in accreditation assessment procedures, report writing, and alignment with APO-AB and International Organization for Standardization (ISO) standards. Separate training courses for CB assessors were conducted in India and Vietnam, focusing on assessment requirements for the Productivity Specialists and Green Productivity Specialists certification programs. These initiatives ensure the continuous enhancement of CB competency, helping maintain the credibility and effectiveness of certification schemes.

06 **Special Cash Grant** Program: Development of Green Productivity 2.0

The APO introduced GP in 1994 as a strategy for integrating environmental protection with productivity improvement at a time when sustainability concepts such as the circular economy had yet to gain general awareness or acceptance.

At the 63rd GBM in 2021, the GB gave its blessing for the APO to develop Green Productivity 2.0 as an update to GP for a modern audience through the financial support of a special cash grant provided by the Government of Japan. After three years of foundational preparatory work by the technical working group led by Dr. Chun-Hsu Lin, Director of the Center for Green Economy, Chung-Hua Institution for Economic Research, the ROC, the GP 2.0 roadmap was presented to and endorsed by the GPA Council. This council is chaired by Professor Emeritus of the University of Tokyo Ryoichi Yamamoto, the mind behind the original GP concept.



Launching of the publication *APO Green Productivity 2.0: The Road Ahead*

Following the GB's final approval at the 66th GBM in May 2024 for the APO to implement the GP 2.0 roadmap, the APO acted swiftly to prepare the first significant milestone of GP 2.0 for the 65th WSM in October 2024 in Fiji: the ceremonial launch of GP 2.0. This formally marked the completion of the development phase of GP 2.0 and ushered in a new era where the APO would proactively implement the GP 2.0 roadmap to achieve new successes. As part of this launch, a report titled *APO Green Productivity 2.0: The Road Ahead* chronicling the development of the roadmap was presented to the APO Chair 2024–25 and Director for Fiji Jone Maritino Nemani, Permanent Secretary of the Ministry of Employment, Productivity and Workplace Relations of Fiji. The significance of this milestone was underscored by the presentation given by Professor Yoichiro Matsumoto, Science and Technology Advisor to the Minister for Foreign Affairs of Japan, which highlighted the multiple synergies between GP 2.0 and the policies pursued by Japan, such as the Green Growth Strategy, to realize the circular economy and Society 5.0. The GPA Council also welcomed Jone Maritino Nemani as its newest member. His appointment during the 65th WSM was witnessed by the President of the Republic of Fiji, His Excellency Wiliame Katonivere, whose presence underscored Fiji's unwavering commitment to support international efforts to address climate change such as GP 2.0.

Institutional Programs

Information and Public Relations

Public Relations

The Digital Information Unit (DIU) at the APO Secretariat leads Public Relations Program initiatives to boost the APO's visibility among key stakeholders and reinforce its brand image as a top productivity improvement organization. This involves making proactive efforts to share APO program information and activities through print and digital media, including the APO website and social media. The Public Relations Program is vital for promoting connections with APO members, international organizations, and the general public, serving as a central hub for productivity-related information.

In 2024, the DIU increased its use of social media platforms more than ever before, expanding opportunities to reach our audience. As a result, the APO was able to achieve higher engagement compared to 2023.

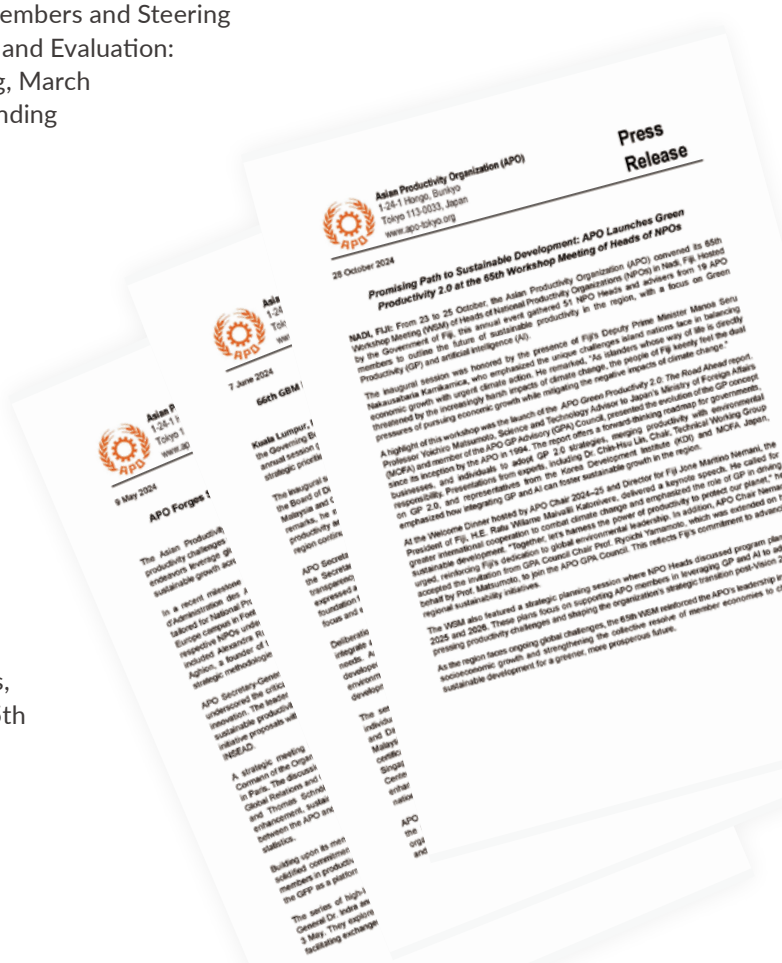
Website

The main APO website remains the principal channel for disseminating information, featuring regular updates on APO activities, projects, stakeholder engagement, and publications. In 2024, with over 130 articles published relating to APO projects, the website received an average of 8,400 monthly active visitors, culminating in a total of 101,251 active visitors throughout the year by the end of December.

Media Engagement

The Secretariat strives for greater media engagement through the distribution of press releases, the launch of new initiatives, and high-level meetings with dignitaries. In 2024, the following press releases were distributed:

- Socialization Dinner for Ambassadors of APO Members and Steering Committee on the APO Vision 2025 Monitoring and Evaluation: Pause-and-reflect Activity Consultation Meeting, March
- Asian Productivity Organization Awards Outstanding Productivity Champions, April
- APO Forges Strategic Initiatives and Global Partnerships to Advance Productivity, May
- 66th GBM in Malaysia Sets Strategic Path for Sustainable Productivity and Regional Growth, June
- APO Productivity Databook 2024: Economic Trends and Projections to 2035, October
- Promising Path to Sustainable Development: APO Launches Green Productivity 2.0 at the 65th Workshop Meeting of Heads of NPOs, October


Press Release

Asian Productivity Organization (APO)
1-24-1 Hongo, Bunkyo
Tokyo 113-0033, Japan
www.apo-tokyo.org

28 October 2024

Promising Path to Sustainable Development: APO Launches Green Productivity 2.0 at the 65th Workshop Meeting of Heads of NPOs

NADI, FIJI: From 23 to 25 October, the Asian Productivity Organization (APO) convened its 65th Workshop Meeting (WSM) of Heads of National Productivity Organizations (NPOs) in Nadi, Fiji, hosted by the Government of Fiji. The annual event gathered 51 APO Heads and advisers from 19 APO members to outline the future of sustainable productivity in the region, with a focus on Green Productivity (GP) and artificial intelligence (AI).

The inaugural session was honored by the presence of Fiji's Deputy Prime Minister Manoa Kamikamica, who emphasized the unique challenges island nations face in balancing economic growth with urgent climate action. He remarked, "As islanders whose way of life is directly threatened by the increasingly severe impacts of climate change, the people of Fiji keenly feel the deep pressures of pursuing economic growth while mitigating the negative impacts of climate change."

A highlight of this workshop was the launch of the APO Green Productivity 2.0: The Road Ahead report. Professor Yoichiro Matsumoto, Science and Technology Advisor to Japan's Ministry of Foreign Affairs (MOFA) and member of the APO GP Advisory (GPA) Council, presented the evolution of the GP concept since its inception by the APO in 1994. The report offers a forward-thinking roadmap for governments, businesses, and individuals to adopt GP 2.0 strategies, merging productivity with environmental responsibility. Presentations from experts, including Dr. Chie-Hsu Lin, Chair, Technical Working Group on GP 2.0, and representatives from the Korea Development Institute (KDI) and MOFA Japan, emphasized how integrating GP and AI can foster sustainable growth in the region.

At the Welcome Dinner hosted by APO Chair 2024–25 and Director for Fiji Jone Manitoa Nenani, the President of Fiji, H.E. Ratu Wiliame Maivalili Katonivere, delivered a keynote speech. He called for greater international cooperation to combat climate change and emphasized the role of GP in driving sustainable development. "Together, let's harness the power of productivity to protect our planet," he urged, reinforcing Fiji's dedication to global environmental leadership. In addition, APO Chair Nenani accepted the invitation from GPA Council Chair Prof. Ryoichi Yamamoto, which was extended on behalf by Prof. Matsumoto, to join the APO GPA Council. This reflects Fiji's commitment to advancing regional sustainability initiatives.

The WSM also featured a strategic planning session where NPO Heads discussed program plans for 2025 and 2026. These plans focus on supporting APO members in leveraging GP and AI to address pressing productivity challenges and shaping the organization's strategic transition post-Vision 2025. The socioeconomic growth and strengthening the collective resolve of member economies to advance sustainable development for a greener, more prosperous future.

As the region faces ongoing global challenges, the 65th WSM reinforced the APO's leadership in

The APO Secretary-General accepted several media interviews and high-level meetings with dignitaries during his official missions to APO members, including the 66th GBM in Malaysia in May and 65th WSM in Fiji in October.

Social Media

The APO promotes its presence by actively posting on its four social media accounts on Facebook, LinkedIn, X, and YouTube. Animated banners were introduced for social media posts relating to new publications and e-courses to attract a larger audience, with a positive impact; the total number of followers/subscribers reached 43,000 in 2024 and the engagement rate increased to 6.1%, which is 0.4% higher than in 2023.

Collateral

To enhance visibility and maintain consistency in promoting the APO across member economies, the DIU has rolled out the following APO Promotional Branding Kit.

Format	Collateral
Digital	1. APO Visual Identity Guidelines 2. APO Corporate Slide Deck 3. APO PowerPoint Template
Digital and print	4. APO brochures in English and Japanese 5. APO Standing Banner

APO Standing Banner

APO Awards 2024

In 2024, two APO Regional Awardees and five APO Meritorious and Distinguished Awardees were recognized for their exceptional contributions to the productivity landscape within their nations and across the region. The conferment ceremony took place during the 66th GBM in Malaysia, and articles on the awardees were published on the APO website.

APO Regional Awardees 2024

Category: Policy, Strategic Thinking, Leadership and Management, and Methodology, Tools, and Techniques

- Dr. Pao-Cheng Chang, President, China Productivity Center, ROC
- Anilkumar Manibhai Naik, Chairman Emeritus, Larsen & Toubro Limited, India

APO Meritorious and Distinguished Awardees 2024

Category: Policy, Strategic Thinking, Leadership and Management, and Methodology, Tools, and Techniques

- Yamaaranz Erkhembayar, Chairman and Chief Executive Officer, Mongolian Productivity Organization, Mongolia
- Dr. Ha Minh Hiep, Acting Director-General, Directorate for Standards, Metrology and Quality (now the Commission for Standards, Metrology and Quality), Ministry of Science and Technology, Vietnam

Category: Policy, Strategic Thinking, and Leadership and Management

- Bountheung Douangsavanh, Deputy Minister, Ministry of Industry and Commerce, Lao PDR
- Datuk Wira (Dr.) Haji Ameer Ali Mydin, Managing Director, Mydin Mohamed Holdings Berhad, Malaysia
- Prof. Ahsan Iqbal, Federal Minister for Planning, Development and Special Initiatives, Government of Pakistan, Pakistan

APO Award 2024 Conferment Ceremony at the 66th GBM, Malaysia

Follow-up Review of the APO Award Program

The APO Award Program was initiated in 1978 with the primary objective of recognizing individuals who have made outstanding contributions to the promotion and improvement of productivity nationally, regionally, and beyond. The screening committee for the APO National and Regional Awards 2021 proposed revisions to the award schemes, which were approved at the 63rd GBM, including in-principle approval for monetary prizes. In 2024, the second cycle of the APO Regional Awards and the APO Meritorious and Distinguished Awards under the revised award conditions and procedures was conducted.

The 66th GBM approved reviewing the APO Award Program conditions and procedures once again to give the APO Award Program a new impetus, increase its credibility and prestige, and ensure that it effectively achieves its objectives and supports the APO's mission. Following the GB's direction, a task force (TF) was convened to conduct a follow-up review of the APO Award Program.

As part of the follow-up review exercise, online surveys were conducted of key stakeholders, comprising past awardees, screening committee members, APO Directors, and NPO Heads, to receive their feedback and learn about the nomination process in APO members. An online TF preparatory meeting was held on 19 November followed by a hybrid TF meeting from 16 to 17 December in Tokyo. After detailed deliberations in the meetings, the TF proposed recommendations for the improvement of the APO Award Program conditions and procedures to be presented at the 67th GBM for adoption by the APO.

APO Honorary Fellows

Since 1978, the GB has conferred the title of APO Honorary Fellow on former APO Directors, Alternate Directors, NPO Heads, Secretaries-General, or APO Liaison Officers fulfilling the set criteria in recognition of their outstanding contributions to the organization.

The title of APO Honorary Fellow was conferred on the following individuals in 2024:

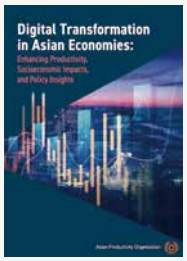
- Former NPO Head for Cambodia Him Phanith
- Former APO Director and NPO Head for the ROK Wangi Ahn
- Former APO Alternate Director for Lao PDR Sa Siriphong
- Former APO Alternate Director and NPO Head for the Philippines Atty. Engelbert C. Caronan, Jr.
- Former APO Alternate Director for Singapore Christophane Foo

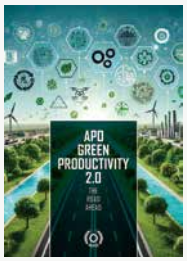
Publications

Thirty-two publications were released in 2024 and made available on the APO website. They comprised research reports, serials (e.g., Productivity Insights), and the *Annual Report 2023*. The total number of publication downloads recorded was over 17,300, compared with 14,400 in 2023. The list of publications is below.

Research Reports

- *New Dynamics of Global Supply Chain Systems and Implications for Productivity in Asia*
- *Recent Trends in Performance Management Systems in the Public Sector in Asia*
- *A Regulatory Policy Toolkit to Improve Productivity*
- *Informality, Productivity, and Financial Inaccessibility: A Study of Selected APO Members*
- *Global Perspectives on Premature Deindustrialization: Insights from APO Member Economies*
- *Agile Working Styles for Productivity*
- *Institutional Capacity and Its Impact on Productivity*
- *Strategies for Enhancing SME Business Continuity in APO Developing Economies*
- *Improving Agricultural Policy and Programming through Data-Driven Adoption Prediction*
- *Digital Transformation in Asian Economies: Enhancing Productivity, Socioeconomic Impacts, and Policy Insights*
- *Sustainable Agricultural Modernization Productivity Tools in Asia*
- *Institutional Innovation Ecosystems to Drive Productivity in APO Member Economies*
- *Productivity Policies for Aging Asia*
- *Best Strategies for Ensuring SME Business Continuity in Advanced APO Economies*
- *Strategies for Ensuring Business Continuity of SMEs in the APO Developing Economies*
- *Digital Kaizen Guidebook*
- *Knowledge Management Case Studies in Mongolian Energy and Mining Sectors*
- *APO Members' Need and Readiness for Climate-Smart Agriculture Technologies*
- *Vietnam GRP Assessment*
- *APO Green Productivity 2.0: The Road Ahead*





Serials

- *APO Productivity Databook 2024*
- *APO Productivity Outlook 2024*
- Productivity Insights, Volume 4 (three reports)
  - *Overtourism: Potential Short- and Long-term Solutions*
  - *The Future of Work: What Lies Ahead in Boosting Productivity*
  - *From Lean to Smart Manufacturing*
- Productivity Insights, Volume 5 (three reports)
  - *Unlocking Productivity in Green Supply Chain Management*
  - *Post-COP28: Climate Change and Productivity Opportunities for Businesses*
  - *The Art of Digitalization: A Dive into e-Estonia*
- Emerging Trends in APO Members (three reports)
  - *Investigating the Effects of ICT Use on R&D Productivity: A Case Study on Optics and Photonics Research in the Philippines*
  - *Nepal's Gig Economy and its Implication on Labor Participation and Income Distribution*
  - *Emerging Technological Trends and Business Process Management: Preparing the Philippines for the Future*

Annual Report

- *APO Annual Report 2023*

Information Technology

IT Program

The APO continued to strengthen its Digital Learning Program using advances in IT in 2024 for effective and efficient delivery of services to APO members through P-Talks and e-courses using digital platforms. This digital-based project delivery enables the Secretariat to reach and promote productivity-related knowledge, tools, and techniques to a much wider audience than is possible through traditional, face-to-face means. APO digital projects reached individuals in various sectors, such as agriculture, manufacturing, services, and governments, both within and outside the Asia-Pacific region. Given the proven benefits that digital technology brings to APO programs, the Digital Learning Program will further strengthen and expand the capacity-building initiatives of the APO in achieving the 2025 Vision.

Enhancing the Strategic Digital Capability Initiative

The APO digital transformation journey continues to strengthen the digital capability of the Secretariat under the APO Strategic Digital Capability Plan 2021–25. After the operationalization of the enterprise resource planning system SAP Business ByDesign as a core project management system at the Secretariat in 2023, the Secretariat achieved another major milestone in 2024 through the implementation of Salesforce, a customer relationship management system. This platform improves project and information management by the Secretariat, NPOs, project participants, and resource persons. The SAP ByDesign and Salesforce systems are integrated to operate in tandem, maximize operational efficiency, and propel the Secretariat's digitalization journey onward. They also include scalability, interfaces with APO members, and future-readiness capabilities.

The new APO participant and resource person management system in the Salesforce platform expands the project management benefits to APO members, improving operations and services for project announcements; participant applications, shortlisting, and selection; issuing letters of acceptance to participants; document sharing; conducting online project surveys; and issuing completion certificates for project participants. Recognizing the capacity-building needs of NPOs for smooth operations in the new systems, the Secretariat organized the online Capacity Building of NPOs in New Digital Systems training course, which was held 16–19 January. The course was attended by 51 individuals, comprising 39 selected participants and 12 observers from 20 APO members, representing APO Liaison Officers, NPO senior officers, IT personnel, and staff involved in coordination with the APO Secretariat.

Initially, the Salesforce platform was introduced to NPOs for four pilot projects from July to October to validate the system's integrity. Upon successful completion of the pilot testing and after endorsement by the 65th WSM, the system was launched on 1 November for all APO projects. The new system is intended to minimize the need to use multiple platforms and communication tools among the NPOs, participants, resource persons, and the Secretariat. NPOs are now to administer all new project notifications and related tasks for their member economies in the Salesforce system.

The digitalization of the participant and resource person management process will revolutionize the work style and project implementation interactions of the Secretariat and NPOs. It is expected to significantly reduce the time and effort required for communication and document management among stakeholders. This will add value to APO Secretariat and NPO operations by reducing workloads and streamlining processes. Moreover, it will enable NPOs to use the APO resource person database to identify and invite relevant experts for their own projects and assignments.

With the rapid IT developments and ever-changing needs of APO members, the Secretariat believes that digital transformation is a continuous effort to optimize business processes, increase productivity, and ensure transparency and accountability. The Secretariat is committed to addressing emerging APO needs through the enhancement of digital systems and embracing the changes brought about by digital transformation to remain relevant and thriving.

IT Infrastructure Improvement and Cybersecurity

Continuous efforts were made to enhance IT infrastructure and cybersecurity measures in 2024. Focus was placed on improving email security settings to safeguard against potential threats. Additionally, client PCs were upgraded as part of the system life cycle, which included enhancing processors and expanding storage capacity. In response to the recommendations from the GB-led independent evaluation of the APO Secretariat's performance, management, and compliance by a third party (2022–23), a comprehensive IT security policy was successfully developed and implemented. This policy includes new guidelines and procedures to further strengthen the cybersecurity framework.

International Cooperation

The APO continued to extend its network of collaborators among APO members, nonmembers, international organizations, and other national institutes in 2024.

The APO's unique ability to bring together a spectrum of stakeholders through productivity was highlighted by the Socialization Dinner hosted by the APO Secretary-General in March, which brought together ambassadors of APO members and members of the APO Vision 2025: Pause-and-reflect Activity Steering Committee.

Socialization Dinner for Ambassadors of APO Members and Steering Committee on the APO Vision 2025: Pause-and-reflect Activity Consultation Meeting, Japan

The APO also welcomed senior officials of the Japan Foundation; representatives from the Embassy of Malaysia; delegates from the Office of Small and Medium Enterprises Promotion, Thailand; and delegates from the Indonesia National Wage Council to the APO Secretariat for exchanges of views that brought fresh perspectives for the strengthening of the productivity movement.

The APO continued to learn from other international organizations such as ASEAN, the Economic Research Institute for ASEAN and East Asia (ERIA), the OECD, and UNESCAP. The APO Secretary-General had meetings with ERIA President Tetsuya Watanabe and OECD Secretary-General Mathias Cormann in February and May, respectively, to exchange views and explore collaboration opportunities. Resource persons from the APO also participated in the ASEAN Taskforce Meeting on the Future Strategy of Food, Agriculture, and Forestry; engaged in the Consultative Workshop on the ASEAN Economic Community Post-2025 Agenda; and attended the 8th Session of the Committee on Environment and Development by UNESCAP. These interactions provided valuable lessons informing the APO's own post-2025 visioning exercise and GP 2.0 activities.

The APO was active in forums such as the National Technology and Innovation Sandbox's Global Sandbox Forum in Malaysia, which focused on innovative sandbox models for fostering sectoral innovation. Moreover, the APO attended the Symposium to Commemorate the 70th Anniversary of Japan's Official Development Assistance, gaining insights into current trends in international cooperation that could present new opportunities.

The APO's engagement of nonmembers in 2024 was elevated following the approval of the GB in January for the establishment of a fund for nonmember participation and assistance. In addition to engaging with the embassies of Azerbaijan, Brunei, and Tajikistan, the APO Secretariat also had a virtual meeting with the Azerbaijan State Social Protection Fund, which culminated in the participation of three State Social Protection Fund officials in APO programs.

Africa Kaizen Annual Conference 2024, Tunisia

The APO maintained friendly ties with entities beyond the Asia-Pacific region, hosting delegations from the Ministry of Small and Medium-sized Enterprises, Social Economy and Handicrafts of Cameroon and the National Mindset Change Campaign of Botswana at the Secretariat. The APO also continued serving on the Examination Committee for the Japan International Cooperation Agency (JICA) Africa Kaizen Award, attended the Africa Kaizen Annual Conference 2024 in Tunisia, and shared its experiences with students at Aoyama Gakuin University, fostering an understanding of international cooperation among future leaders.

Pause-and-reflect Activity

APO Vision 2025: Pause-and-reflect Activity and the APO Post-2025 Visioning Exercise

In May 2024, the 66th GBM endorsed the following recommendations from the APO Vision 2025: Pause-and-reflect Activity.

	Recommendations	Main APO Stakeholders Responsible
For the current vision		
1.	Track high-level data (using secondary or third-party data, e.g., International Institute for Management Development World Competitiveness Center)	APO Secretariat
2.	Assess/audit high-level data in the current vision and determine relevance to the next vision	APO Secretariat
3.	Adopt proposed adjustments to operational key performance indicators and enhance/develop tools to monitor them.	APO Secretariat NPOs (consultation)
4.	Undertake evaluation of the APO Vision 2025	APO Secretariat External evaluator
For the post-2025 vision		
Phase I		
1.	Develop guidelines and system for results-based monitoring and evaluation (M&E)	APO Secretariat NPOs (consultation)
2.	Conduct consultations and discussions with stakeholders to develop tools and identify capacity gaps	APO Secretariat NPOs (consultation)
3.	Create dedicated M&E teams in NPOs (extend assistance)	NPOs
Phase II		
1.	Mobilize for the development of the post-2025 vision	External professional APO Secretariat NPOs (consultation)
2.	Conduct audit/analysis of higher-level data (for data collection on the current vision and analysis of relevance for development of the post-2025 vision)	
3.	Conduct needs assessment and stakeholder analysis	
4.	Prioritize problems to be addressed as the basis for the development of program plans through stakeholder consultations	
5.	Develop the post-2025 vision document and indicative program plans	

Subsequently, the APO Secretariat carried out the necessary actions to implement the recommendations, including conducting the APO post-2025 visioning exercise. The aim of the APO post-2025 visioning exercise is to develop a new vision document/strategic plan that benefits from comprehensive analyses and deliberations guided by the principles of policy coherence, improved performance, and demonstrable results, utilizing the lessons learned from the implementation of the APO Vision 2025.

The exercise also uses a participative approach where APO stakeholders take part in mapping relevant priorities, strategies, and emerging trends to ensure that the APO remains relevant in the post-2025 environment while keeping true to its mission.

Key Activities of the APO Post-2025 Visioning Exercise

The post-2025 visioning exercise officially started in November 2024 with the following main activities (activities two to four are being implemented under the approved project 24-IN-08-GE-RES-A: APO Project Monitoring and Evaluation):

1. **Needs assessment:** The needs assessment was implemented under project 24-RC-16-GE-RES-A: Research on Assessing the Needs of APO Member Countries. It aimed to (a) identify the needs of APO member economies for productivity enhancement and how they could be addressed; (b) determine potential productivity-enhancing support, tools, and techniques needed by members to enhance overall productivity performance as inputs in capacity-building initiatives; and (c) identify information the APO can use to develop medium-term programs and plans that address the common developmental needs and aspirations of member economies, with a specific focus on productivity enhancement.

   The needs assessment was led by a research institution and involved 20 APO member economies with the active participation of national experts. The final report is expected to be completed in March 2025.

2. **End-term review of the APO Vision 2025:** The end-term review of the APO Vision 2025 will complement the needs assessment and stakeholder consultations, ensuring that the next vision document/strategic plan incorporates the best practices and lessons learned from the implementation of the APO Vision 2025. The end-term review of the APO Vision 2025 will be essential in understanding whether its programs and initiatives have been achieving their intended objectives and how they can be carried forward into the post-2025 vision. The report is expected to be ready by March 2025.

3. **Consultations and stakeholder engagements:** Based on inputs from the needs assessment, relevant reviews, evaluations of APO programs, the APO Vision 2025 itself, and other related analyses and policy directives from APO members, a series of consultative workshops is being conducted with internal and external APO stakeholders to refine the post-2025 priorities and design corresponding program plans. This process is also expected to prompt discussions on how existing APO programs and modes of engagement could be more responsive and flexible to address the identified needs and gaps while balancing them with APO priorities. The consultations are expected to be finished by March 2025.

4. **Development of the new vision document/strategic plan, including indicative program plans:** The new vision document/strategic plan will serve as the main output of the post-2025 visioning exercise. It is expected to specify what the APO wants to achieve in a designated time. The APO post-2025 vision will provide a clear theory of change and a result framework communicating the changes intended and expected to result from the strategies and initiatives pursued. It will clearly define the intended beneficiaries and partners for each intervention. More importantly, the post-2025 vision will develop an M&E framework to guide APO members, NPOs, and the Secretariat in tracking progress, achievements, best practices, and lessons learned. The vision is expected to be finalized by the end of 2025 for implementation in 2026.

2023 Annual Project Review by the APO Secretariat

The annual review followed the standard evaluation criteria, focusing on the relevance, effectiveness, and efficiency of project implementation, while also addressing elements of impact and sustainability. The projects covered in this annual project review are limited to those with training or learning aspects and those for which corresponding assessments could be determined using the existing postproject survey tool targeting individuals. These comprised (1) multicountry projects, (2) APO e-courses, and (3) individual-country Bilateral Cooperation between NPOs (BCN) projects, IOSMs, and TES projects. Given the limitations of the methodology and corresponding tools available, the following projects were excluded: Research, P-Talks, Accreditation and Certification, COEs, the APO Award Program, and individual-country projects such as Certification Body Development (CBD), DMP, SNP for APO members, and the VSN Program.

The APO Secretariat assessed each project covered in this annual project review at the end of implementation. The survey questions were limited to determining the degree to which participants found the capacity-building initiatives relevant to their work, focusing only on certain aspects of the evaluation criteria. The postproject surveys generated both quantitative and qualitative data, which were analyzed to yield findings, conclusions, and recommendations. The quantitative data were substantiated by the qualitative data received from the open-ended questions. The annual project review covered the projects listed in the table below (highlighted in columns 4 and 5).

2023 Projects Covered in the Report

Program Category	Number of Projects Completed	Number of Direct Beneficiaries (Individuals)	Number of Projects That Administered a Postproject Survey	Number of Direct Beneficiary Respondents (Sample Size)[4]
Multicountry[1]	69	2,443	66	1,781
Multicountry: APO e-course[2]	20	494	20	410
Individual-country[3]	47	9,398	39	2,237
Total	136	12,335	125	4,428

1. Conferences, OSMs, training courses, and workshops.
2. Released in 2023.
3. BCN, IOSM, and TES.
4. The sample size is **36%** of direct beneficiaries. The survey tool used is limited to those with training or learning aspects targeting individuals.

Key Findings

Among the three focus evaluation criteria, APO projects rated highly on "relevance," with an average rating of 85% across all project types, followed closely by "efficiency" at 82%. Meanwhile, "effectiveness" rated the lowest (although still relatively high) at 79%. Most recommendations addressed how to enhance aspects of "usefulness" and "application" by thorough project design, sustainability mechanisms such as follow-up activities, and operational efficiency (utilizing the right "resources" to deliver the results).

Relevance, Impact, and Sustainability:

1. Respondents from multicountry and individual-country projects perceived the projects as relevant; 97% and 98%, respectively, gave favorable ratings on aspects related to the usefulness and timeliness of the intervention and the likelihood of applying the knowledge and skills acquired through the projects. Providing examples relevant to members aided learning and enhanced relevance of the topic. Participants appreciated that while contexts vary across members, understanding how all share the same concerns afforded invaluable perspectives on addressing certain productivity issues. Since the modality of multicountry projects was fairly evenly distributed, face-to-face and online multicountry projects were compared, revealing that there was little difference in the overall rating.

2. For APO e-courses, 61% of respondents "strongly agreed" that the courses were relevant, with strong indications that skills acquired were critical for professional development and supporting future endeavors either in study or work. Learners appreciated the practical knowledge gained and expressed interest in applying it in their respective fields.

Effectiveness, Impact, and Sustainability:

3. For multicountry projects, respondents rated "presentation materials" (97%) higher than other relevance-related aspects such as "group activities" (83%), "field visits" (89%), and "networking with peers" (92%). Meanwhile, for individual-country projects, BCN rated highly on effectiveness (97%) compared with IOSM (95%) and TES (89%). In terms of modality, project effectiveness was slightly lower for online multicountry projects than for face-to-face projects.

4. In 2023, although the number of e-courses offered by the APO was the highest yet at 87, compared with the previous year (2022), the completion rate remained steady at around 46%, disrupting the upward trend experienced from 2020 to 2022. Similarly, the dropout rate remained relatively steady in 2023, increasing from 53% in 2022 to 54% in 2023. The slight increase was due to a spike in the dropout rate of learners from nonmember economies. Overall, the majority of participants "strongly agreed" that APO e-courses achieved their objectives. The courses were commended for being clear and concise and providing a solid foundation for future endeavors. Participants benefited from valuable insights and practical knowledge shared on various topics such as digital innovation, the bakery industry, agriculture, productivity measurement, and blockchains in agriculture.

Efficiency and Effectiveness:

5. For multicountry projects, highly favorable ratings were received for "resource persons" (97%), "technical aspects" (93%), and "organization of activities" (94%). IOSMs rated highest on efficiency (96%) compared with BCN (92%) and TES (93%) projects. Course content and time management were perceived as APO project strengths. While participants held a deeper appreciation for the topics of face-to-face projects compared with online projects, project efficiency ratings were slightly higher for online multicountry projects.

6. For APO e-courses, efficiency was measured through learners' perceptions of the utility of the site or digital platform and certain elements of course delivery such as language and learning resources. The majority of respondents (57%) once again "strongly agreed" that the courses were efficiently implemented based on the parameters identified. The participants appreciated the engaging course content, clear explanations, and user-friendly platforms. The online learning environment had an intuitive and user-friendly interface. They found it easy to access the course materials, find resources, and finish quizzes.

Key Recommendations

The following conclusions and recommendations were made for relevant APO stakeholders. The recommendations were derived from the open-ended questions addressed to participants, implementing organizations, resource persons, and APO Secretariat staff handling the projects.

	Conclusions	Recommendations	Concerned APO Stakeholders
Relevance, Impact, Sustainability			
1.	Respondents view APO projects covered in the report as relevant, while aspects of "usefulness" and "application" could be enhanced by improved project design.	For multicountry and individual-country projects with learning aspects (knowledge, attitude, and practices): • Conduct skill assessments to enhance project design and more systematic planning. • Focus on long-term directions instead of short-term strategies, with interventions oriented toward policy discussion and strategy formation.	Implementing organization (APO Secretariat or NPO)
2.	Improve aspects related to "application" and recognize the importance of understanding contexts, which is a constant challenge when implementing multicountry projects.	For multicountry and individual-country projects with learning aspects (knowledge, attitude, and practices), including APO e-courses: • When the focus is thematic, contextualize design to cater to different sectors. • Share best practices and case studies from developing countries as well.	
Effectiveness, Impact, Sustainability			
3.	Establish contributions to the achievement of intended results (increased knowledge, enhanced skills, etc.) to continue feedback discourse.	For multicountry and individual-country projects with learning aspects (knowledge, attitude, and practices), including APO e-courses: • Revisit the postproject assessment to make it less directive and biased (note: this has been addressed with the revised form in effect as of 2024). • Specifically for training courses, establish baseline data (using skill assessments) and conduct postproject assessments to understand whether change occurred at the level of understanding/knowledge. • Assess the impact of projects and follow up with participants to evaluate their implementation of activities after the project (note: the APO Secretariat conducts external impact evaluations).	APO Secretariat, with assistance from NPOs
4.	Strategies or methodologies could align more with project objectives.	For multicountry and individual-country projects with learning aspects (knowledge, attitude, and practices): • Along with proper mapping of target participants, assign less weight to general and theoretical topics and focus more on practical applications of the concepts, tools, problem-solving exercises, and action planning. • Choose field visits that target the project objectives. • Provide more time for interaction with peers so participants can better understand relevant policies, schemes, etc. promoted/discussed during the project and improve communication and productivity, with more breakout-room sessions for online projects.	Implementing organization (APO Secretariat or NPO)

	Conclusions	Recommendations	Concerned APO Stakeholders
5.	Sustained effectiveness of interventions could be aided by follow-up activities.	Follow-up activities proposed for multicountry and individual-country projects with learning aspects (knowledge, attitude, and practices): • Present the project results directly to public organizations, private agencies, or other agencies responsible for institutionalizing specific interventions. • Hold annual alumni events to check progress and reflect on initiatives after APO projects. • Develop follow-up projects. • Establish communities of practice.	Implementing organization (APO Secretariat or NPO)
	Efficiency and Effectiveness		
6.	APO projects could enhance operational efficiency by utilizing the right resources to deliver the results.	For multicountry and individual-country projects with learning aspects (knowledge, attitude, and practices), including APO e-courses: • Further screen resource persons not only for expertise and knowledge on a subject but also for the skills and ability to share that knowledge. • Develop resource utilization strategies in future projects to enhance efficiency and effectiveness. • Facilitate more coordination among resource persons to ensure that their sessions align with project objectives. • For e-courses, facilitate a conducive learning experience through enhanced content delivery and exam flexibility, provide downloadable presentations and additional reading materials, improve audio quality, and provide lecture summaries or handouts to help learners.	APO Secretariat

Independent Impact Evaluation of 2022/2023 APO Programs/Projects

In 2024, the APO Secretariat commissioned Rapid Asia to conduct an impact evaluation. The impact evaluation assessed the effectiveness, relevance, efficiency, impact, and sustainability of APO programs and projects implemented across its member economies in 2022 and 2023. Project types in the multicountry category comprise conferences, e-courses, OSMs, P-Talks, research, training courses, and workshops. Project types in the individual-country category include the APO Award Program, VSN, BCN, CBD, DMP, IOSM, SNP, and TES. Projects funded by the Special Account for Business Recovery and Resilience were also included in the impact evaluation.

The evaluation applied a mixed-methods approach. First, an online survey was conducted among targeted individuals who had previously participated in multicountry and individual-country programs and projects. The response rate is shown in the table on the right.

Category	Number	Percent
Original database records	6,224	–
Undeliverable emails	298	–
Usable database records	5,926	100
Terminated interviews	190	3
Nonresponse	4,625	78
Completed interviews	**1,111**	**19**

Second, in-depth follow-up interviews with the APO program and project participants who responded to the online survey were conducted to contextualize survey results and examine particular experiences among participants. Third, key informant interviews were conducted with key APO stakeholders to provide additional perspectives on the programs and projects, including those not covered in the survey, such as research, P-Talks, VSN, the APO Award Program, CBD, DMP, TES, SNP, and projects funded by the Special Account for Business Recovery and Resilience. Key informant interviews were conducted with APO Secretariat representatives, NPO representatives, resource persons, researchers, and representatives from demonstration companies.

Key Findings

Relevance and coherence: APO programs and projects were highly relevant to the target beneficiaries, aligning well with the participating economies' needs and their governments' strategic priorities. Participants held highly positive views of APO program and project performance, with in-person modalities performing better than online modalities. Programs and projects provided relevant practical knowledge and content and helped participants foster strategic networks and professional partnerships. In addition to challenges with the online modality, other limitations included the relevance of content to individual economies and the appropriateness of trainers.

Efficiency: The delivery of APO programs and projects was timely and within budget, especially with the successful transition to online formats during the COVID-19 pandemic. However, the evaluation revealed challenges related to bureaucratic delays, human and financial resource constraints, and logistical coordination.

Effectiveness: Some of the APO programs and projects were found to be effective in achieving their intended results, with evidence of a positive impact on productivity for target beneficiaries. "Content" was a key strength for both in-person and online projects, with "trainers or presenters" also being a key strength of in-person delivery. On the other hand, "materials" was a key weakness for both modalities and "ability to implement" was an additional weakness for in-person projects, indicating areas in which improvement efforts should be focused. The programs and projects catalyzed actions among participants, leading to practical applications in their organizations and communities. Participants highlighted the effective adoption of structured methodologies and adherence to international standards due to APO training, which has substantially improved organizational efficiency and product quality.

Impact: The evaluation found that the APO's interventions positively impacted individual participants, organizations, and the wider community. Participants reported improved productivity, enhanced leadership capabilities, and new partnerships forged due to APO activities. However, the evaluation noted a need for stronger follow-up mechanisms to support the long-term implementation of learned skills and knowledge.

Sustainability: Many program and project outcomes will likely be sustained in the long term, particularly where organizations have institutionalized the knowledge gained through regular training and knowledge-sharing initiatives. Partnerships fostered through APO programs and projects were identified as key to sustaining impact beyond the program or project's life cycle.

Key Recommendations

Overall, the challenges identified in the key findings section of this report primarily relate to the efficiency and effectiveness of project implementation. Addressing these issues through improved coordination, resource allocation, and capacity building can enhance both project outcomes and sustainability. The following recommendations are proposed to address the key challenges highlighted through the evaluation and further enhance project strengths.

Findings	Recommendations	APO Stakeholders Responsible
Relevance		
Challenges with the online modality, relevance of content to individual economies, and the appropriateness of trainers	**Enhance local contextualization:** Develop tailored content that considers local needs, cultural nuances, and language differences to improve the applicability and effectiveness of training programs.	APO Secretariat NPOs (through experts to be engaged)
	Strengthen in-person engagement: Where possible, prioritize in-person training modalities to maximize participant engagement and foster professional networking opportunities.	APO Secretariat NPOs
	Involve local experts: Engage local trainers and subject matter experts to ensure content relevance and appropriateness, enhancing the effectiveness of both in-person and online sessions.	NPOs APO Secretariat
Efficiency		
Bureaucratic delays, human and financial resource constraints, and logistical coordination	**Streamline bureaucratic processes:** Simplify reporting and approval protocols to reduce project implementation delays and improve stakeholder coordination.	APO Secretariat NPOs
	Support smaller NPOs: Increase financial and human resource support for smaller NPOs to enhance their capacity for effective project execution.	APO members (for GB consideration)
	Optimize logistics for multicountry projects: Establish straightforward logistics and coordination protocols to address challenges in multicountry project execution, especially those involving travel.	APO Secretariat NPOs
Effectiveness		
Key weakness for both online and face-to-face: "materials" Additional weakness for face-to-face: "ability to implement"	**Improve training materials:** Invest in creating high-quality, practical training materials that facilitate more straightforward implementation of learned concepts.	APO Secretariat NPOs (through experts to be engaged)
	Revise participant and trainer selection processes: Enhance the nomination and selection processes for participants and trainers to ensure suitability and effectiveness in knowledge transfer.	APO Secretariat
	Increase hands-on training opportunities: Provide more practical training sessions to improve the "ability to implement" learned techniques, particularly for in-person projects.	APO Secretariat NPOs
Impact		
Need for stronger follow-up mechanisms to support the long-term implementation of learned skills and knowledge	**Strengthen follow-up mechanisms:** Develop structured follow-up systems, including mentoring and coaching, to help participants implement their learning and ensure ongoing knowledge sharing.	NPOs APO Secretariat
	Evaluate long-term impact: Implement robust mechanisms to measure and track the long-term impacts of projects, including adopting new techniques and practices post-training.	APO Secretariat NPOs
	Align projects with national policies: Ensure project outcomes align with national priorities and development goals to enhance their relevance and sustainability.	APO Secretariat NPOs

Findings	Recommendations	APO Stakeholders Responsible
Sustainability		
Continuous challenge to institutionalize knowledge and skills gained through APO projects	**Foster continued knowledge sharing:** Embed ongoing knowledge-sharing practices, such as annual refresher training sessions, within organizations to sustain the impact of APO projects.	NPOs APO Secretariat
	Scale successful initiatives: Identify and promote successful initiatives (e.g., lean management practices) that can be scaled across different industries and cultural contexts to maximize impact.	NPOs APO Secretariat
	Build NPO capacity: Provide training and resources to enhance the capacity of NPOs, ensuring they can sustain project outcomes independently following APO funding.	APO members (for GB consideration)

Independent Evaluation of the APO Secretariat's Performance, Management, and Compliance by a Third Party (2023–24)

The APO Secretariat underwent its second cycle of independent evaluation by a third party in 2024. This evaluation was part of an ongoing process initiated following the approval of the 64th GBM in 2022, the aim of which was to enhance the transparency, accountability, integrity, and effectiveness of the APO's operations.

The second evaluation cycle focused on assessing the progress in implementing the recommendations from the first cycle of evaluation, with an emphasis on fortifying internal control systems and conducting comprehensive risk assessments. It built upon the first cycle's initiatives, expanding the scope to address both ongoing and emerging organizational needs.

The APO Secretariat Third-party Evaluation Report: Assessment of APO Secretariat's Performance, Management, and Compliance (2023–24) was discussed at the 66th GBM in May, and its approval was announced in August. The 2024 evaluation recognized enhancements in internal controls, particularly in IT security and procurement processes. It noted the progress made in the preparation of a whistleblowing system and recognized revisions to the procurement policies. It also highlighted the need to develop a robust risk management framework, redefine the APO's vision and strategy with a thorough needs analysis for member economies, and monitor and evaluate programs.

In response to the evaluation report, the Secretariat prepared an updated Implementation Plan for Remediation Actions to Improve the APO Secretariat's Performance, Management, and Compliance, which was approved by the GB in October. This plan addressed implementing specific enhancements to strengthen internal controls, establishing a comprehensive risk assessment process with regular reviews, and proposing a series of targeted training programs to elevate staff competencies aligned with organizational strategic goals.

Following the decision of the 66th GBM, preparations for the third cycle were also processed. The evaluation is expected to commence in early 2025.

Financial Statement

Independent Auditor's Report

To the Governing Body of Asian Productivity Organization

Our opinion

In our opinion, Asian Productivity Organization (the "Organization")'s financial statements present fairly, in all material respects, the financial position of the Organization as at 31 December 2024, and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards.

What we have audited

The Organization's financial statements comprise:

- the statement of financial position as at 31 December 2024;
- the statement of revenues or expenses and other comprehensive income for the year then ended;
- the statement of changes in surplus for the year then ended;
- the statement of cash flows for the year then ended; and
- the notes to the financial statements, which include a summary of significant accounting policies.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing ("ISA"). Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the financial statements* section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We are independent of the Organization in accordance with the International Code of Ethics for Professional Accountants (including International Independence Standards) issued by the International Ethics Standards Board for Accountants (IESBA Code) and the ethical requirements that are relevant to our audit of the financial statements in Japan. We have fulfilled our other ethical responsibilities in accordance with the IESBA Code and the ethical requirements in Japan.

Other information

Management is responsible for the other information. The other information comprises the annual report (but does not include the financial statements and our auditor's report thereon), which is expected to be made available to us after the date of this auditor's report.

Our opinion on the financial statements does not cover the other information and we will not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other

PricewaterhouseCoopers Japan LLC
Otemachi Park Building, 1-1-1 Otemachi, Chiyoda-ku, Tokyo 100-0004, Japan
T: +81 (3) 6212 6800, F: +81 (3) 6212 6801, www.pwc.com/jp/assurance

information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.
When we read the annual report, if we conclude that there is a material misstatement therein, we are required to communicate the matter to management.

Responsibilities of management for the financial statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with International Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Organization's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Organization or to cease operations, or has no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISA will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISA, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Organization's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Organization's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Organization to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with management regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

PricewaterhouseCoopers Japan LLC

11 March 2025

ASIAN PRODUCTIVITY ORGANIZATION
STATEMENTS OF FINANCIAL POSITION
31 DECEMBER 2024 AND 31 DECEMBER 2023

(US dollars)

	2024	2023
ASSETS		
Cash and cash equivalents (Note 3)	$23,171,827	$25,985,373
Receivables (Note 4):		
Member countries	3,193,216	3,286,701
Others	5,043	72,870
Prepaid expenses	104,057	66,368
Deposits and other advance payments	50,358	75,744
Total current assets	26,524,501	29,487,057
Fund for severance payments (Note 11)	98,522	108,092
Property, plant and equipment (Note 5):		
Leasehold Improvement	528,566	527,181
Furniture &Fixture	172,093	169,326
Equipment	464,354	323,200
Automobile	72,935	72,935
Right of use assets (Note 13)	513,587	513,587
Accumulated depreciation	(1,383,160)	(1,011,278)
Construction/Development in progress (Note 5)	-	29,912
Intangible assets (Note 5)	347,043	368,570
Total noncurrent assets	813,940	1,101,525
Total assets	$27,338,441	$30,588,581
LIABILITIES AND SURPLUS		
Accounts payable	$2,971,725	$3,281,043
Withholding tax and social insurance	79,656	74,425
Lease liabilities - current (Note 13)	44,495	239,462
Other current liabilities (Note 8)	2,578,858	3,395,812
Total current liabilities	5,674,734	6,990,742
Accrued annual leave (Note 6)	391,246	424,753
Liability for severance payments (Note 12)	1,485,133	1,437,103
Lease liabilities - noncurrent (Note 13)	2,889	52,761
Other noncurrent liabilities	119,591	119,591
Total noncurrent liabilities	1,998,859	2,034,207
Total liabilities	7,673,593	9,024,949
Surplus:		
Appropriated for		
Working capital fund	7,000,000	7,000,000
Contingency fund (Note 2)	500,000	500,000
Continuing projects	6,088,660	4,741,873
Unappropriated surplus (Note 15)	5,981,279	9,220,282
Accumulated other comprehensive income (Note 12)	94,909	101,477
Total surplus	19,664,848	21,563,632
Total liabilities and surplus	$27,338,441	$30,588,581

The accompanying notes are integral part of these statements.

ASIAN PRODUCTIVITY ORGANIZATION
STATEMENTS OF REVENUES OR EXPENSES AND OTHER COMPREHENSIVE INCOME
YEARS ENDED 31 DECEMBER 2024 AND 31 DECEMBER 2023

(US dollars)

	2024	2023
Revenues:		
Membership contributions (Note 7)	$11,986,035	$11,986,035
Special cash grants (Note 8)	969,448	1,596,120
Mandatory contribution for rent (Note 9)	178,089	197,160
Participation by member countries	400	350
Miscellaneous Revenue	805,394	780,349
Total revenues	13,939,366	14,560,013
Expenses:		
Projects		
Current year's project costs:		
APO share Current	6,704,909	4,978,175
Subtotal	6,704,909	4,978,175
Prior years' continuing project costs:		
APO share Continue	3,008,969	2,966,516
Subtotal	3,008,969	2,966,516
Allocation to project costs from		
Administration expenses (Note 10)	2,171,049	2,240,730
Total	11,884,927	10,185,420
Administration		
Staff expenses (Note 6, 12)	3,920,720	3,824,240
Office maintenance	28,144	21,546
Depreciation expenses (Note 5, 13)	291,830	306,558
Operations	122,372	124,624
Miscellaneous	179,980	180,687
Allocation to project costs (Note 10)	(2,171,049)	(2,240,730)
Total	2,371,997	2,216,925
Exchange (gain)/loss	173,684	307,018
Increase (decrease) in loss allowance (Note 4)	1,361,042	1,353,979
Total	1,534,726	1,660,997
Total expenses	15,791,650	14,063,343
Net adjustment gain/(loss) for closed projects (Note 14)	(39,932)	(12,991)
Excess of revenues over expenses (expenses over revenues)	(1,892,216)	483,679
Other comprehensive income (loss):		
Pension liability adjustments (Note 12)	(6,568)	62,330
Total other comprehensive income (loss)	(6,568)	62,330
Total comprehensive income (loss)	($1,898,784)	$546,009

The accompanying notes are integral part of these statements.

ASIAN PRODUCTIVITY ORGANIZATION
STATEMENTS OF CHANGES IN SURPLUS
YEARS ENDED 31 DECEMBER 2024 AND 2023

(US dollars)

	Appropriated for					
	Working capital fund	Contingency fund	Continuing projects	Unappropriated	Accumulated other comprehensive income	Total
2023						
Surplus as of 1 January 2023	$7,000,000	$500,000	$4,438,134	$9,040,342	$39,148	$21,017,623
Excess of revenues over expenses	-	-	-	483,679	-	483,679
Transfer to (from) continuing projects	-	-	303,739	(303,739)	-	-
Pension liability adjustment (Note 12)	-	-	-	-	62,330	62,330
Surplus at end of year	$7,000,000	$500,000	$4,741,873	9,220,282	$101,477	$21,563,632
2024						
Surplus as of 1 January 2023	$7,000,000	$500,000	$4,741,873	$9,220,282	$101,477	$21,563,632
Excess of expenses over revenues	-	-	-	(1,892,216)	-	(1,892,216)
Transfer to (from) continuing projects	-	-	1,346,787	(1,346,787)	-	-
Pension liability adjustment (Note 12)	-	-	-	-	(6,568)	(6,568)
Surplus at end of year	$7,000,000	$500,000	$6,088,660	5,981,279	$94,909	$19,664,848

The accompanying notes are integral part of these statements.

ASIAN PRODUCTIVITY ORGANIZATION
STATEMENTS OF CASH FLOWS
YEARS ENDED 31 DECEMBER 2024 AND 2023

(US dollars)

	2024	2023
Cash Flows from Operating Activities:		
Excess of revenues over expenses (expenses over revenues)	($1,892,216)	$483,679
Adjustments:		
Depreciation and amortization	538,902	583,454
Provision for losses on receivables	1,361,042	1,353,979
Interest income	(801,153)	(776,070)
Exchange variance	478,396	473,940
Decrease (increase) in receivables from member countries	(1,267,239)	2,896,255
Decrease (increase) in receivables - others	67,510	(68,185)
Decrease (increase) in other current assets	(12,303)	995,847
Decrease (increase) in funds for severance payments	9,571	31,268
Increase (decrease) in accounts payable	(415,970)	(1,062,518)
Increase (decrease) in other liabilities	(811,723)	(1,443,889)
Increase (decrease) in accrued annual leave	(33,507)	(84,127)
Increase (decrease) in liability for severance payments	41,462	(58,045)
Subtotal	(2,737,228)	3,325,588
Interest received	801,153	776,070
Net cash flow from operating activities	(1,936,075)	4,101,658
Cash Flows from Investing Activities:		
Acquisition for PP&E and intangible assets (Note 5)	(154,236)	(62,161)
Net cash flow from investing activities	(154,236)	(62,161)
Cash Flows from Financing Activities:		
Payments for lease liabilities (Note 13)	(239,462)	(254,978)
Net cash flow from financing activities	(239,462)	(254,978)
Effect of exchange rate changes on cash and cash equivalents	(483,773)	(492,113)
Net increase (decrease) in cash and cash equivalents	(2,813,546)	3,292,406
Cash and cash equivalents at beginning of year	25,985,373	22,692,967
Cash and cash equivalents at end of year (Note 3)	$ 23,171,827	$ 25,985,373

The accompanying notes are integral part of these statements.

ASIAN PRODUCTIVITY ORGANIZATION

NOTES TO FINANCIAL STATEMENTS

1. Organization, business, and source of funding

The Asian Productivity Organization (the "Organization" or "APO") is an intergovernmental regional organization established in 1961 by several governments in Asia with its headquarters in 1-24-1 Hongo, Bunkyo-ku, Tokyo, Japan, and continues to operate from this location. The Organization is nonpolitical, nonprofit making, and nondiscriminatory.

The objective of the Organization is to increase productivity and thereby accelerate economic development in Asia through mutual cooperation among member countries. To fulfill its objective, the Organization institutes programs for the development of productivity, provides information and advice for productivity improvement, and promotes and disseminates modern productivity skills and techniques in the agriculture, industry, and service sectors.

The Organization membership is open to all Asian and Pacific governments that are members of the United Nations Economic and Social Commission for Asia and the Pacific. From 1 July 1997, the Hong Kong Productivity Council was instructed to cease all APO activities when sovereignty was transferred to the People's Republic of China.

The Organization performs activities in cooperation with national productivity organizations (NPOs) and other international organizations. NPOs in member countries that deal with productivity activities at the national level act as implementing agencies for the Organization's projects and nominate participants from their countries to attend those projects.

The budget of the Organization is composed of the budget covering the program of action of the Organization and staff, administrative, and non-project expenses. The Governing Body, which is the supreme organ of the Organization, meets once a year to decide on policy matters concerning program and budget, finances, and membership. The sources of the funding include:

a) Annual membership contributions based on gross national income;
b) Special cash grants given by member governments and external assistance from cooperating agencies and institutions;
c) Mandatory contribution for rent given by the host government; and
d) Miscellaneous income such as proceeds from interest income.

2. Significant accounting policies

(1) Basis of preparation of accompanying financial statements

a) Compliance with IFRS
The financial statements of the Organization are prepared based on the Convention and the Financial Regulations established by the Organization, which is in line with International Financial Reporting Standards ("IFRS").

b) Historical cost conversion
The financial statements of the Organization are prepared on a historical cost basis, except for certain financial assets and liabilities which are measured at fair value.

c) Changes in accounting policies
New standards and interpretations are not yet adopted. Certain new accounting standards and interpretations have been published that are not mandatory for 31 December 2024 reporting period and have not been adopted early by the Organization. These standards are not expected to have material impact of the Organization in the current or future reporting periods and on foreseeable future transactions.

d) Authorization
The financial statements were authorized by the APO Secretary-General for issue on 11 March 2025.

(2) Receivables

Receivables are recognized initially at fair value and subsequently measured at amortized cost using the effective interest method, less loss allowance.

(3) Property, plant and equipment, intangible assets, and right-of-use assets

Property, plant and equipment consist of the leasehold improvements including contra-asset-retirement-obligation, furniture and fixtures, equipment, and automobile. Intangible assets include Software. The Organization books on the statements of financial position for the items whose acquisition cost amount is significant.

Depreciation is calculated to write off the cost of items of property, plant and equipment and intangible assets using the straight-line method over their estimated useful lives, and is recognized in profit or loss.

The estimated useful lives of the property, plant and equipment and intangible assets are as follows:

- Leasehold improvements: 5–8 years
- Furniture and fixtures: 5–8 years
- Equipment: 3–8 years
- Automobile: 6 years
- Software: 5 years

Right-of-use assets are generally depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

Depreciation methods and useful lives are reviewed at each reporting date and adjusted if appropriate.

(4) Fund for severance payments

The fund for severance payments includes an insurance endowment fund and is stated at fair value. The fair values of the fund for severance payments are estimated based on values quoted by financial institution.
IFRS 7 "Financial Instruments—Disclosures" defines fair value and establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The three levels of the fair value hierarchy are as follows:

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities
Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly
Level 3: Unobservable inputs for the asset or liability
The insurance endowment fund held by the Organization is classified into Level 2 assets.

(5) Liability for severance payments

Staff members terminating their employment with the Organization are entitled, under most circumstances, to severance payments based upon the monthly basic pay at the time of termination of employment and years of service. The cost of the severance payments is determined using the Projected Unit Credit Method, with actuarial valuations being carried out at the end of each reporting period. Remeasurements of the Organization's defined benefit obligation, which comprise actuarial gains and losses are recognized immediately in other comprehensive income.

(6) Accrued annual leave

Based on Rule 5.01 of APO Staff Regulation V, annual leave is accumulated up to 90 days, which does not expire until leaving the Organization. In 2024, the Organization recorded accrued annual leave of 72 days (71 days in 2023) for staff members who had annual leave of more than 72 days as a liability, taking into consideration both the rule that an annual leave up to 60 days is paid by a sum of money equivalent to their salary for the period of the accrued annual leave upon leaving the Organization and the possible utilization of unused accrued leave in excess of 60 days before leaving the Organization.

(7) Revenues

Major sources of revenues of the Organization are membership contributions and special cash grants, among others. Membership contributions, which are approved by the Session of the Governing Body (GBM), are recognized as revenues on 1 January of each fiscal year. Special cash grants are recognized as revenues over the period necessary to match them with the costs that they are intended to compensate.

(8) Appropriation for working capital fund

Based on Regulation 7 of the Financial Regulations, a working capital fund is established from which advances may be made to finance budgetary appropriations to the extent that this is necessary in anticipation of pledged but unpaid contributions. In 2012, the Organization set up a contingency fund amounting to $500,000 as decided by the 54th GBM.

(9) Appropriation for continuing projects

The outstanding balance of commitments for continuing projects at year-end, which has been funded mainly from membership contributions, is appropriated for continuing projects. The balance for continuing projects funded from special cash grants includes unspent balances of special cash grants, which are balances generated from completion of some projects prior to the year-end being reallocated for the following year's projects in the same programs.

(10) Translation of foreign currencies

For the purpose of the financial statements, the results and financial position of the Organization are expressed in US dollars, which is the functional currency of the Organization and presentation currency for the financial statements. The Organization's books of account are maintained in US dollars. Assets and liabilities denominated in Japanese yen are translated into US dollars at the appropriate exchange rate on the statements of financial position date. For revenue and expense accounts, average rates for the prior month of the transactions are applied. Revenue and expense accounts of other currencies except Japanese yen are translated into US dollars at the rates prevailing at the time of the transactions. The resulting unrealized gain/loss from translation is included in exchange gain/loss in the statement of revenues or expenses and other comprehensive income.

(11) Taxes

The Organization is exempt from direct taxes on assets or income and from customs duties.

(12) Use of estimates

The Organization makes estimates and assumptions to prepare the financial statements. Such estimates and assumptions affect the reported amounts of assets, liabilities and expenses. Actual results could differ from those estimates.

3. Cash and cash equivalents

Cash and cash equivalents include all highly liquid investments, generally with original maturities of three months or less, which are readily convertible to known amounts of cash and are so near maturity that they present insignificant risk of changes in value because of changes in interest rates.

Cash and cash equivalents	2024	2023
Current Deposits	$9,246,423	$12,841,910
Time Deposits	13,925,404	13,143,43
Total	$23,171,827	$25,985,373

4. Receivables of membership contributions, participating country expenses, and others

Receivables	2024	2023
Membership contributions	$12,866,164	$11,598,925
Participating country expenses	3,138	3,288
Others	5,232	72,591
Loss allowance	(9,676,275)	(8,315,233)
	$3,198,259	$3,359,571

Receivables represent uncollected revenue from membership contributions, participating country expenses, and others. Membership contributions approved by the GBM are to be paid to the Organization from each member as soon as possible after the receipt of such advice according to Regulation 6 of the Financial Regulations. Loss allowance of $9,676,275 comprises of the receivables overdue for one year and longer including $9,672,948 for membership contributions, $2,961 for participating country expenses, and $366 for other receivables.

The Organization has receivables that are subject to the expected credit loss model and applies the IFRS 9 simplified approach to measuring expected credit loss which uses lifetime expected loss allowance for the receivables.

31 December 2024	Current	More than 1 year overdue	Total
Expected loss rate	0%	100%	
Gross carrying amount - receivables	$3,011,259	$9,676,275	$12,687,534
Loss allowance	-	$9,676,275	$9,676,275

31 December 2023	Current	More than 1 year overdue	Total
Expected loss rate	0%	100%	
Gross carrying amount - receivables	$3,359,571	$8,315,233	$11,674,804
Loss allowance	-	$8,315,233	$8,315,233

The closing loss allowance for the years ended 31 December 2024 and 2023 reconcile to the opening loss allowance as follows:

	2024	2023
Opening loss allowance as of 1 January	$8,315,233	$6,961,254
Increase in loss allowance recognized in profit or loss during the year	1,488,646	1,357,337
Advance payment written off during the year as uncollectable	-	-
Unused amount reversed	(127,604)	(3,358)
Closing loss allowance as of 31 December	$9,676,275	$8,315,233

Loss allowance for the receivables is maintained for potential credit losses based upon the assessment of the receivables aging, taking into consideration any circumstances regarding member's inability to meet its financial obligations. The Organization's exposure to credit risk is influenced mainly by the individual characteristics of each member country. The maximum exposure to credit risk is represented by the carrying amount of receivables.

5. Property, plant and equipment and intangible assets

Movements in property, plant and equipment and intangible assets for the year ended 31 December 2024 were as follows:

	Leasehold Improvement	Furniture & Fixture	Equipment	Automobile	Total	Construction/ Development in Progress	Software
Acquisition Cost							
On 1 January 2024	$527,181	$169,326	$323,200	$72,935	$1,092,642	$29,912	$900,090
Additions	1,385	2,767	141,154	-	145,306	-	115,581
Disposals	-	-	-	-	-	-	-
Transfer	-	-	-	-	-	(29,912)	29,912
On 31 December 2024	528,566	172,093	464,354	72,935	1,237,948	-	1,045,583
Accumulated depreciation							
On 1 January 2024	320,160	136,749	278,242	72,935	808,086	-	531,520
Depreciation	51,035	32,853	33,424	-	117,312	-	167,020
Disposals	-	-	-	-	0	-	-
On 31 December 2024	371,195	169,602	311,666	72,935	925,398	-	698,540
Net Book value							
On 1 January 2024	207,021	32,577	44,958	-	284,556	29,912	368,570
On 31 December 2024	$157,371	$2,491	$152,688	$0	$312,550	$0	$347,043

The total depreciation amount of $284,332 for 2024 was recognized, including $198,016 as project costs and $86,316 as administration expenses.

Movements in property, plant and equipment and intangible assets for the year ended 31 December 2023 were as follows:

	Leasehold Improvement	Furniture & Fixture	Equipment	Automobile	Total	Construction in Progress	Software
Acquisition Cost							
On 1 January 2023	$527,181	$169,326	$340,318	$72,935	$1,109,760	$0	$1,048,862
Additions	-	-	10,557	-	10,557	29,912	24,756
Disposals	-	-	(27,675)	-	(27,675)	-	(173,528)
Transfer	-	-	-	-	0	-	-
On 31 December 2023	527,181	169,326	323,200	72,935	1,092,642	29,912	900,090
Accumulated depreciation							
On 1 January 2023	269,211	104,172	233,468	72,935	679,786	-	541,878
Depreciation	50,949	32,577	72,449	-	155,975	-	163,170
Disposals	-	-	(27,675)	-	(27,675)	-	(173,528)
On 31 December 2023	320,160	136,749	278,242	72,935	808,086	-	531,520
Net Book value							
On 1 January 2023	257,970	65,153	106,850	-	429,973	-	506,984
On 31 December 2023	$207,021	$32,577	$44,958	$0	$284,556	$29,912	$368,570

The total depreciation amount of $319,145 for 2023 was recognized, including $227,840 as project costs and $91,305 as administration expenses.

6. Accrued annual leave

Movements in accrued annual leave for the years ended 31 December 2024 and 2023 were as follows:

	2024	2023
On 1 January	$424,753	$508,880
Additional accrual during the year	47,929	30,716
Payments made during the year	(6,665)	(79,281)
Reclassified to payable	(31,745)	-
Foreign exchange movements	(43,026)	(35,562)
On 31 December	$391,246	$424,753

7. Membership contributions

The apportionment of total membership contributions for 2023/2024 follows the membership contribution formula based on the six-year average GNI, approved first by the 64th GBM held in June 2022. There are no unfulfilled conditions or other contingencies attaching to these contributions.

8. Special cash grants

Special cash grants are used for specific programs and other administrative expenses for which member governments are encouraged to cooperate with the Organization in addition to their membership contributions. There are no unfulfilled conditions or other contingencies attaching to these grants. The Organization will recognize special cash grants received from the Government of Japan as revenues over the period necessary to match them with the costs that they are intended to compensate. Unrecognized revenue balances for the years ended 31 December 2024 and 2023 were as below, which were included in other current liabilities.

	2024	2023
Unrecognized revenue on 1 January	$3,347,354	$4,830,602
Grants received during the year	(29,706)	112,872
Revenue recognized during the year	(969,448)	(1,596,120)
Unrecognized revenue on 31 December	$2,348,200	$3,347,354

9. Mandatory contribution for rent

The 54th GBM held in April 2012 decided that the cost of the annual rent for the APO Secretariat Office from 2013 shall be borne by the host government, as a mandatory contribution of the host government, distinct and separate from its annual membership contribution to the APO.

10. Allocation to project costs

The Organization allocated administration expenses which are directly or indirectly related to project activities to project costs. Allocation to project costs includes the staff expenses of program directorate.

11. Fund for severance payments

In 2001, the Organization purchased an insurance for employees as a fund for severance payments, of which the beneficiary is the Organization. Net gains on the fund for the insurance endowment fund for the years ended 31 December 2024 and 2023 were $1,445 and $1,567, respectively, and were included in miscellaneous revenues.

12. Liability for severance payments

For the purposes of the actuarial valuations, the Organization used the discount rate of 1.23% per annum for the year ended 31 December 2024 and 0.83% for the year ended 31 December 2023. The expected rate of salary increases was applied in determining the projected benefit obligation and the expected rate was compiled from data of employee's basis salary.

Amounts recognized in profit or loss in respect of the defined benefit plan were as follows:

	2024	2023
Current service cost	$215,643	$215,909
Interest on obligation	9,777	12,130
Net periodic pension cost	$225,420	$228,039

Movements in the present value of the defined benefit obligation in the current period and the amount included in the statements of financial positions arising from the Organization's obligation in respect of its defined benefit plan were as follows:

	2024	2023
Opening defined benefit obligation	$1,437,103	$1,557,478
Current service cost	215,643	215,909
Interest cost	9,777	12,130
Remeasurements (actual gain/loss)	6,568	(62,330)
Payments made during the year	(19,072)	(167,769)
Reclassified to payable	-	-
Foreign currency translation adjustments	(164,886)	(118,316)
Closing defined benefit obligation	$1,485,133	$1,437,103

13. Leases

Movements in the right-of use assets for the year ended 31 December 2024 were as follows:

	Office building	Equipment	Total
Right-of-use assets on 1 January 2024	$506,176	$7,412	$513,587
Additions	-	-	-
Lease contract terminations	-	-	-
Right-of-use assets on 31 December 2024	$506,176	$7,412	$513,587
Accumulated depreciation on 1 January 2024	$202,080	$1,112	$203,192
Depreciation	253,088	1,482	254,570
Lease contract terminations	-	-	-
Accumulated depreciation on 31 December 2024	$455,168	$2,594	$457,762

The depreciation of $254,570 includes $49,056 recorded as project expenses and $205,514 as administration expenses.

Movements in the right-of use assets for the year ended 31 December 2023 were as follows:

	Office building	Equipment	Total
Right-of-use assets on 1 January 2023	$613,724	$-	$613,724
Additions	506,176	7,412	513,587
Lease contract terminations	(613,724)	-	(613,724)
Right-of-use assets on 31 December 2023	$506,176	$7,412	$513,587
Accumulated depreciation on 1 January 2023	$552,606	$-	$552,606
Depreciation	263,197	1,112	264,309
Lease contract terminations	(613,724)	-	(613,724)
Accumulated depreciation on 31 December 2023	$202,080	$1,112	$203,192

The depreciation of $264,309 includes $49,056 recorded as project expenses and $215,253 as administration expenses.

The lease liabilities as of 31 December 2024 and 2023, by maturity were as follows:

Lease liabilities by maturity	2024	2023
Less than one year	$44,495	$239,462
Between one and two years	1,284	49,544
Between two and three years	1,284	1,430
Between three and four years	321	1,430
Between four and five years	-	357
After five years	-	-
Total lease liabilities	$47,384	$292,223
Less current portion of lease liabilities	44,495	239,462
Non-current portion of lease liabilities	$2,889	$52,761

The following table provides additional disclosures related to right-of-use assets and lease liabilities:

	2024	2023
Expenses on short-term leases	$-	$-
Expenses on low-value leases	$3,591	$3,890
Payments of lease liabilities	$239,462	$254,978

14. Net adjustment for closed projects

Adjusted revenues and expenses attributed to projects that have already been closed prior to this financial year have been recorded in the account of revenues and expenses retroactive year.

	2024	2023
Revenues	$-	$-
Expenses	39,932	12,991
Net adjustment gain/(loss) for closed projects	($39,932)	($12,991)

15. Unappropriated surplus

The utilization of $3,448,356 of unappropriated surplus in the APO Revised Budget for 2024 was approved by the Governing Body on 29 January 2024 by circulation. The utilization of $4,648,705 of unappropriated surplus in the APO Revised Budget for 2025 was approved by the Governing Body on 10 January 2025 by circulation.

16. Related party transactions

Key management personnel compensations for 2024 and 2023 were as follows:

	2024	2023
Short-term employee benefits	$168,683	$182,650
Annual leave	16,028	18,511
Severance payment	-	-
	$184,711	$201,161

About the APO

Established in 1961, the APO is a regional intergovernmental organization dedicated to enhancing productivity in the Asia-Pacific region through mutual cooperation. From eight founding members, it has grown to include 21 economies: Bangladesh, Cambodia, the Republic of China, Fiji, Hong Kong, India, Indonesia, the Islamic Republic of Iran, Japan, the Republic of Korea, Lao PDR, Malaysia, Mongolia, Nepal, Pakistan, the Philippines, Singapore, Sri Lanka, Thailand, Turkiye, and Vietnam.

In 2024, the APO Vision 2025 continued its mission of shaping the future of the region by assisting member economies in formulating national strategies for enhanced productivity through a range of institutional capacity-building efforts. All APO activities progressed in alignment with the three primary goals of sustained productivity growth, robust innovative ecosystems, and inclusive engagement and shared prosperity to achieve its objectives.

The APO contributes to the sustainable socioeconomic development of the region through policy advisory services, acting as a think tank, and undertaking smart initiatives in the industry, agriculture, service, and public sectors. The APO's activities include knowledge sharing, capacity building, and facilitating mutual cooperation among NPOs, international organizations, and experts from all sectors of the economy.

Key Roles

Five Key Roles of the APO

01	02	03	04	05
Think Tank	**Catalyst**	**Regional Adviser**	**Institution Builder**	**Clearinghouse for Productivity Information**
The APO conducts research on productivity trends to guide policymaking among its members.	The APO promotes multilateral cooperation for greater productivity impacts.	The APO provides information and advice to members on specialized aspects of productivity.	The APO strengthens NPO capabilities to spearhead productivity agendas.	The APO disseminates productivity information in various formats and channels for wider outreach.

Types of Programs

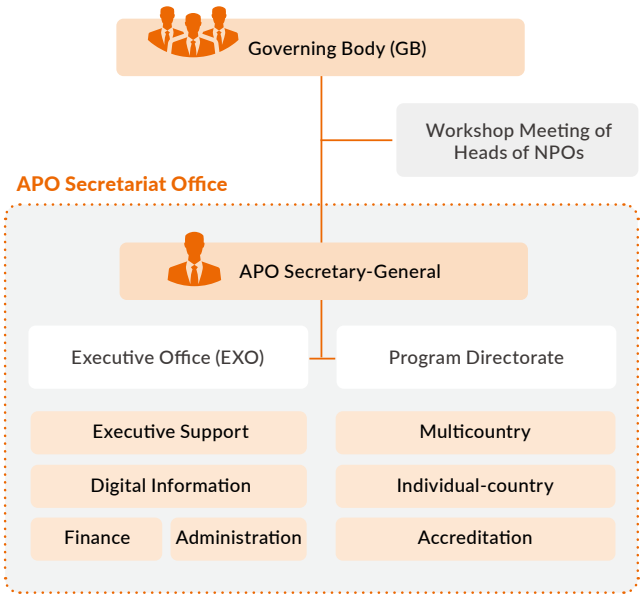
Multicountry	The Multicountry Program offers practical training, knowledge development, and sharing of best practices and innovations among diverse productivity stakeholders from all APO members. It encompasses training courses, workshops, conferences, and observational study missions for the agriculture, manufacturing, public, and service sectors.
Research	The APO's Research Program conducts in-depth studies and analysis on emerging trends and specific productivity challenges in member economies, leading to actionable recommendations and the formulation of targeted projects.
Digital Learning	The Digital Learning Program aims to meet the increasing demand for productivity training and skill development through an online platform. This program provides e-courses covering productivity topics related to agriculture, manufacturing, the public sector, and services. Additionally, videos featuring expert discussions and best practices are available on the APO YouTube channel for the general public.
Individual-country	The Individual-country Program is designed to offer tailored support to NPOs by strengthening their ability to spearhead the productivity movement and disseminating productivity know-how, techniques, and tools among APO members. Customized to the unique needs of individual economies, this support can be extended to other institutions and organizations upon request by NPOs. The program encompasses a range of initiatives, such as Bilateral Cooperation between NPOs, Centers of Excellence, Certification Body Development, Individual-country Observational Study Missions, Development of Demonstration Companies, Specific National Programs, Technical Expert Services, and more.
Accreditation	The Accreditation Program recognizes the competency of NPOs or their affiliates as APO-accredited certification bodies. This program cultivates and expands communities of productivity experts and strengthens APO leadership in productivity.

Organizational Structure of the APO

The APO is structured around three core entities: the GB, NPOs, and the Secretariat.

The GB, serving as the APO's highest authority, consists of an appointed director from each member economy. Distinguishing itself from other international bodies, the APO uniquely designates an NPO within each member. These NPOs act as the APO's implementing arm, responsible for coordinating and spearheading productivity-enhancing projects.

Located in Tokyo, Japan, the Secretariat functions as the executive branch of the APO, led by a Secretary-General appointed by the GB. Additionally, the Secretariat engages in collaborative programs with other international organizations, governments, and private institutions to benefit its members.



APO Directors, Alternate Directors, NPO Heads, and Liaison Officers

As of 31 December 2024

APO Chair — **Mr. Jone Maritino Nemani**, Fiji

APO First Vice Chair — **Mr. Amardeep Singh Bhatia, IAS**, India

APO Second Vice Chair — **Mr. Agung Nur Rohmad**, Indonesia

BANGLADESH

Director
Ms. Zakia Sultana
Senior Secretary, Ministry of Industries

Alternate Director
Mr. Muhammad Mesbahul Alam
Director General (Additional Secretary), National Productivity Organisation, Ministry of Industries

NPO Head
Mr. Muhammad Mesbahul Alam
Director General (Additional Secretary), National Productivity Organisation, Ministry of Industries

Liaison Officer
Mr. Muhammad Arifuzzaman
Director, National Productivity Organisation, Ministry of Industries

CAMBODIA

Director
Mr. Phork Sovanrith
Secretary of State, Ministry of Industry, Science, Technology and Innovation

Alternate Director
Mr. Yea Bunna
Under Secretary of State, Ministry of Industry, Science, Technology and Innovation

NPO Head
Mr. Um Serivuth
Director, National Productivity Centre of Cambodia, Ministry of Industry, Science, Technology and Innovation

Liaison Officer
Mr. Sok Bunsry
Chief of Cleaner Production Office, National Productivity Centre of Cambodia, Ministry of Industry, Science, Technology and Innovation

ROC

Director
Mr. Sheng-Hsiung Hsu
Chairman, China Productivity Center

Alternate Director
Mr. Chih-Ching Yang
Director General, Industrial Development Administration, Ministry of Economic Affairs

NPO Head
Dr. Pao-Cheng Chang
President, China Productivity Center

Liaison Officer
Ms. Su-Ching Hsueh
Manager, APO Affairs Department, China Productivity Center

FIJI

Director
Mr. Jone Maritino Nemani
Permanent Secretary, Ministry of Employment, Productivity and Workplace Relations

Alternate Director
Dr. Isimeli Waibuta Tagicakiverata
Pro-Vice Chancellor TVET, Technical and Vocational Education and Training for the Pacific (TVET Pasifika), NTPC Narere Centre, Fiji National University

NPO Head
Dr. Isimeli Waibuta Tagicakiverata
Pro-Vice Chancellor TVET, Technical and Vocational Education and Training for the Pacific (TVET Pasifika), NTPC Narere Centre, Fiji National University

Liaison Officer
Ms. Fulori Nasau Tuiraki
Productivity Officer, Ministry of Employment, Productivity and Workplace Relations

HONG KONG

Director
Not designated

Alternate Director
Not designated

NPO Head
Not designated

Liaison Officer
Not designated

INDIA

Director
Mr. Amardeep Singh Bhatia, IAS
Secretary, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India

Alternate Director
Mr. Sanjiv, IRS
Joint Secretary, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India

NPO Head
Ms. Neerja Sekhar, IAS
Director General, National Productivity Council

Liaison Officer
Mr. K.D. Bhardwaj
Regional Director & Group Head (International Services), National Productivity Council

INDONESIA

Director
Mr. Agung Nur Rohmad
Director General, Directorate General of Vocational Training and Productivity Development, Ministry of Manpower of the Republic of Indonesia

Alternate Director
Ms. Memey Meirita Handayani
Deputy Director General, Deputy Director General of Vocational Training and Productivity Development, Ministry of Manpower of the Republic of Indonesia

NPO Head
Dr. Muhammad Ali
Director, Productivity Development, Directorate of Productivity Development, Directorate General of Vocational Training and Productivity Development, Ministry of Manpower of the Republic of Indonesia

Liaison Officer
Ms. Astri Christafilia Litha
Deputy Director, Productivity Organization, Promotion and Cooperation Development, Directorate of Productivity Development, Directorate General of Vocational Training and Productivity Development, Ministry of Manpower of the Republic of Indonesia

I.R. IRAN

Director
Dr. Mohammad Saleh Owlia
Professor (Yazd University), National Productivity Organization of Islamic Republic of Iran

Alternate Director
Mr. Behrooz Mahmoodi
Infrastructure-Production Steering Deputy, National Productivity Organization of Islamic Republic of Iran

NPO Head
Dr. Mohammad Saleh Owlia
Professor (Yazd University), National Productivity Organization of Islamic Republic of Iran

Liaison Officer
Ms. Mitra Alipour
Division Head of International Affairs, Directorate for Head Office, Public Relations and International Affairs, National Productivity Organization of Islamic Republic of Iran

JAPAN

Director
Mr. Hideo Ishizuki
Assistant Minister and Director-General, International Cooperation Bureau, Ministry of Foreign Affairs

Alternate Director
Mr. Kenji Enoshita
Director, Country Assistance Planning Division I, International Cooperation Bureau, Ministry of Foreign Affairs

NPO Head
Mr. Kazutaka Maeda
President, Japan Productivity Center

Liaison Officer
Ms. Kaori Yuki
Project Manager, International Cooperation Department, Japan Productivity Center

ROK

Director
Dr. Park Sungjoong
Chairman and Chief Executive Officer, Korea Productivity Center

Alternate Director
Mr. Kamchan Kang
Director General for Industrial Policy, Ministry of Trade, Industry and Energy

NPO Head
Dr. Park Sungjoong
Chairman and Chief Executive Officer, Korea Productivity Center

Liaison Officer
Ms. Inseon Lee
Vice President, International Cooperation Department, Korea Productivity Center

LAO PDR

Director
Dr. Bounpheng Sibounheung
Director General, Micro, Small and Medium Enterprise Promotion Agency, Lao National Productivity Organization, Ministry of Industry and Commerce

Alternate Director
Mr. Vilakone Philomlack
Deputy Director General, Micro, Small and Medium Enterprise Promotion Agency, Lao National Productivity Organization, Ministry of Industry and Commerce

NPO Head
Dr. Bounpheng Sibounheung
Director General, Micro, Small and Medium Enterprise Promotion Agency, Lao National Productivity Organization, Ministry of Industry and Commerce

Liaison Officer
Mr. Vilakone Philomlack
Deputy Director General, Micro, Small and Medium Enterprise Promotion Agency, Lao National Productivity Organization, Ministry of Industry and Commerce

MALAYSIA

Director
Datuk Kamaruzzaman Johari
Chairman, Malaysia Productivity Corporation

Alternate Director
Mr. Zahid Ismail
Director General, Malaysia Productivity Corporation

NPO Head
Mr. Zahid Ismail
Director General, Malaysia Productivity Corporation

Liaison Officer
Ms. Abigail Anbalakan
Assistant Manager, Corporate Secretariat and International Relations, Malaysia Productivity Corporation

MONGOLIA

Director
Mr. Yamaaranz Erkhembayar
Chairman and Executive Director, Mongolian Productivity Organization

Alternate Director
Dr. Sharav Munkhtseren
Head of the Sectoral Policy and Coordination Department, Cabinet Secretariat, Government of Mongolia

NPO Head
Mr. Yamaaranz Erkhembayar
Chairman and Executive Director, Mongolian Productivity Organization

Liaison Officer
Mrs. Batbileg Tsagaan
Deputy Director, Mongolian Productivity Organization

NEPAL

Director
Mr. Krishna Bahadur Raut
Secretary, Ministry of Industry, Commerce and Supplies

Alternate Director
Mr. Jiblal Bhusal
Joint Secretary (Division Chief: Planning, Monitoring and Evaluation Division), Ministry of Industry, Commerce and Supplies

NPO Head
Mr. Deepesh Lekhak
General Manager, National Productivity and Economic Development Centre

Liaison Officer
Mr. Ashish Khatri
Section Officer, Ministry of Industry, Commerce and Supplies

PAKISTAN

Director
Capt. (Retd.) Saif Anjum
Secretary, Ministry of Industries and Production

Alternate Director
Mr. Asad Islam Mahni
Additional Secretary-I, Ministry of Industries and Production

NPO Head
Mr. Muhammad Alamgir Chaudhry
Chief Executive Officer, National Productivity Organization (NPO Pakistan)

Liaison Officer
Mr. Muhammad Alamgir Chaudhry
Chief Executive Officer, National Productivity Organization (NPO Pakistan)

PHILIPPINES

Director
Dr. Arsenio M. Balisacan
Secretary, National Economic and Development Authority

Alternate Director
Dr. Majah-Leah V. Ravago
President and CEO, Development Academy of the Philippines

NPO Head
Dr. Majah-Leah V. Ravago
President and CEO, Development Academy of the Philippines

Liaison Officer
Mr. Armand Tristan R. Suratos
Head, APO/DAP Secretariat, Development Academy of the Philippines

SINGAPORE

Director
Ms. Joanne Tan
Deputy Managing Director (Industry), Enterprise Singapore

Alternate Director
Mr. Michael Tan
Chief Executive Officer, Singapore Productivity Centre

NPO Head
Mr. Michael Tan
Chief Executive Officer, Singapore Productivity Centre

Liaison Officer
Ms. Sim Siling
Director, Singapore Productivity Centre

SRI LANKA

Director
Ms. Thilaka Jayasundara
Secretary, Ministry of Industry and Entrepreneurship Development

Alternate Director
Not designated

NPO Head
Mr. Iraj Chaminda Pathiraja
Additional Secretary, Ministry of Industry and Entrepreneurship Development

Liaison Officer
Mr. J.D. Niranja S. Jayakodi
Director, National Productivity Secretariat

THAILAND

Director
Dr. Nattapol Rangsitpol
Permanent Secretary, Ministry of Industry

Alternate Director
Mr. Satit Chanjavanakul
Chairman of the TPI Board of Directors and Board Member of FTPI, Thailand Productivity Institute

NPO Head
Mr. Suwanchai Lohawatanakul
President, Thailand Productivity Institute

Liaison Officer
Not designated

TURKIYE

Director
Mr. Abdullah Basar
Director General for Strategic Research and Productivity, Ministry of Industry and Technology

Alternate Director
Ms. Hulya Oztoprak Yilmaz
Deputy Director General for Directorate General for Strategic Research and Productivity, Directorate General for Strategic Research and Productivity, Ministry of Industry and Technology

NPO Head
Dr. Cangul Tosun
Strategic Research and Planning Department Head, Directorate General for Strategic Research and Productivity, Ministry of Industry and Technology

Liaison Officer
Ms. Fatma Cil
Industry and Technology Expert, Ministry of Industry and Technology

VIETNAM

Director
Dr. Ha Minh Hiep
Acting Director General, Commission for Standards, Metrology and Quality

Alternate Director
Mr. Pham Le Cuong
Vice Chief of Office, Administration Department, Commission for Standards, Metrology and Quality

NPO Head
Dr. Nguyen Tung Lam
Director, Vietnam National Productivity Institute

Liaison Officer
Mr. Doan Anh Vu
Officer, International Cooperation Department, Commission for Standards, Metrology and Quality

List of NPOs

As of 31 December 2024

BANGLADESH

National Productivity Organisation, Ministry of Industries

CAMBODIA

National Productivity Centre of Cambodia, Ministry of Industry, Science, Technology and Innovation

ROC

China Productivity Center

FIJI

National Training and Productivity Centre, Fiji National University

HONG KONG

Hong Kong Productivity Council

INDIA

National Productivity Council

INDONESIA

Directorate for Productivity Development, Ministry of Manpower of the Republic of Indonesia

I.R. IRAN

National Productivity Organization of Islamic Republic of Iran

JAPAN

Japan Productivity Center

ROK

Korea Productivity Center

LAO PDR

Micro, Small and Medium Enterprise Promotion Agency, Lao National Productivity Organization, Ministry of Industry and Commerce

MALAYSIA

Malaysia Productivity Corporation

MONGOLIA

Mongolian Productivity Organization

NEPAL

National Productivity and Economic Development Centre

PAKISTAN

National Productivity Organization (NPO Pakistan)

PHILIPPINES

Development Academy of the Philippines

SINGAPORE

Singapore Productivity Centre

SRI LANKA

National Productivity Secretariat, Ministry of Industry and Entrepreneurship Development

THAILAND

Thailand Productivity Institute

TURKIYE

Ministry of Industry and Technology

VIETNAM

Vietnam National Productivity Institute

Appendices

APPENDIX 1

LIST OF 2024 PROJECTS

In 2024, the APO implemented a total of 227 projects, including 13 e-courses and 34 P-Talk and P-Gemba. As of 31 December 2024, 170 of those projects had been completed, with 31 implemented and 26 ongoing. These initiatives benefited 8,731 individuals and 91 organizations, with the engagement of 590 resource persons. Institutional projects are excluded in the summary tables below.

APO Projects in 2024

	No. of Projects According to Status			No. of Beneficiaries (Completed Only)		No. of Resource Persons (Completed Only)
	Ongoing	Implemented	Completed	Individuals	Organizations	
Multicountry	16	18	73	1,708	–	352
Individual-country	10	0	63	4,904	91	191
Subtotal	26	18	136	6,612	91	543
APO e-Course		13		2,119	–	
P-Talk/P-Gemba			34	–	–	47
Total	26	31	170	8,731	91	590

Focus Area	No. of Projects According to Status			No. of Beneficiaries (Completed Only)		No. of Resource Persons (Completed Only)
	Ongoing	Implemented	Completed	Individuals	Organizations	
I. Centrality of Productivity	0	6	30	915	–	116
II. Innovation for Productivity	0	4	15	464	–	57
III. Inclusive Productivity	0	5	6	213	–	32
IV. Regional Catalyst	17	16	64	2,367	–	288
V. Strengthening of NPOs and Policy Advisory	9	0	55	4,772	91	97
Total	26	31	170	8,731	91	590

Notes

The figures presented here have been updated as of June 2025 following the reclassification of certain projects.

Multicountry: This category includes projects open to all member economies. APO e-courses and P-Talks are open to the general public.

Individual-country: This category includes projects tailored to specific APO members and includes a variety of initiatives like AWD, BCN, CBD, COE, DMP, IOSM, TES, SNP, and VSN.

Ongoing: Refers to projects that began their implementation phase in 2024 but did not reach completion by 31 December 2024.

Implemented: Refers to projects that ended the activity (until the last reporting requirement is successfully completed).

Completed: Refers to projects that were fully completed by 31 December 2024. In the context of e-courses and P-Talks/P-Gemba, it specifically refers to those newly released in 2024.

Beneficiaries: Individuals who directly benefited from and successfully completed APO projects/e-courses and obtained APO certificates and/or organizations that directly benefited from APO projects. Organizations recognized as beneficiaries are specifically applicable to individual-country projects such as BCN, CBD, DMP, IOSM, and SNP. A detailed breakdown of participants in e-courses is provided in the dedicated section on the Digital Learning Platform.

Centrality of Productivity

Smart Transformation

Project Code	Project Title	Host	Participants	Participating Countries	Resource Persons
21-CP-40-SP-DMP-C-VN01	Improvement of Productivity in Greenhouse Vegetable Production	Vietnam	10	1	1
21-CP-40-SP-DMP-C-VN02	Study Mission on Improvement of Productivity in Greenhouse Vegetable Production	Japan	7	1	3
23-CP-11-GE-CON-A	Conference on the Digital Food and Beverage Industry	APO Secretariat	65	15	3
23-CP-12-GE-OSM-A	Multicountry Observational Study Mission on Smart Poultry Farming	Thailand	38	17	5
23-CP-51-GE-WSP-A	Workshop on Technological Capacity Enhancement of Businesses	Pakistan	36	12	5
24-CP-01-GE-TRC-B	Training Course on Blockchain Technology Application in e-Government	Cambodia	23	9	3
24-CP-20-GE-TRC-A	Training Course on Social Entrepreneurship	Bangladesh	28	12	4
24-CP-23-GE-TRC-A	Training Course on Data Analytic Skills for Service-sector Employees	Japan	34	11	4
24-CP-56-GE-WSP-A	Workshop on Benchmarking of Agrimechanization Models to Enhance Agricultural Productivity	Pakistan	26	9	3
24-CP-58-GE-WSP-A	Workshop on Strategic Marketing for Digital Transformation	Pakistan	28	11	3
24-CP-59-GE-TRC-A	Training Course on Lean Digital Transformation	Turkiye	36	10	2
24-CP-60-GE-WSP-A	Workshop on the Business Model Canvas for Startups and Entrepreneurs	Singapore	17	14	5
24-CP-61-GE-TRC-A	Training Course on Digital Kaizen in SMEs	Japan	20	16	2
24-CP-62-GE-TRC-A	Training Course on Big Data Analytics and Data Visualization for Productivity	Turkiye	41	12	4

Quality of the Workforce

Project Code	Project Title	Host	Participants	Participating Countries	Resource Persons
24-CP-24-GE-TRC-B	Development of Public-sector Productivity Specialists	Philippines	25	10	3
24-CP-25-GE-TRC-B	Training Course on Design Thinking to Improve Public Service Delivery	Indonesia	22	6	3
24-CP-26-GE-TRC-A	Training Course on Work Design for Enhancing Public-sector Productivity	Fiji	20	13	3

Project Code	Project Title	Host	Participants	Participating Countries	Resource Persons
24-CP-27-GE-WSP-A	Workshop on Digital Communications Strategy for the Public Sector	ROC	30	10	4
24-CP-29-GE-WSP-A	Workshop on the Regulatory Sandbox Mechanism for Productivity Policies	Malaysia	37	12	4
24-CP-32-GE-TRC-A	Training Course on Building Community-driven Farm Schools	Indonesia	30	17	5
24-CP-34-GE-OSM-A	Multicountry Observational Study Mission on Productivity Enhancement in the Healthcare Sector	ROK	37	15	4
24-CP-50-GE-TRC-A	Development of Productivity Specialists	Malaysia	26	16	4
24-CP-52-GE-TRC-A	Training Course on Smart Manufacturing Specialists	ROC	22	13	2
24-CP-53-GE-TRC-A	Development of Public-sector Productivity Specialists	Philippines	46	15	4
24-CP-57-GE-WSP-A	Workshop on Reskilling the Public-sector Workforce	Indonesia	25	15	4

Green Productivity

Project Code	Project Title	Host	Participants	Participating Countries	Resource Persons
23-CP-33-GE-TRC-A	Training Course on Green Productivity	Turkiye	25	11	3
23-CP-40-GE-TRC-A	Training Course on Assessing Gains from Green Productivity Projects	Nepal	28	11	3
23-CP-45-GE-TRC-A	Training Course on Regenerative Farming	Cambodia	48	13	4
23-CP-50-GE-WSP-A	Workshop on Green Hydrogen Systems for the Sustainable Energy Transition	India	47	12	5
24-CP-36-GE-TRC-A	Training Course on Building Reliable Supply Chains	Sri Lanka	25	11	3
24-CP-37-GE-TRC-A	Training Course on Green Productivity	Pakistan	21	11	3
24-CP-39-GE-WSP-A	Workshop on Green Business Models	ROC	22	14	4
24-CP-41-GE-TRC-A	Training Course on Greening Supply Chains through Industry 4.0	ROC	23	12	5
24-CP-43-GE-OSM-A	Multicountry Observational Study Mission on Industrial Symbiosis	Vietnam	42	16	6
24-CP-45-GE-WSP-A	Workshop on Nutrient-rich Rainfed Crops	India	22	11	4
24-CP-47-GE-WSP-A	Workshop on Productive Livestock Farming for Reducing Greenhouse Gas Emissions	Nepal	22	12	6

Innovation for Productivity

Robust Ecosystem and Regulatory Framework

Project Code	Project Title	Host	Participants	Participating Countries	Resource Persons
24-IP-01-GE-TRC-A	Training Course on Good Regulatory Practices	Philippines	24	14	2
24-IP-02-GE-CON-A	Conference on Open Innovation in the Public Sector	Philippines	85	17	5
24-IP-04-GE-TRC-A	Training Course on Building Social Innovation Systems	Vietnam	23	16	4
24-IP-05-GE-CON-A	Conference on Organic Agriculture for Biodiversity and Sustainable Development	Sri Lanka	98	15	7
24-IP-22-GE-WSP-A	Workshop on Development of Rural Economies through Smart Villages	Indonesia	27	15	6
24-IP-23-GE-OSM-A	Multicountry Observational Study Mission on Implementing the Sufficiency Economy Theory to Sustain Community Development	Thailand	29	14	2

Innovation Capability

Project Code	Project Title	Host	Participants	Participating Countries	Resource Persons
23-IP-12-GE-TRC-A	Training Course on Advanced Technologies in Manufacturing Industries	Turkiye	53	17	2
24-IP-07-GE-WSP-A	Workshop on Innovations in Public Service Delivery	ROK	23	11	4
24-IP-12-GE-TRC-A	Training Course on Innovative Dairy Farming	Bangladesh	14	6	4
24-IP-13-GE-WSP-A	Workshop on Advancing Gene Editing in the Agrifood Sector	APO Secretariat	32	11	5
24-IP-15-GE-TRC-A	Training Course on Nurturing Creative Industries	Vietnam	24	9	5
24-IP-16-GE-TRC-A	Training Course on AI Applications in the Service Sector	APO Secretariat	51	15	4
24-IP-18-GE-TRC-A	Training Course on Applications of Virtual and Augmented Reality	ROK	25	12	3
24-IP-19-GE-TRC-A	Training Course on Blockchain Application	India	29	13	4
24-IP-20-GE-TRC-A	Training Course on Gamification and Game Design for Customers and Employee Engagement	ROC	39	10	4
24-IP-24-GE-TRC-A	Training Course on Innovative Technologies in Vegetable Farming	ROC	24	14	4
24-IP-25-GE-WSP-A	Workshop on Innovative Transformation for Lifestyle and Service Sectors	Singapore	22	13	4

Project Code	Project Title	Host	Participants	Participating Countries	Resource Persons
24-IP-26-GE-WSP-B	Workshop on Value Addition of Gemstone Products for Compliance with International Standards	Pakistan	28	8	3
24-IP-27-GE-WSP-A	Workshop on the Role of Intellectual Property in Sustainable Innovation and Economic Growth	Turkiye	44	13	5

Inclusive Productivity

SME Development

Project Code	Project Title	Host	Participants	Participating Countries	Resource Persons
24-CL-03-GE-OSM-A	Multicountry Observational Study Mission on Digital Innovation for SMEs	ROC	38	15	3
24-CL-27-GE-WSP-A	Workshop on Job Redesign for the Service Sector	Singapore	19	16	5

Broad-based Engagement

Project Code	Project Title	Host	Participants	Participating Countries	Resource Persons
23-CL-12-GE-OSM-A	Multicountry Observational Study Mission on Enhancing the Participation of Persons with Disabilities	Not Applicable	18	9	7
24-CL-18-GE-CON-A	Conference on Youth Education and the Future of Work	Philippines	89	15	6
24-CL-22-GE-WSP-A	Workshop on Agribusiness Entrepreneurship for Persons with Disabilities	Cambodia	21	11	6
24-CL-25-GE-TRC-A	Development of Productivity Practitioners for the Youth	Mongolia	24	17	4

Productivity Gainsharing

Project Code	Project Title	Host	Participants	Participating Countries	Resource Persons
24-CL-23-GE-TRC-A	Training Course on Gainsharing in Agribusiness Enterprises	Philippines	25	18	4
24-CL-28-GE-WSP-A	Workshop on Productivity Gainsharing for SMEs	Mongolia	25	12	5
24-CL-29-GE-TRC-B	Training Course on Productivity-linked Wage Systems	Cambodia	26	11	4
24-CL-31-GE-WSP-A	Workshop on Labor–management Relations in the Digital Era	ROK	19	18	3

Project Code	Project Title	Host	Participants	Participating Countries	Resource Persons
24-CL-32-GE-CON-A	Conference on Productivity Gainsharing for Rural Development	Lao PDR	106	16	6

Regional Catalyst

Certification and Accreditation

Project Code	Project Title	Host	Participants	Participating Countries	Resource Persons
24-RC-01-GE-CBD-A	Management of the APO Accreditation and Certification Program	APO Secretariat	4	9	27
24-RC-01-GE-CBD-A-AP01	Workshop Meeting of Heads of APO Certification Bodies	APO Secretariat	11	9	3
24-RC-01-GE-CBD-A-AP02	Training Course for Assessors of the APO Certification Bodies	Thailand	25	13	2
24-RC-02-GE-TRC-B	Training Course for Assessors for the Productivity Specialists Certification Program	Vietnam	21	12	4
24-RC-03-GE-TRC-B	Training Course for Assessors for the Green Productivity Specialists Certification Program	India	20	10	3

Capacity Building of NPOs

Project Code	Project Title	Host	Participants	Participating Countries	Resource Persons
23-SN-08-GE-TRC-A-UAS	Executive Leadership Programs for NPOs	APO Secretariat	12	12	8
23-RC-06-GE-TRC-A	Capacity Building of NPOs in New Digital Systems	APO Secretariat	39	20	2

Digital Learning Platform

Continued e-Courses

Project Code	Project Title	No. Enrolled	No. Completed	No. Passed	Resource Persons
15-AG-23-GE-TRC-A	Waste Management in Agribusiness	16	1	0	1
15-AG-23-GE-TRC-A-02	Controlled-environment Agriculture	14	4	1	1
16-AG-23-GE-TRC-A	Good Agricultural Practices (GAP)	25	3	1	1

Project Code	Project Title	No. Enrolled	No. Completed	No. Passed	Resource Persons
16-AG-23-GE-TRC-A-03	Agritourism Business Development	41	31	17	1
16-AG-23-GE-TRC-A-04	Food Safety Management (Basic)	51	6	6	1
16-IN-06-GE-TRC-A-06	Marketing Strategy and Product Branding for SMEs	15	5	4	1
17-AG-23-GE-DLN-A-01	Organic Agriculture and Organic Agribusiness	41	23	11	1
17-AG-23-GE-DLN-A-02	Agribusiness Management (Advanced)	22	9	3	2
17-AG-23-GE-DLN-A-03	Food Safety Management (Advanced)	28	10	5	1
17-AG-23-GE-DLN-A-04	Rural Entrepreneurship Development	15	2	2	1
17-IN-06-GE-DLN-A-01	Occupational Health and Safety Management System (OHSAS 18001)	424	369	339	1
17-IN-06-GE-DLN-A-02	Productivity Tools and Techniques (Basic)	192	64	37	1
17-IN-06-GE-DLN-A-03	Productivity Tools and Techniques (Advanced)	171	109	101	4
17-IN-06-GE-DLN-A-04	Applying Green Productivity Based on ISO14001 Standards	305	248	211	1
17-IN-06-GE-DLN-A-05	Material Flow Cost Accounting (ISO 14051)	27	9	7	1
17-IN-06-GE-DLN-A-06	Climate Change Impacts and Adaptation (Basic)	20	7	5	1
17-IN-06-GE-DLN-A-07	Smart Manufacturing: Basic	19	4	2	1
17-IN-06-GE-DLN-A-08	Smart Manufacturing: Advanced	0	0	0	1
17-IN-06-GE-DLN-A-09	Energy Management System Auditors' Course	48	21	13	1
17-IN-06-GE-DLN-A-10	Sustainable, Resilience Supply Chain and Integration into Global Value Chains	32	4	3	1
17-IN-06-GE-DLN-A-11	Integrating Lean Manufacturing Systems and Industry 4.0 Concepts	41	13	10	1
17-IN-06-GE-DLN-A-12	Green Productivity and Integrated Management System	50	12	3	1
18-AG-23-GE-DLN-A-01	Modern Food Storage and Transport Technologies	8	1	0	1
18-AG-23-GE-DLN-A-02	Urban Agriculture	7	1	0	1

Project Code	Project Title	No. Enrolled	No. Completed	No. Passed	Resource Persons
18-AG-23-GE-DLN-A-03	Building Climate Change-resilient Agriculture	25	6	6	1
18-AG-23-GE-DLN-A-04	Future Food: Exploring Business Opportunities	12	3	2	1
18-AG-23-GE-DLN-A-05	Business Models for Women Entrepreneurs	14	4	3	1
18-AG-23-GE-DLN-A-06	Smart Farm Mechanization	15	5	3	1
18-IN-06-GE-DLN-A-01	Energy Efficiency Techniques	11	2	0	1
18-IN-06-GE-DLN-A-02	Basic Data Analytic Course for the Public Sector	49	17	9	1
18-IN-06-GE-DLN-A-04	Management of Innovation in SMEs	22	6	5	1
18-IN-06-GE-DLN-A-05	Measurement of Public-sector Productivity	34	12	7	1
18-IN-06-GE-DLN-A-06	Critical Strategic Foresight Tools for Sustainable Productivity	18	4	4	1
19-AG-17-GE-DLN-A-02	Organic Inspection and Certification	30	15	15	1
19-AG-17-GE-DLN-A-03	Innovative Cost-effective Technologies for Sustainable Agriculture	8	1	1	1
19-AG-17-GE-DLN-A-05	Modern Food Distribution Systems	10	1	0	1
19-AG-17-GE-DLN-A-06	Innovations in Agroforestry Systems	13	7	4	1
19-AG-17-GE-DLN-A-AP01	Smart Transformation of Agriculture	34	21	17	1
19-AG-17-GE-DLN-A-AP04	Future Aquaculture Farming	10	4	3	8
19-IN-06-GE-DLN-A-01	Basic Smart Manufacturing 101 in a Blockchain-driven Era	8	0	0	1
19-IN-06-GE-DLN-A-AP02	General Aspects of Energy Management and Audit	85	47	42	8
19-IN-06-GE-DLN-A-AP04	Advanced Smart Manufacturing 101 in a Blockchain-driven Era	8	1	1	1
20-AG-17-GE-DLN-A-AP01	Apiculture Management	22	6	0	1
20-AG-17-GE-DLN-A-AP02	Digital Technologies for Smallholder Farmers	31	6	4	1
20-AG-17-GE-DLN-A-AP03	Development of Social Enterprises for Agribusiness	22	6	3	1

Project Code	Project Title	No. Enrolled	No. Completed	No. Passed	Resource Persons
20-IN-06-GE-DLN-AP-02	Advanced Course on Data Analytics for the Public Sector	35	6	3	1
21-CL-03-GE-DLN-A	Service-sector Productivity and Innovation for the Digital Economy	15	3	3	1
21-CL-07-GE-DLN-A	Agricultural Insurance for Food Security	37	24	19	1
21-CP-11-GE-DLN-A	Smart Livestock Value Chains	51	29	24	1
21-CP-12-GE-DLN-A	Modern Food Retailing	27	10	7	1
21-CP-19-GE-DLN-A	Applying Scientific Knowledge for the Public Sector	19	5	4	1
21-CP-24-GE-DLN-A	Energy Efficiency and Management in Thermal Systems	22	7	2	1
21-CP-25-GE-DLN-A	Energy Efficiency and Management in Electrical Systems	35	7	6	1
21-CP-32-GE-DLN-A	Human Resources Strategy for the Public Sector	242	159	129	1
21-CP-33-GE-DLN-A	Cloud Solutions for Enhanced Productivity in the Service Sector	7	4	4	1
21-CP-34-GE-DLN-A	Service Design Thinking for SMEs	14	3	3	1
21-RC-09-GE-DLN-C	Case Studies on Incorporating Lean Manufacturing into Industry 4.0	85	52	50	1
22-CL-12-GE-DLN-A	Measuring and Analyzing Productivity Gains for SMEs	69	45	37	1
22-CL-18-GE-DLN-A	Digital Transformation for SMEs	41	15	12	1
22-CP-25-GE-DLN-A	Green Productivity Tools and Techniques	176	92	77	1
22-CP-29-GE-DLN-A	Sustainable Fisheries	39	16	15	1
22-CP-33-GE-DLN-A	Productivity Measurement in the Service Sector	202	117	95	1
22-CP-34-GE-DLN-A	Service-sector Transformation in Industry 4.0	17	6	6	1
22-CP-35-GE-DLN-A	Generating Energy Sustainably	45	19	12	1
22-CP-36-GE-DLN-A	Hydroponic Farming	39	9	7	1
22-CP-42-GE-DLN-A	Digital Manufacturing	56	25	22	1

Project Code	Project Title	No. Enrolled	No. Completed	No. Passed	Resource Persons
22-IP-03-GE-DLN-A	Enabling Regulations for Agricultural Innovation	29	18	12	1
22-IP-05-GE-DLN-A	Regulating Emerging Technologies	52	18	12	1
22-IP-06-GE-DLN-A	Applications of Service Innovation	28	8	6	1
22-IP-14-GE-DLN-A	Public-sector Innovation Labs	24	6	4	1
22-IP-15-GE-DLN-A	Behavioral Public Administration	46	23	21	1
22-IP-16-GE-DLN-A	Regulatory Management Systems	57	18	14	1
22-IP-37-GE-DLN-A	Management of Plant Factories	12	1	1	1
22-RC-16-GE-DLN-A	Data Modeling for Productivity Improvement	64	14	8	1
23-CL-06-GE-DLN-A	Food Bakery Entrepreneurship Development	49	30	27	1
23-CL-07-GE-DLN-A	Value-added Fruit Products	206	119	79	1
23-CL-10-GE-DLN-A	Inclusive Leadership in the Public Sector	191	101	81	1
23-CL-14-GE-DLN-A	Managing Demographic Transition and Its Impact	14	4	4	4
23-CP-08-GE-DLN-A	Data Analytics for SMEs	169	71	59	1
23-CP-09-GE-DLN-A	Workplace Digitalization in Public-sector Organizations	105	40	18	1
23-CP-13-GE-DLN-A	Blockchain Solutions for Improving Productivity in Agriculture	48	20	10	1
23-CP-17-GE-DLN-A	Platform Businesses in the Service Sector	39	22	13	1
23-CP-20-GE-DLN-A	Effective e-Commerce Strategies	24	8	5	1
23-CP-29-GE-DLN-A	Public-sector Strategic Management	65	22	13	1
23-CP-39-GE-DLN-A	Ecodesign and the 3Rs	61	33	26	1
23-IP-03-GE-DLN-A	Digital Innovation Processes in the Public Sector	106	47	36	1
23-IP-21-GE-DLN-A	Digital Marketing Strategies	89	40	32	1

Courses Released in 2024

Project Code	Project Title	No. Enrolled	No. Completed	No. Passed	Resource Persons
23-CP-38-GE-DLN-A	Energy Conservation Opportunities and Best Practices in Industry Sectors	144	53	25	1
23-CP-41-GE-DLN-A	Lean Management in the Public Sector	109	44	35	1
23-IP-04-GE-DLN-A	Innovative Entrepreneurship for the Youth	10	4	3	1
23-IP-14-GE-DLN-A	Innovation Management for SMEs	39	23	22	1
24-CL-08-GE-DLN-A	Diversity and Inclusion in the Service Sector	2	0	0	1
24-CL-16-GE-DLN-A	New Participatory Governance Mechanisms for the Public Sector	34	10	8	1
24-CP-14-GE-DLN-A	Smart Poultry Farming	11	5	3	1
24-CP-16-GE-DLN-A	Innovative Unmanned Aerial Vehicle Applications in Agriculture	31	14	13	1
24-CP-21-GE-DLN-A	Digital Transformation Strategies for the Service Sector	117	72	60	1
24-CP-30-GE-DLN-A	Evidence-based Decision-making for Innovation in Public Organizations	17	8	6	1
24-CP-44-GE-DLN-A	Circular Economy Implementation and Strategies for the Public Sector	14	6	5	1
24-IP-09-GE-DLN-A	Productivity Statistics for Effective Policymaking	39	6	3	1
24-IP-17-GE-DLN-A	Innovation Management for Productivity Improvement in the Service Sector	33	10	8	1

APO Productivity Talks

Project Code	APO Productivity Talk Title	Resource Persons
24-RC-04-GE-DLN-A	Productivity Outlook 2024	2
24-RC-04-GE-DLN-A	Kaizen Implementation in Africa	3
24-RC-04-GE-DLN-A	Public-sector Productivity through Citizen Innovations	1
24-RC-04-GE-DLN-A	The Circular Economy in Action	1
24-RC-04-GE-DLN-A	Investing in Disaster Risk Reduction (DRR) to Enhance Productivity	2
24-RC-04-GE-DLN-A	Excellence Models from the Productivity Viewpoint	1

Project Code	APO Productivity Talk Title	Resource Persons
24-RC-04-GE-DLN-A	Unlocking Productivity in Green Supply Chain Management	2
24-RC-04-GE-DLN-A	The Art of Digitalization: A Dive into e-Estonia	2
24-RC-04-GE-DLN-A	Post-COP28: Climate Change and Productivity Opportunities for Businesses	1
24-RC-04-GE-DLN-A	Spillover Effects of Global Value Chains on Productivity	2
24-RC-04-GE-DLN-A	Unlocking Potential: How Executive Coaching Improves Organizational Productivity	1
24-RC-04-GE-DLN-A	Boosting Public-sector Productivity by Navigating Complexity	2
24-RC-04-GE-DLN-A	Digital Innovation: The OneService App in Singapore	1
24-RC-04-GE-DLN-A	The Creative Economy in the Digital Age	1
24-RC-04-GE-DLN-A	System-based Digital Transformation for Startups	1
24-RC-04-GE-DLN-A	Developing a Personal Productivity Mindset (PPM) for Growth	1
24-RC-04-GE-DLN-A	Bank for Farmers, Communities, and Sustainable Development	1
24-RC-04-GE-DLN-A	Innovating for Productivity: Unlocking Global Potential through Strategic Growth	1
24-RC-04-GE-DLN-A	Halal Certification: Optimization through Productivity	1
24-RC-04-GE-DLN-A	Innovation in Agribusiness: Empowering the Community through Food	2
24-RC-04-GE-DLN-A	Global Perspectives on Premature Deindustrialization	2
24-RC-04-GE-DLN-A	Risk Management for Resiliency and Productivity	2
24-RC-04-GE-DLN-A	Leveraging AI to Enhance Productivity and Customer Experience in the Hospitality Sector	1
24-RC-04-GE-DLN-A	Getting Started on ESG and Sustainability for SMEs	1
24-RC-04-GE-DLN-A	Service Quality Standards for the Public Sector	1
24-RC-04-GE-DLN-A	Designing Regulatory Regimes to Improve Productivity	1
24-RC-04-GE-DLN-A	Future Prospects for Smart Agriculture	1

Project Code	APO Productivity Talk Title	Resource Persons
24-RC-04-GE-DLN-A	Promoting Kaizen in Africa	3

APO Productivity Gemba

Project Code	APO Productivity Gemba Video Title	Resource Persons
24-RC-04-GE-DLN-A	Discovering a New Horizon in the Bus Tour Industry through Digitalization	1
24-RC-04-GE-DLN-A	Balancing Environmental Conservation and Economic Activity	1
24-RC-04-GE-DLN-A	The Inclusive Workplace	1
24-RC-04-GE-DLN-A	Food Safety Management	1
24-RC-04-GE-DLN-A	Creating a Kaizen Culture	1
24-RC-04-GE-DLN-A	Quality Control of Fresh Produce	1

Research and Program Development

Project Code	Project Title	Resource Persons
21-RC-13-GE-RES-B	Research on Emerging Needs of APO Member Economies	9
22-RC-12-GE-RES-B	Review of Productivity Assessment Tools for the Agriculture Sector	7
22-RC-13-GE-RES-A	Research on Emerging Needs of APO Member Economies	4
22-RC-19-GE-RES-A	Research on Institutional Ecosystems to Drive Productivity	10
23-RC-10-GE-RES-A	Productivity Analysis Series	1
23-RC-11-GE-RES-A	APO Productivity Outlook	1
23-RC-12-GE-RES-A	Research on the Informal Economy and Productivity Growth	11
23-RC-13-GE-RES-B	Research on Premature Deindustrialization and Productivity Performance	10
23-RC-14-GE-RES-B	Research on New Dynamics of Global Supply Chains and Implications for Productivity	10
23-RC-15-GE-RES-A	APO Productivity Databook and Database 2024	19

Project Code	Project Title	Resource Persons
23-RC-16-GE-RES-B	Research on Agile Working Styles for Productivity	8
23-RC-18-GE-RES-A	Research on Measuring the Institutional Capacity of Key Productivity-promoting Institutions in APO Members	1
23-RC-19-GE-RES-A	Research on Agricultural Productivity in Asia	1
23-RC-20-GE-RES-B	Research on Assessing Needs of APO Members	7
23-RC-21-GE-RES-A	Research on New Productivity Tools in Agriculture	1
23-RC-22-GE-RES-A	Research on New Productivity Tools in the Public Sector	1
23-RC-23-GE-RES-A	Research on Strategic Modeling for Future Agriculture in Asia	1
23-RC-24-GE-RES-A	Research on Emerging Trends in APO Members	13
23-RC-26-GE-RES-B	Research on Public-sector Performance Management in the APO Members	10
24-RC-09-GE-RES-A	Productivity Analysis Series	3
24-RC-10-GE-RES-A	APO Productivity Outlook	1
24-RC-11-GE-RES-A	Research on Raising Informal-sector Productivity	1
24-RC-12-GE-RES-A	Research on Economic Upgrading Strategies and Productivity Growth	10
24-RC-13-GE-RES-A	Research on Technological Capability Enhancement Support for SMEs and Productivity Improvement	13
24-RC-14-GE-RES-A	APO Productivity Databook and Database 2025	18
24-RC-15-GE-RES-A	Research on Emerging Trends in APO Member Countries	8
24-RC-16-GE-RES-A	Research on Assessing the Needs of APO Member Countries	21
24-RC-17-GE-RES-A	Research on Enhancing Productivity among Persons with Disabilities	8
24-RC-18-GE-RES-A	Research on the Women's Empowerment Index in the Agriculture Sector	9
24-RC-19-GE-RES-A	Research on Policies Supporting the Shift to a Knowledge-based Economy	1
24-RC-20-GE-RES-A	Research on Productivity Readiness	1

Project Code	Project Title	Resource Persons
24-RC-21-GE-RES-A	Research on Measuring Productivity in Digital Workplaces	10
24-RC-22-GE-RES-B	Research on Crowdsourcing for the Public Sector	7
24-RC-24-GE-RES-A	Research on Government Rightsizing and Restructuring to Improve Bureaucratic Efficiency in APO Member Economies	9
24-RC-25-GE-RES-B	Research on Productivity Gainsharing Best Practices in the Agrifood Sector	11

Centers of Excellence

Project Code	Project Title	Host	Participants	Resource Persons
23-RC-25-GE-COE-C-IN01	Consultation Program and Training of Trainers (ToT) on Artificial Intelligence (AI) Tools and Technologies for SMEs toward Responsible Digital Transformation	India	65	2
23-RC-25-GE-COE-C-JP04	Preparatory Study Mission for the Pilot Project on Climate-smart Agriculture Technologies	Thailand	20	8
24-RC-23-GE-COE-C-PH01	Workshop on Need Assessment of APO Members in Public-sector Productivity	Philippines	29	5
24-RC-23-GE-COE-C-IN01	Development of a Need and Readiness Assessment Survey on the Adoption of Industry 4.0 and Artificial Intelligence Tools and Technologies for SMEs toward Responsible Digital Transformation	India	0	1
24-RC-23-GE-COE-C-IN02	Development of Training Manual on Industry 4.0 and Responsible AI Adoption for SMEs	India	0	3
24-RC-23-GE-COE-C-JP01	Workshop on Capacity Development for Soil Carbon Visualization	Japan	6	14
24-RC-23-GE-COE-C	APO Centers of Excellence: Expert Panel Meeting on the COE Proposal from Vietnam	Vietnam	0	5
24-RC-23-GE-COE-C	APO Centers of Excellence: Expert Panel Meeting on the Assessment of the COE on Climate-smart Agriculture (CSA)	Japan	0	4

Strengthening of NPOs and Policy Advisory

Bilateral Cooperation between NPOs

Project Code	Project Title	Deputing Country	Host	Resource Persons	Organizations
23-SN-03-GE-BCN-C-PH01	Public-sector Excellence and Performance Evaluation	Mongolia	Philippines	0	2
23-SN-03-GE-BCN-C-SG03	Development of a Productivity Framework for the Service Sector	Thailand	Singapore	0	2
24-SN-03-GE-BCN-C-JP01	Benchmarking Study on Productivity Enhancement Initiative in Japan	Fiji	Japan	0	2
24-SN-03-GE-BCN-C-LA01	Enhancing Bureaucratic Efficiency: A Peer-Learning Study on Streamlining Public Service Delivery	Nepal	Lao PDR	1	2
24-SN-03-GE-BCN-C-MY01	Development of a Productivity Measurement System and Productivity-based Incentives	Pakistan	Malaysia	2	2
24-SN-03-GE-BCN-C-TH01	Green Productivity Tools and Methodology	Singapore	Thailand	2	2
24-SN-03-GE-BCN-C-TR01	Enhancing Malaysian Manufacturing Productivity through Human Capital Development	Malaysia	Turkiye	1	2
24-SN-03-GE-BCN-C-PH01	Productivity Promotion Strategies and Experiences	Bangladesh	Philippines	1	2
24-SN-03-GE-BCN-C-VN01	Best Practices for Managing NPO Certification Bodies	Sri Lanka	Vietnam	2	2

The reported number of organizations refers to participating NPOs.

Individual-country Observational Study Missions

Project Code	Project Title	Deputing Country	Host	Resource Persons	Organizations
24-SN-01-GE-OSM-C-MN01	Enhancing Startup Ecosystems: Incubation Program Strategies	Cambodia	Mongolia	2	4
24-SN-01-GE-OSM-C-VN01	Green Productivity and Sustainability Development in Vietnam's Textile and Apparel Sectors	Pakistan	Vietnam	2	7
24-SN-01-GE-OSM-C-VN02	Green Productivity for Sustainable Business Models	Nepal	Vietnam	2	3
24-SN-01-GE-OSM-C-TW02	ESG Knowledge Exchange	Singapore	ROC	2	4
24-SN-01-GE-OSM-C-JP01	Talent Development for Enhanced Productivity and Competitiveness	Malaysia	Japan	2	3
24-SN-01-GE-OSM-C-TW01	Successful Smart Farming in the ROC	Lao PDR	ROC	0	5
24-SN-01-GE-OSM-C-TH01	Sharing Best Practices in Sustainability for Innovation, Education, and Human Resources	Turkiye	Thailand	1	4

The reported number of organizations corresponds to the entities participants represented.

Certification Body Development

Project Code	Project Title	Host	Resource Persons	Participants	Organizations
23-SN-05-GE-CBD-C-TH01	Development of the Thailand Productivity Institute as an APO Certification Body	Thailand	3	15	1
23-SN-05-GE-CBD-C-SG01	Development of the Singapore Productivity Centre as an APO Certification Body	Singapore	3	26	1
23-SN-05-GE-CBD-C-BD01	Development of the National Productivity Organisation, Bangladesh, as an APO Certification Body	Bangladesh	1	15	1

Specific National Program

Project Code	Project Title	Host	Resource Persons	Organizations
22-SN-06-GE-SNP-C-BD01	Development of the Monitoring and Evaluation Framework of the National Productivity Master Plan	Bangladesh	2	8
22-SN-06-GE-SNP-C-PH02	Development of Innovation Management Policy Framework for MSMEs in the Philippines	Philippines	1	3
23-SN-06-GE-SNP-C-LK01	Development of the National Productivity Master Plan for Sri Lanka	Sri Lanka	8	15
23-SN-06-GE-SNP-C-MY01	Revision of the Malaysia Productivity Blueprint	Malaysia	6	12
23-SN-06-GE-SNP-C-VN01	National Strategy for Advancing the Productivity of Vietnam's Textile and Garment Industry through Technology and Innovation	Vietnam	3	4
24-SN-06-GE-SNP-C-TR01	Development of a Digital Transformation Consultancy Roadmap for Model Factories in Turkiye	Turkiye	6	8
24-SN-06-GE-SNP-C-TH01	Development of National AI Strategy to Enhance Industry Productivity	Thailand	8	30

The reported number of organizations refers to those requesting assistance from the APO Secretariat. Due to the program's national-level scope, it is important to note that as an SNP project progresses, additional stakeholders may also benefit from this program.

Technical Expert Services

Project Code	Project Title	Host	Resource Persons	Participants
22-SN-02-GE-TES-C-LA01	Productivity and Quality Improvement for Fresh Vegetable Producers	Lao PDR	2	0
22-SN-02-GE-TES-C-TR03	Current Methods and Applications in Impact Assessment	Turkiye	2	35
23-SN-02-GE-TES-C-BD02	Public-sector Productivity Training and Assessment for Bangladesh	Bangladesh	1	33
23-SN-02-GE-TES-C-PK02	Productivity Promotion for the Gemstone and Jewelry Sector in Pakistan	Pakistan	3	190
23-SN-02-GE-TES-C-TR03	Training Course on Water and Carbon Footprint Calculation	Turkiye	2	20

Project Code	Project Title	Host	Resource Persons	Participants
23-SN-02-GE-TES-C-VN03	Capacity Building on Environmental, Social, and Governance	Vietnam	2	34
24-SN-02-GE-TES-C-BD01	Training on Six Sigma	Bangladesh	1	24
24-SN-02-GE-TES-C-BD02	Training on Sustainable Beekeeping, Marketing, and Quality Control	Bangladesh	2	24
24-SN-02-GE-TES-C-KH01	Training of Auditors and Consultants on Auditing Management Systems	Cambodia	1	45
24-SN-02-GE-TES-C-KH02	Development of Public-sector Productivity Specialists	Cambodia	2	33
24-SN-02-GE-TES-C-KH03	Business Excellence Framework	Cambodia	1	30
24-SN-02-GE-TES-C-TW02	Introduction to Japan's Imported Fruit Market and Preservation Technologies	ROC	1	130
24-SN-02-GE-TES-C-TW03	2024 International Conference on Smart Agriculture	ROC	1	204
24-SN-02-GE-TES-C-FJ01	Training on ISO 22000:2018 Food Safety Management Systems for Lead Auditors	Fiji	1	33
24-SN-02-GE-TES-C-FJ02	Enhancing Public-sector Productivity	Fiji	2	42
24-SN-02-GE-TES-C-ID01	Sustainable Beekeeping Practices for Bee Health and Monitoring	Indonesia	2	61
24-SN-02-GE-TES-C-ID03	National Quality and Productivity Convention	Indonesia	1	2,450
24-SN-02-GE-TES-C-MY01	Enhancing State Productivity in Malaysia	Malaysia	1	23
24-SN-02-GE-TES-C-MN01	Strategic Rightsizing for Productivity Enhancement in the Mining Industry	Mongolia	1	58
24-SN-02-GE-TES-C-MN03	Mongolia National Productivity Forum 2024	Mongolia	1	150
24-SN-02-GE-TES-C-PK02	Leveraging Artificial Intelligence for Business Innovation and Entrepreneurial Education	Pakistan	1	500
24-SN-02-GE-TES-C-PK03	Workshop on Generative AI in Education: Harnessing Technology for Enhanced Learning	Pakistan	1	38
24-SN-02-GE-TES-C-PK04	Workshop on Innovations in Educational Content Development	Pakistan	1	52
24-SN-02-GE-TES-C-PH01	Developing Evidence-based Service Quality Standards for Public Sector Organizations	Philippines	1	85
24-SN-02-GE-TES-C-PH02	Leveraging Artificial Intelligence for Business Innovation and Entrepreneurial Education	Philippines	1	19
24-SN-02-GE-TES-C-SG01	Development of Green Productivity Specialist Curriculum	Singapore	1	15

Project Code	Project Title	Host	Resource Persons	Participants
24-SN-02-GE-TES-C-LK01	Consultant Development Program: Leveraging AI Technologies for Smart Manufacturing in SMEs	Sri Lanka	1	27
24-SN-02-GE-TES-C-TH01	Resource Productivity Management Using Resource Efficiency, MFCA, and EcoLean Concepts	Thailand	2	13
24-SN-02-GE-TES-C-TH02	Productivity Curriculum Development for Youth	Thailand	1	14
24-SN-02-GE-TES-C-TR02	Increasing Productivity and Efficiency of the Technology Transfer Office of the Ministry of Agriculture and Forestry of Turkiye (MoAF)	Turkiye	2	29
24-SN-02-GE-TES-C-TR03	Promotion of Productivity and Innovation in Beekeeping	Turkiye	2	94

Demonstration Companies

Project Code	Project Title	Host	Resource Persons	Organizations* (Demonstration Companies)
23-SN-04-GE-DMP-C-BD01	Application of Lean Management Systems in the Chemical Industry	Bangladesh	1	3
23-SN-04-GE-DMP-C-LK01	Productivity Improvement in Manufacturing SMEs	Sri Lanka	1	3
23-SN-04-GE-DMP-C-PK01	Workplace Environment Management through Lean Manufacturing in the Surgical Instruments Industry	Pakistan	6	5
24-SN-04-GE-DMP-C-TR01	Productivity Improvement through AI Application in Carbon Accounting and Emission Management	Turkiye	1	1

*The reported number of organizations refers to established demonstration companies.

Vision 2025 Outreach Program

Project Code	Project Title	Host	Resource Persons	Participants
24-SN-07-GE-VSN-C	APO Vision 2025 Outreach (VSN)	Bangladesh	10	300
		Cambodia	0	210
		Fiji	1	846
		Japan	2	40
		Lao PDR	4	400
		Mongolia	0	745
		ROC	23	425

Project Code	Project Title	Host	Resource Persons	Participants
24-SN-07-GE-VSN-C	APO Vision 2025 Outreach (VSN)	Singapore	4	179
		Thailand	10	1,697
		Vietnam	3	180

APO Award Program

Project Code	Project Title	Host	Awardees
23-SN-08-GE-AWD-C	APO National Awards (AWD)	Cambodia	2
		Fiji	2
		I.R. Iran	1
		Pakistan	2
24-SN-08-GE-AWD-C	APO National Awards (AWD)	I.R. Iran	1
		Malaysia	2

APPENDIX 2

SUMMARIES OF 2024 PROJECTS

Centrality of Productivity

i. Smart Transformation

21-CP-40-SP-DMP-C-VN01 (MAFF Japan Cash Grant Project)

Improvement of Productivity in Greenhouse Vegetable Production

Vegetable demand in Vietnam has diversified as more produce is being processed, frozen, and exported. Vegetable production must be increased and quality adjusted to meet various demands. Labor productivity in vegetable production is not high because many workers are from local ethnic groups in remote areas. Therefore, reducing labor costs is an important issue.

To meet such requirements, microclimate control systems using smart technologies such as the IoT and data analysis are suitable solutions. The APO and the Vietnam National Productivity Institute (VNPI) established a demonstration farm on greenhouse horticulture with a Japanese microclimate control system in Da Lat, Vietnam, under a cash grant from the Ministry of Agriculture, Forestry and Fisheries (MAFF), Japan.

Under the MAFF cash grant, the APO and the VNPI started the establishment of a demonstration farm, 14–15 March. This was attended by 10 participants from the demonstration farm. This phase of the project was facilitated by a resource person from Japan from the microclimate control system supplier, SERAKU Company Limited.

The program covered the installation of a microclimate control system in one greenhouse of a farm in Da Lat, guidance on using the system for farm staff, and consideration of additional systems for future production.

21-CP-40-SP-DMP-C-VN02 (MAFF Japan Cash Grant Project)

Study Mission on Improvement of Productivity in Greenhouse Vegetable Production

Vegetable demand in Vietnam has diversified as more produce is being processed, frozen, and exported. On the other hand, labor productivity is low, and it is necessary to enhance productivity and introduce cost-reduction measures. This project aimed to demonstrate microclimate control systems used by Japanese greenhouses and help farmers in Vietnam utilize the systems to promote labor productivity and sustainability in vegetable production.

Under a special cash grant from MAFF, the APO implemented the Study Mission on Improvement of Productivity in Greenhouse Vegetable Production in Tokyo, Tochigi, and Fukushima, Japan, 16–18 October. This was attended by seven participants, including two from the Garden Mountain Joint Stock Company, which was selected as a demonstration company under the project. The first study mission was held 8–10 February 2023, and in this second study mission, participants learned about and observed best practices before installing microclimate control systems.

The second study mission considered how participants could enhance the use of microclimate controls in greenhouses. During this project, the demonstration farm shared its current situation, where productivity had increased by 15% since the installation of the equipment six months prior. Participants learned the meaning of the various data measured by the equipment. They also learned about related equipment used on farms in Japan and considered the next equipment to implement to enhance productivity. This mission was facilitated by three resource persons from Japan who explained how to maximize the use of microclimate controls and understand additional systems in greenhouses.

23-CP-11-GE-CON-A

Conference on the Digital Food and Beverage Industry

Digital technology has contributed to modernizing food and beverage business models while creating new opportunities and challenges. ICT-based agricultural production, processing, manufacturing, packaging, transportation, marketing, and customer data are analyzed to identify preferences, reduce operating costs, and maximize profits.

The Conference on the Digital Food and Beverage Industry organized by the APO Secretariat was implemented online on 7 March and attended by 65 participants from 15 member economies. It was facilitated by three resource persons from Indonesia, the Philippines, and Singapore. This conference examined the benefits and potential of digitalization in the food and beverage industry, reviewed case studies, and analyzed opportunities for improving productivity in the industry in APO members.

The program covered the modern food and beverage industry, ICT and automation in food and beverage supply chain traceability, models to improve productivity and consumer satisfaction and reduce operating costs, and case studies of opportunities and challenges for digitalization in APO members.

23-CP-12-GE-OSM-A

Multicountry Observational Study Mission on Smart Poultry Farming

Livestock farming, which not only faces increasing demand for dairy products in the Asia-Pacific region but also requires quality assurance, can use smart technology to reduce labor, increase productivity, and improve animal welfare. In this mission, participants examined models that small-scale farmers can apply to improve productivity through case studies of smart poultry and other livestock farming.

This multicountry observational study mission (OSM) on smart poultry farming was implemented by the Thailand Productivity Institute (FTPI) in Bangkok, 23–25 January. Thirty-eight participants from APO member economies participated. Five resource persons, one from Belgium, one from Japan, and three from Thailand, covered aspects of smart livestock farming. In addition to knowledge transfer and case sharing, a field visit to a representative livestock company in Thailand enhanced participants' understanding of current smart livestock farming practices.

The program covered policies and smart technologies in livestock operations in Belgium, Japan, and Thailand; case studies of IoT applications in egg production; and eco-friendly aquaculture implementing smart technology. Virtual site visits were hosted by Koenuma Farm and Satou Farm in Japan. Charoen Pokphand Foods Public Company Limited, representing agro-industrial and food business in Thailand, hosted an on-site visit.

23-CP-51-GE-WSP-A

Workshop on Technological Capacity Enhancement of Businesses

Most small and medium-sized enterprise (SME) owners consider digitalization crucial for business performance and to have a "flywheel effect" that facilitates upgrading because of internalized technological competency and its benefits. However, SMEs are usually constrained by a lack of awareness, strategies, resources, and technical capacities, requiring assistance to initiate meaningful digital upgrading in response to trends in the environment and build capabilities in management and adoption of technologies. This workshop provided digital transformation strategies to strengthen the technological capacity and productivity of businesses.

To assist APO members' efforts to build the capabilities of the workforce for digital upgrading, the NPO, Pakistan, collaborated with the APO Secretariat to conduct the online Workshop on Technological Capacity Enhancement of Businesses, 29–31 January. Thirty-six participants from 12 APO members completed the workshop, where two resource persons from Pakistan and three from Singapore presented trends influencing businesses, key elements and technologies for digital upgrading, and core competencies in the age of AI. The participants discussed the implications of digital transformation and developed an under-

standing of the need for human-centric transformation strategies.

The program covered competencies in the age of digital transformation, strategies and steps for digital upgrading, understanding data and AI and their benefits for businesses, building capabilities for smart businesses in Pakistan, connectivity and the IoT, and digital upgrading and capability building for innovation and new opportunities.

24-CP-01-GE-TRC-B

Training Course on Blockchain Technology Application in e-Government

Blockchain technology is increasingly adopted to enhance e-government programs. Offering courses on blockchain solutions shows a commitment to building public sector expertise in integrating this technology. Blockchains, along with AI, have the potential to transform public services by providing transparency, security, and efficiency. The APO has promoted these technologies to member economies, focusing on SMEs and other sectors.

The Training Course on Blockchain Technology Application in e-Government, conducted 5–9 August in Phnom Penh, Cambodia, was organized by the National Productivity Centre of Cambodia (NPCC). A total of three resource persons from Cambodia, India, and Singapore led the course, which introduced blockchain applications in the public sector, aiming for more secure, agile, cost-effective structures while boosting trust and accountability. It covered the fundamentals of blockchain technology and its applications in e-government.

Twenty-three participants from nine APO members acquired a comprehensive understanding of blockchain fundamentals and their practical applications in the public sector. During the course, participants developed projects utilizing blockchain to address specific challenges within their e-government systems. They also crafted individual action plans to implement their projects within their NPOs. Furthermore, the course received notable media attention, with coverage from newspapers in Cambodia, highlighting its significance and impact in advancing e-government capabilities across the Asia-Pacific region.

24-CP-20-GE-TRC-A

Training Course on Social Entrepreneurship

Social enterprises are businesses that prioritize purpose over profit in operational and strategic decisions. They exist to solve social and/or environmental problems and reinvest to achieve their goals. Despite varying definitions in different countries, social enterprises are commonly understood as economic entities standing at the intersection of business and social good, spearheading innovative solutions that generate economic value and drive social and environmental impacts. Nurturing social entrepreneurship has become a pivotal strategy for social innovation and sustainable, inclusive socioeconomic growth. This project resonated with the APO Vision 2025 by highlighting the importance of resilience, inclusiveness, and innovation.

To learn about strategies and practices for nurturing social entrepreneurship, the NPO, Bangladesh, collaborated with the APO Secretariat to organize an online training course on social entrepreneurship, held 12–15 August, aiming to impart knowledge of tools and methods that could help social enterprises create social impact.

Twenty-eight participants from 12 APO members completed the training course, which was led by four resource persons: one from Bangladesh, one from New Zealand, and two from the Philippines. Participants were familiarized with the latest trends and practices of social enterprises and their contributions to innovation and social impact. They also learned about practical tools to help social enterprises review and position their values and business models for more sustainable operations.

24-CP-23-GE-TRC-A

Training Course on Data Analytic Skills for Service-sector Employees

The APO Vision 2025 highlights the importance of smart transformation and its implications for productivity

in services. Many efforts for digital transformation are being made in the manufacturing sector to gain easily observable outputs through digital technologies. Services also provide opportunities for digital upgrading and have direct impacts on daily life, expediting overall digital formation in society. Strengthening the capabilities of service sector professionals for digital upgrading, especially the ability to leverage the power of data, will assist APO members in upgrading their businesses and building digital resilience.

To strengthen the capabilities of service sector professionals in using data for management, decision-making, and innovation, the Japan Productivity Center (JPC) and the APO Secretariat co-organized an online training course on data analytic skills for service sector employees, held 23–26 April. It aimed to strengthen the foundation for digital transformation and enhance the productivity of service professionals by disseminating knowledge on data analytics.

Thirty-four participants from 11 APO members completed the training course, which was led by four resource persons: one from Japan, one from the Netherlands, and two from Singapore. Participants were familiarized with the latest data analytics trends and technologies and their innovative applications in the service sector. They also learned about fundamental elements of data analytics through exercises, use cases, and basic data applications. The participants recognized the importance of data and were ready to apply the learning to their daily work and strategy development to enhance productivity and customer satisfaction.

24-CP-56-GE-WSP-A

Workshop on Benchmarking of Agrimechanization Models to Enhance Agricultural Productivity

Mechanization has been identified as a key factor in improving productivity by automating agricultural processes and adding suitable labor. However, the effectiveness of agricultural machinery differs among APO members. As a continuing effort after the 2023 Workshop on Improving Agricultural Productivity through Mechanization, the focus in 2024 was on assessment criteria to guide participants in locally applying suitable mechanization.

The NPO, Pakistan, held a workshop on the benchmarking of agrimechanization models in Lahore, Pakistan, 11–14 November. The objective was to equip participants with a better understanding of agricultural mechanization benchmarking models, best practices, plans suitable for local conditions, and key points to enhance agricultural productivity through appropriate mechanization models.

Twenty-six participants from nine APO members completed the workshop, guided by three resource persons: two from Japan and one from Pakistan. There was also a site visit to Millat Tractors Limited, an agricultural machinery manufacturing company in Lahore, which allowed participants to observe and learn about its efforts to organize the manufacturing process and introduce kaizen (continuous improvement) activities. At the end of the workshop, participants gave presentations on what they had learned and solutions to challenges faced by their economies that could promote agricultural mechanization.

24-CP-58-GE-WSP-A

Workshop on Strategic Marketing for Digital Transformation

The APO Vision 2025 emphasizes the importance of smart transformation and the adoption of advanced technologies in enhancing business competitiveness. The APO supports productivity enhancement and SME development through digital upgrading and helping smaller businesses leverage digital tools for strategic marketing. The importance of digital marketing was also highlighted in *The Future of Jobs Report 2023* by WEF, which emphasized digital marketing's role in small business recovery, while a 2022 Harvard analysis revealed a growing gap between digital marketing investments and performance.

A workshop on strategic marketing for digital transformation was organized by the NPO, Pakistan, and conducted 10–13 September in Islamabad, Pakistan. It focused on the role of effective marketing strategies in driving digital transformation, particularly for SMEs. The project identified digital transformation trends and their impact on business strategies, offering practical references for digital marketing to facilitate SME productivity and digital upgrading. The workshop included discussions, case studies, and group activities.

The workshop successfully enhanced the digital marketing capabilities of SME participants, fostering their ability to leverage digital tools for broader market reach. Twenty-eight individuals from 11 member economies attended the event, which included knowledge sharing by two resource persons from Malaysia and one from Pakistan. The participants developed action plans on digital marketing strategies for SMEs, focusing on increased resilience, preparedness for future technological shifts, and the fostering of regional collaboration on digital marketing best practices.

24-CP-59-GE-TRC-A

Training Course on Lean Digital Transformation

Integrating lean principles into digital transformation can be a highly effective way of achieving radical process simplification, enabling companies to identify and apply the most effective levers for the digital journey. This approach not only improves the operational efficiency of SMEs but also ensures the delivery of unparalleled value to customers. Digital technologies have created opportunities to build resilient, agile enterprises in the current volatile business environment, but they also pose challenges for SMEs regarding a lack of financial tools, relevant knowledge, and experts necessary to facilitate implementation.

An online training course on lean digital transformation was conducted 11–14 November by the Department for Productivity Implementations, Ministry of Industry and Technology, Turkiye, with the assistance of the APO Secretariat. The training course increased the capacity and expertise of the participants in integrating lean practices with digital technologies to help companies streamline processes, eliminate waste, and accelerate growth.

Thirty-six participants from 10 APO members completed the training course with guidance from two resource persons, one from Turkiye and one from the UK. The resource persons provided in-depth knowledge on lean management practices, digital transformation concepts and approaches, opportunities and challenges for lean digital transformation, integrating lean practices and digital transformation into business processes in the manufacturing sector, and best practices for SMEs and APO members based on presentations and case studies.

24-CP-60-GE-WSP-A

Workshop on the Business Model Canvas for Startups and Entrepreneurs

Innovation and entrepreneurship are major drivers of competitiveness and productivity. However, a common challenge entrepreneurs and startups face in realizing their visions is the inability to examine, articulate, and convey their ideas before committing resources. The Business Model Canvas is a strategic management and entrepreneurial tool that helps users visualize key elements of business ideas, validate and refine assumptions, and identify potential risks or deficiencies in the ideation process. Familiarizing entrepreneurs and organizations that support startups and innovation with this tool can contribute to the creation of nurturing ecosystems for entrepreneurship, contributing to the APO Vision 2025.

The Singapore Productivity Centre (SGPC) held the face-to-face Workshop on the Business Model Canvas for Startups and Entrepreneurs in Singapore, 25–28 June. The workshop aimed to support startups and entrepreneurs by imparting knowledge of the Business Model Canvas and providing benchmarking experience. Seventeen participants from 14 APO members completed the workshop. They were led by five resource persons: one from Italy, one from the ROK, two from Singapore, and one from Thailand.

Participants learned about the methodologies of the Business Model Canvas and strategies for fostering an enabling ecosystem for startups. Good practices from the EU, the ROK, Singapore, and Thailand provided benchmarking opportunities, and the participants introduced their own entrepreneurship development strategies. Participants also visited Temasek LaunchPad and the Singapore Action Community for Entrepreneurship to observe how incubators, accelerators, educational institutions, trade unions, and government agencies collaborate to support entrepreneurial minds and professionals. Many participants were inspired by the discussions with and observations of the speakers and agencies they visited. Furthermore, they intend to apply the knowledge gained to their work, supporting entrepreneurs and startups.

24-CP-61-GE-TRC-A

Training Course on Digital Kaizen in SMEs

Manufacturers need to leverage digital technologies to streamline business operations, enhance process efficiency, and improve product quality and customer satisfaction. Although the COVID-19 pandemic accelerated the adoption of such technologies, SMEs still face challenges in effectively using data and maximizing returns on investment. SMEs can integrate technologies like the IoT into kaizen activities to enhance productivity, foster digitalization, and enable business growth.

A face-to-face training course on digital kaizen in SMEs was held by the JPC in Tokyo, 10–15 November. It aimed to help participants develop an understanding of digital transformation approaches and methods at the enterprise level, leverage kaizen techniques, and improve productivity, profitability, and employee well-being through the application of digital kaizen. This training course referred to the *Digital Kaizen Guidebook*, which was developed by the APO with support from the China Productivity Center (CPC) and the JPC under the Special Cash Grant from the Government of the ROC, for details on incorporating the IoT and kaizen into business processes.

Twenty participants from 16 APO members completed the course, which was led by two resource persons from Japan who provided guidance on IoT basics, digital kaizen case studies on visualizing environmental parameters, legacy equipment retrofitting, and production line improvement with the IoT. Participants also took part in hands-on exercises on acquiring sensor data, periodic data transmission, and data visualization and abnormality alerts. The site visits to ARSOA Keio Group Corporation and PATLITE Corporation further enhanced the participants' understanding of the impact of digital technology interventions on improving the efficiency and effectiveness of business processes, thereby enhancing enterprise-level productivity. The training course concluded with member presentations that focused on sector-specific challenges in implementing digital kaizen and explained action plans for applying or disseminating the knowledge gained during the training. Key points that emerged from participant presentations included the need to improve skills, develop a readiness framework to ascertain enterprise maturity levels, develop an impact evaluation framework, and establish local-level productivity clubs.

24-CP-62-GE-TRC-A

Training Course on Big Data Analytics and Data Visualization for Productivity

Data analytics involves the collection, organization, analysis, and visualization of data, enabling organizations and individuals to observe patterns, understand situations, make predictions, and make informed decisions. With timely information gathered by sensors and the internet and continuously enhanced computing power, big data analytics and AI can strengthen the capacity to analyze, interpret, forecast, and prescribe solutions for better performance and productivity.

To impart fundamental knowledge of data analytics, visualization, and their implications for organizational operations, the NPO of Turkiye, with the assistance of the APO Secretariat, conducted an online training course on big data analytics and data visualization for productivity, 26–29 November. Forty-one participants from 12 APO members completed the course, which was led by four resource persons: one from the Netherlands, one from Singapore, and two from Turkiye.

Participants were familiarized with fundamental data science concepts and their applications for businesses and public sector organizations. They also discussed definitions, principles, and measures related to data ethics and information security. In addition, exercises on data collection, processing, analysis, and visualization provided participants with experience initiating data projects and using data to enhance productivity.

ii. Quality of the Workforce

24-CP-24-GE-TRC-B

Development of Public-sector Productivity Specialists

The public sector plays a pivotal role in promoting the well-being of citizens, providing a path to economic recovery, and improving living standards. The overall aim of this course was to establish a high-performance culture in the sector by developing the capacity of public sector leaders.

The Development Academy of the Philippines (DAP) organized a face-to-face training course on the development of public sector productivity specialists, which was held 4–15 November. Twenty-five participants from 10 APO members attended the course, with a total of three resource persons from the ROK, Malaysia, and the Philippines. The course examined the concepts and dimensions of public sector productivity specialists, explained the issues and challenges confronting this sector and the urgency of improving its performance, and helped participants build the capacity to become public sector productivity specialists by mastering the required knowledge, skills, and competencies.

Participants were familiarized with the role of the public sector in enhancing productivity, e-government, regulatory reform, public sector leadership, citizen-centered services, foresight, change management, measuring public sector productivity, tools and approaches for improving organizational productivity, and performance management. Site visits to the City Government of Valenzuela, the Philippine Economic Zone Authority, and the Metropolitan Waterworks and Sewerage System were also conducted.

24-CP-25-GE-TRC-B

Training Course on Design Thinking to Improve Public Service Delivery

Design thinking is a human-centered approach to innovation that puts people's needs at the forefront of the innovation process. When applied in the public sector, the use of design thinking can transform how public sector organizations engage with citizens, enhance operations, and innovate across a broad spectrum of public management challenges, with the aim of achieving more efficient, effective performance in delivering services. Design methodologies can be applied to public services to enhance services for citizens, which corresponds to many APO members' needs in meeting citizens' expectations.

To train participants in the use of design thinking tools and enable them to apply those tools in public sector organizations to enhance public service delivery, the Ministry of Manpower of the Republic of Indonesia conducted a training course on using design thinking to improve public service delivery in Denpasar, Indonesia, 15–19 July. Twenty-two participants from six APO members completed the face-to-face course, which was led by a total of three resource persons from the ROC, Indonesia, and Japan.

The training course imparted knowledge on design thinking and how it could be applied to public services to raise citizen satisfaction. Participants were equipped with tools and methodologies for applying design thinking. They were also familiarized with examples from the ROC, Indonesia, and Japan and developed an understanding of how public services, including infrastructure accessibility, policymaking, and services for citizens, could be strengthened with design methodologies. The participants applied the learning to identify potential pain points of public service delivery and proposed innovative solutions to enhance the services.

24-CP-26-GE-TRC-A

Training Course on Work Design for Enhancing Public-sector Productivity

Improving work design in the public sector is essential to optimize productivity, ensure efficient service delivery, and maximize resource utilization. Work design involves the structuring of tasks, responsibilities, and processes within organizations. Improving work design not only boosts efficiency but also leads to better outcomes for citizens. Public sector organizations have been under increasing pressure to use resources effectively while meeting rising expectations. A well-designed work environment improves workflows, increases employee satisfaction, and helps retain talent. In 2023, the APO offered a course on work design for inclusive productivity. This training addressed unique challenges in public sector contexts and provided

practical strategies for streamlining processes and fostering a culture of innovation.

The Training Course on Work Design for Enhancing Public-sector Productivity was organized by (1) the National Training and Productivity Centre, Fiji National University, and (2) the Ministry of Employment, Productivity and Industrial Relations, Fiji, and conducted 25–29 November. This face-to-face training aimed to enhance productivity through effective work design, practical tools, and strategies to eliminate inefficiencies.

Twenty participants from 13 APO members completed the course, led by a total of three resource persons from Australia, Fiji, and Singapore. The project enhanced participants' capacity by equipping them with advanced insights and practical tools for effective work design in the public sector. Key achievements included the introduction of frameworks such as SMART work design and the Public Sector Scorecard to analyze and improve workflows. Participants were also given hands-on experience with Lean Six Sigma techniques to identify and eliminate inefficiencies. Case studies, group discussions, and site visits provided practical insights into leveraging technology, managing change, and designing sustainable workflows, enabling participants to apply these strategies in their organizations to enhance productivity and streamline processes in the public sector.

24-CP-27-GE-WSP-A

Workshop on Digital Communications Strategy for the Public Sector

Public sector organizations must adopt new technologies and digital communication for wider outreach and effective engagement with citizens. This calls for leveraging new tools and techniques. The APO Vision 2025 emphasizes smart transformation, including the application of technologies to improve marketing and communication tools. Creating a digital strategy for the public sector involves utilizing new technology, changing government functions, and increasing stakeholders' engagement. Social media and other digital communication channels have had a major impact on how public sector organizations engage with citizens. The pandemic also accelerated the adoption of new digital tools for inclusive engagement with communities in policymaking. Digital communications have led to more open collaboration, communication, and transparency in public engagement.

An online workshop on digital communication strategies for the public sector was conducted by the CPC with the assistance of the APO Secretariat, 26–28 June. It introduced digital communication strategies to enable the public sector to better engage citizens and effectively leverage new outreach tools and techniques. It covered marketing and digital communication strategies, social media and the attention economy, AI for digital communications, approaches to collaboration and communication between citizens and governments, and group exercises.

Thirty participants from 10 APO members completed the workshop, guided by four resource persons: two from the ROC, one from India, and one from Japan. The resource persons provided guidance on strategic aspects of marketing, the fundamental principles of social media, designing customer-centric communication strategies, generative AI tools, procedures and capacities of government agencies in detecting blind spots, and the importance of user needs and civic tech communities. Group work on designing inclusive policies for diverse stakeholders and the "Persona" workshop strengthened the understanding of collaborative policy development and building a strong foundation for digital communication strategies.

24-CP-29-GE-WSP-A

Workshop on the Regulatory Sandbox Mechanism for Productivity Policies

The APO supports regulatory initiatives that promote innovation and productivity through controlled experimentation. Regulatory sandboxes in member economies establish specific legal frameworks for testing new products and services under set conditions. These mechanisms, especially in digital and fintech industries, improve access to capital, boost business survival rates, and increase patenting. Effective implementation requires proper management, legal backing, and evaluation. Different models, including targeted regulations, pilot projects, and universal experimental frameworks, are essential for fostering innovation in the digital economy.

The Workshop on the Regulatory Sandbox Mechanism for Productivity Policies was organized by the Ma-

laysia Productivity Corporation (MPC) in collaboration with the APO Secretariat to enhance productivity policies by exploring regulatory sandbox mechanisms in the context of regulatory experimentation. Held online, 17–19 July, the workshop was attended by 37 participants from 12 APO members and four international resource persons from France, Indonesia, the ROK, and Thailand. The resource persons provided an overview of the regulatory sandbox and its adoption for productivity and development. The workshop enhanced participants' understanding of regulatory sandbox mechanisms and experiments and fostered the ability to design and apply the mechanisms to improve productivity policies in APO members.

24-CP-32-GE-TRC-A

Training Course on Building Community-driven Farm Schools

Community-driven farm schools (CDFSs) aim to enhance agricultural productivity and community welfare based on local resources, knowledge, skills, and finance with minimal reliance on external resources and funding. Recognizing that farming is inherently community driven, CDFS programs connect local farmers with their communities, fostering active participation and improved productivity for small farmers.

The Ministry of Agriculture and Ministry of Manpower, Republic of Indonesia, jointly hosted a face-to-face training course in Yogyakarta, Indonesia, 10–14 June, to introduce the CDFS concept, share best practices, and discuss critical success factors for the dissemination of best practices among APO members. The course was attended by 30 participants from 17 APO members and five resource persons: one from India, two from Indonesia, one from the Philippines, and one from Thailand. The training covered key CDFS concepts, sustainable crop production, and rural development frameworks. Discussions on government policies, strategies for CDFS management and promotion, and case studies from India, Thailand, and Indonesia enriched participants' understanding. Practical training in agronomy, smart technologies, and agri-entrepreneurship highlighted the role of CDFSs in enhancing crop productivity and sustainable rural communities.

The site visits emphasized the importance of a strong community philosophy with unique farm and product concepts that strengthen community identity, bonds, and business platforms, which are critical foundations of CDFSs. Participants noted the effectiveness of interactive, hands-on sessions and well-organized local activities by Indonesia's Ministry of Agriculture.

24-CP-34-GE-OSM-A

Multicountry Observational Study Mission on Productivity Enhancement in the Healthcare Sector

The COVID-19 pandemic exposed significant weaknesses in global healthcare systems, putting immense pressure on healthcare services and underscoring the need for increased resilience and productivity. In response, the APO extended support to member economies through special funds aimed at promoting best practices in epidemic management and ensuring business continuity in the healthcare sector. These efforts focused on improving healthcare efficiency, patient outcomes, and the ability of systems to withstand future crises and emphasized innovative methodologies and productivity-enhancing tools. The project also studied best practices from the ROK's healthcare system.

From 30 September to 2 October, the Korea Productivity Center (KPC) held a face-to-face multicountry OSM on productivity enhancement in the healthcare sector. Thirty-seven participants from 15 APO members explored advances in the ROK's healthcare system, focusing on AI, machine learning, and best practices for improving research, patient care, and overall efficiency. The mission was led by four resource persons from the ROK, Malaysia, Singapore, and Thailand.

During the mission, participants visited Noul, a leading startup; Bumin Hospital Seoul, a hospital working on productivity improvement; InBody, a medical device manufacturer; and K-Hospital+Health Tech Fair, a major healthcare fair. They gained valuable insights into emerging technologies, including precision medicine, genomics, robotics, AI, and big data analytics, and how they are transforming healthcare. This exposure provided participants with a deeper understanding of current trends, future directions in healthcare, and how integrated care models and advanced technologies can be applied to enhance productivity and improve outcomes in their respective economies.

24-CP-50-GE-TRC-A

Development of Productivity Specialists

The Development of Productivity Specialists program focuses on capacity building for individuals who undertake and lead productivity improvement initiatives at the organizational level. Since its inception three decades ago, it has produced practitioners and specialists, with NPO professionals as the main beneficiaries. The program has also been used to develop more specific expertise, including GP and public sector productivity.

In collaboration with the MPC, the annual Development of Productivity Specialists course was held face-to-face in Kuala Lumpur, Malaysia, 11–22 November. A total of 26 participants from 16 members attended, including professional staff from NPOs, government training centers, academia, and SMEs.

The two-week course was led by a total of four resource persons from Japan, Malaysia, Singapore, and the USA. To provide new knowledge and experience necessary for productivity specialists to perform as competent consultants, the course topics included productivity concepts and methodologies, productivity tools and techniques, emerging trends in productivity, competitiveness at the organizational and national level, digital transformation, generative AI, productivity diagnosis at the organizational level, and requirements for APO-certified productivity specialists.

24-CP-52-GE-TRC-A

Training Course on Smart Manufacturing Specialists

Smart manufacturing integrates cutting-edge technologies such as IoT, AI, robotics, data analytics, and cloud computing to optimize processes, enhance productivity, and improve decision-making in manufacturing environments. In response to the rapid evolution of the manufacturing landscape, which is being driven by technological advances, the APO and CPC established the Center of Excellence (COE) on Smart Manufacturing in 2019. The APO, in close partnership with the COE on Smart Manufacturing, assists member economies in upgrading industries by introducing smart, automated processes. It also enhances knowledge of smart manufacturing as a new approach to improving productivity. To ensure companies receive proper guidance on smart manufacturing, experts and specialists must be developed within member economies.

The CPC held a face-to-face training course on smart manufacturing specialists in Taichung, the ROC, 26–30 August. The objectives were to enhance the consultancy and training capability of productivity practitioners so they can guide SMEs toward digital transformation, to provide hands-on learning on data analytics and programming, and to examine key smart manufacturing technologies for SMEs.

Twenty-two participants from 13 APO members deepened their understanding of smart manufacturing through hands-on experiences guided by two resource persons, one from the Republic of Korea and one from the USA. Additionally, a site visit to Re-Dai Precision Tools Co., Ltd., enhanced participants' understanding of automation and semiautomation processes.

24-CP-53-GE-TRC-A

Development of Public-sector Productivity Specialists

The public sector faces challenges in delivering services amid evolving circumstances. There is a need to integrate new technologies, enhance capacities, and promote innovations to ensure flexibility in service provision. The APO has undertaken various initiatives to improve the motivation and skill level of public officials, strengthen management systems, and enhance performance given the changing environment and current commitment to public service renewal in many members. The Development of Public-sector Productivity Specialists course, based on the APO Public-sector Productivity Program Framework, focuses on improving management practices and strengthening public services.

The Development of Public-sector Productivity Specialists online training program, conducted 1–5 April, was organized by the APO Secretariat and the DAP. Its objective was to equip participants with essential skills and explore the roles of productivity specialists in public sector improvement initiatives. The program covered the skill sets required for productivity specialists and emphasized concepts, approaches, tools, and techniques.

The online training program equipped 46 participants from 15 APO members with the essential skill sets and competencies required to excel as productivity specialists, based on the APO Public-sector Productivity Program Framework. Four resource persons, one from Canada, one from the ROK, and two from the Philippines, led participants through topics such as citizen-centered service in the public sector, change management in the public sector, e-government, and measuring public sector productivity. The course empowered participants to drive efficiency and innovation in their roles within public organizations. Additionally, the program raised awareness among participants of the critical importance of productivity growth in the public sector. These achievements represent a significant step forward in fostering a culture of productivity and excellence within the public sector, promoting inclusive, innovation-led productivity growth in the Asia-Pacific region.

24-CP-57-GE-WSP-A

Workshop on Reskilling the Public-sector Workforce

Reskilling the workforce in the public sector is essential for effective public service delivery, especially with the rapid adoption of digital technologies revealing significant skill gaps. It is crucial to address these gaps to maintain efficiency, reduce costs, and enhance the quality of public services. To achieve the APO Vision 2025, a focus on integrating new technologies and developing the skills of public sector personnel is needed.

The Workshop on Reskilling the Public-sector Workforce was organized by the Ministry of Manpower of the Republic of Indonesia and held in Jakarta, Indonesia, 17–20 September. It aimed to assist public sector workforces of APO members in identifying skill gaps and strategies for reskilling and upskilling. Twenty-five participants from 15 APO members completed the workshop, which was led by a total of four resource persons from Bangladesh, India, Indonesia, and Malaysia.

Participants were familiarized with socioeconomic trends, digital technologies, and new citizen expectations since the COVID-19 pandemic. They were also assisted by the resource persons in identifying public sector employees' common deficiencies in technical and soft skills in their economies. The workshop highlighted the importance of leadership and the mindset of continuous learning, which is especially important when public sector organizations undertake initiatives for digital transformation. Through examples and practices from Australia, India, Malaysia, and Singapore, participants learned practical strategies for upskilling public sector workforces and facilitating policies to enhance the quality of public services.

iii. Green Productivity

23-CP-33-GE-TRC-A

Training Course on Green Productivity

Adopting productivity enhancement methods leads to profitability and business growth. In the wake of rapid industrialization and climate change, industries must explore ways to make business processes more productive and less carbon intensive to achieve sustainable economic development. The APO GP framework is one way to decouple industrial growth from environmental degradation. The APO developed the GP concept to ensure that gains in productivity, quality, and profitability would also improve social well-being and environmental protection. To build a pool of credible GP experts in member economies, the APO developed APO-GPS 201:2023 Requirements for Green Productivity Specialists.

An online training course on GP was implemented by the NPO of Turkiye, the Ministry of Industry and Technology, in collaboration with the APO Secretariat, 2–6 December. It aimed to broaden knowledge of how to strengthen the triple bottom line of enterprises; introduce applications of the APO GP framework; outline GP approaches to implementing cleaner, greener industrialization; and equip participants with the competency to be APO-certified GP specialists.

Twenty-five participants from 11 APO members completed the course. They were guided by a total of three resource persons from Malaysia, Singapore, and Turkiye who provided guidance on current industrial scenarios and approaches to resource optimization. They also outlined the APO's GP concept, methodology, tools, and techniques; a case study on life cycle assessment; and an overview of the APO-GPS 201:2023

Requirements for Green Productivity Specialists certification scheme. A hands-on exercise on material flow cost accounting and group work on a bottle manufacturing case study enabled participants to share their learning and determine how to implement the GP methodology to enhance productivity, improve quality, increase profitability, and reduce the environmental impact of industrial activities. Each group also participated in a plenary session, during which they presented GP solutions and predicted benefits.

23-CP-40-GE-TRC-A

Training Course on Assessing Gains from Green Productivity Projects

The APO GP concept guides enterprises, especially SMEs, in improving their environmental performance with simultaneous increases in productivity, quality, and employee well-being. The APO Vision 2025 calls for enhancing current GP programs and assessing green performance to ensure sustainable production planning. To determine the impact of GP projects, the six-step, 13-task GP methodology includes monitoring and reviewing implemented GP projects. The tools address concerns such as the actual rate of return, quantification of improvement in productivity, and ascertaining the scalability and replicability of options.

An online training course on assessing gains from GP projects was organized by the National Productivity and Economic Development Centre, Nepal, and the APO Secretariat and held 27–30 August. The course aimed to deepen participants' understanding of GP, provide insights into assessing and monitoring the outcomes of GP projects, highlight GP's impact on productivity at the enterprise level, and examine the nuances of GP methodology from assessment and monitoring perspectives.

Twenty-eight participants from 11 APO members completed the course, guided by a total of three resource persons from Japan, Nepal, and South Africa. The resource persons provided insights into the APO GP concept, measurement and verification, monitoring and evaluation, and the circular economy. The hands-on exercises using tools relevant to monitoring and reviewing GP projects and developing and implementing measurement and verification processes deepened participants' understanding of assessing gains from projects.

23-CP-45-GE-TRC-A

Training Course on Regenerative Farming

Agriculture is one of the most important sectors in APO member economies, and expanding its production is an urgent issue to meet the increasing demand for food. However, agriculture contributes to soil degradation and loss. Intensive farming also churns up CO_2 naturally stored in soil and releases it into the atmosphere, increasing global warming. Regenerative farming could be one solution as it has the potential to significantly reduce greenhouse gas emissions and improve soil health. This training course introduced affordable regenerative farming technologies and practices in APO members.

An online training course on regenerative farming organized by the NPCC and the APO Secretariat was implemented 23–26 January and attended by 48 participants from 13 member economies. It was facilitated by four resource persons, one from Bangladesh, two from Cambodia, and one from Germany, who covered aspects of regenerative farming, including an overview, methodologies, tools, impacts, and case studies. Participants developed action plans based on the course contents and discussion sessions. In this course, participants learned about land use management, soil health restoration, conservation agriculture, sustainable organic farming, and the circular economy. The course also shared some case studies of regenerative farming in APO members.

23-CP-50-GE-WSP-A

Workshop on Green Hydrogen Systems for the Sustainable Energy Transition

COP28 called for tripling renewable energy capacity and accelerating efforts to phase out coal use. New cleaner energy carriers, including hydrogen, are vital. The demand for hydrogen will continue to rise to assist efforts to decouple economic growth and environmental degradation. This is aligned with the APO flagship GP Program.

The Workshop on Green Hydrogen Systems for the Sustainable Energy Transition was implemented online

from 7 to 9 February. The workshop was organized by the National Productivity Council (NPC), India, and the APO Secretariat to increase understanding of green hydrogen and its role in meeting net-zero emission targets; examine emerging trends and their implications for fulfilling rising energy demand; and highlight key elements, along with successful cases, in creating green hydrogen ecosystems.

Forty-seven participants from 12 APO members successfully completed the workshop. Five resource persons, one from Canada, two from India, and two from Italy, presented information on harnessing renewable energy for green hydrogen production and its applications. In this online course, the participants learned about hydrogen production and key sustainability elements, emerging technological trends, market opportunities in the transportation sector, green hydrogen technologies and policies, opportunities and risks in building systems, and technical and economic challenges. It also included some case studies from member economies.

24-CP-36-GE-TRC-A

Training Course on Building Reliable Supply Chains

Supply chains supported by digitalization have become increasingly important in maintaining competitiveness and meeting market demand through enhanced visibility, efficiency, and resilience. Reliable supply chains evolve with the efficient management of material, product, and information flows. The rapid development of technology in supply chain management contributes to optimizing productivity and achieving competitive advantage. However, these technologies also expose enterprises to various issues.

A face-to-face training course on building reliable supply chains was hosted by the National Productivity Secretariat (NPS), Sri Lanka, 24–28 June in Colombo, Sri Lanka. Twenty-five participants from 11 APO members completed the course. A total of three resource persons from the ROC, Sri Lanka, and Thailand introduced the latest concepts of reliable supply chain management, provided an enhanced understanding of the role of digital technologies in supply chains, and trained participants to build and maintain reliable supply chains.

In this course, participants learned about supply chain management and its components, from procurement to operations management; international supply chain operation management models, such as the supply chain operations reference (SCOR) model; and business process modeling using IDEF0 (integration definition for function modeling) to depict stakeholders, main activities, metrics, and business processes for gap analysis. The course also covered challenges, risks, and best practices; the role of digital technologies; future trends; managing skill and technological capability gaps; and managing challenges in technology adoption. A site visit to Colombo International Container Terminals allowed participants to learn about transshipping operations in supply chains.

24-CP-37-GE-TRC-A

Training Course on Green Productivity

Given the realities of climate change, the pandemic, and technological advances, it is imperative for businesses to increase productivity, improve quality, and safeguard workforce well-being with the least environmental impact. Moreover, enterprises need to strengthen their triple bottom line of societal impact, profitability, and environmental protection. The APO conceptualized GP in 1994 to guide enterprises in decoupling operations from environmental degradation. In the last three decades, individuals in APO member economies have been trained to become GP practitioners assisting enterprises at the local level.

An online training course hosted by the NPO, Pakistan, and the APO Secretariat was held 8–12 July to equip participants with knowledge of and skills in GP methodology, tools, and techniques; to decouple industrialization from environmental degradation; and to understand the requirements of becoming APO-certified GP specialists.

Twenty-one participants from 11 APO members completed the course. A total of three resource persons from Norway, Pakistan, and Thailand provided guidance on the implications of linear industrialization, the emerging regulatory landscape, and supporting sustainability concepts. Topics included how GP contributes to socioeconomic development; GP methodology, tools, and techniques; management systems facilitating GP; and APO-GPS 201:2023 Requirements for Green Productivity Specialists. Participants engaged in

group work on a bottle manufacturing case study to apply their learning in developing GP options and estimating envisaged savings.

24-CP-39-GE-WSP-A

Workshop on Green Business Models

The path toward net-zero emissions requires industry to shift away from the linear model of "take-make-waste." Holistic approaches leveraging technologies, innovation, supportive financial mechanisms, impact assessment of products and services, and engagement of partners across value chains are needed to limit the global temperature rise to within 1.5°C under the Paris Agreement, which was negotiated during COP21. Greening businesses contributes to efforts to mitigate climate change caused by increasing industrial activity. This transformation to greener business models requires the identification of pain points at an enterprise level and the development of comprehensive plans fostering business growth.

A face-to-face workshop was hosted by the CPC in Taichung, the ROC, 10–13 September. It aimed to help participants develop an understanding of approaches and concepts guiding enterprises in transforming to green business models, provide insights into various aspects of and evaluation metrics for greening business operations, and build capacity in developing green business plans for enterprises.

Twenty-two participants from 13 APO members and Tajikistan completed the course. They were guided by a total of four resource persons from the ROC, Italy, Japan, and the ROK. The resource persons provided information on the positions and targets of climate actions, strategies for green business models, the significance of greenhouse gas protocols and life cycle thinking, and emerging technological trends in renewable energy. The course also covered leveraging sustainability standards to improve environmental, social, and governance (ESG) parameters and addressed ESG reporting. Participants learned how to evaluate the greening of businesses, what actions contribute to circular economy principles in line with the International Organization for Standardization (ISO) 59000 series of standards, and how to develop strategies for circularity and assessing performance. Site visits to Victor Taichung Machinery and the APO COE on Smart Manufacturing allowed participants to gain a firsthand understanding of reduction approaches to green business models. The workshop included group work on hydrogen readiness assessment and action plans on greening businesses. The key outcome of the workshop was exposure to various vital elements related to greening businesses, such as ESG-related considerations, circular economy standards, and renewable energy and technologies.

24-CP-41-GE-TRC-A

Training Course on Greening Supply Chains through Industry 4.0

Achieving productivity and environmental performance at an organizational level requires collaboration across supply chains, including upstream and downstream enterprises, logistics partners, and end users. Industry 4.0 technologies, such as AI, the IoT, additive manufacturing, and radio-frequency identification (RFID), are crucial for greening supply chains, enhancing productivity, and optimizing resources. Large businesses are motivated by factors like risk management, regulations, and consumer demand to integrate sustainability and innovation into operations.

A face-to-face training course on greening supply chains through Industry 4.0 was hosted by the CPC in Taipei, the ROC, 22–26 July. It aimed to help participants understand key elements in the development of green supply chains, learn about how Industry 4.0 technologies can solve sustainability challenges and their integration in business ecosystems, and gain firsthand experience of leveraging Industry 4.0 technologies in decoupling industrialization from environmental degradation.

Twenty-three participants from 12 APO members completed the course, guided by five resource persons: one from Australia, two from the ROC, one from India, and one from the ROK. The resource persons provided guidance on the regulatory landscape, Industry 4.0 interventions and strategies across supply chains, life cycle assessment, greenhouse gas protocols, digital measurement of ESG progress, and building internal data networks for enhancing business process efficiency. A virtual site visit to Everbiz Industrial Co., Ltd., allowed participants to gain information on leveraging sustainability standards in greening processes across

the value chain. The course included group work requiring participants to design a life cycle thinking matrix, identify stages requiring attention, and suggest options to reduce carbon emissions. The key outcome was a better understanding among participants of the life cycle assessment of products and exposure to software to digitally measure ESG parameters and progress.

24-CP-43-GE-OSM-A

Multicountry Observational Study Mission on Industrial Symbiosis

Industrial symbiosis refers to the relationships in a network of businesses, public institutions, and associations in which resources, including materials, energy, infrastructure, by-products, and waste, are exchanged and leveraged to maximize their benefits and create more value. It is used as a strategy to facilitate the circular economy and often embodied in the form of eco-industrial parks (EIPs), where businesses and other stakeholders collaborate to strengthen environmental, economic, and social performance. Vietnam has been proactively developing EIPs and converting existing industrial clusters into EIPs to pursue sustainable industrial development.

A face-to-face study mission on industrial symbiosis was organized by the Commission for Standards, Metrology and Quality (STAMEQ), Ministry of Science and Technology, Vietnam, and held in Ho Chi Minh City, Vietnam, 21–23 May. The aim was to examine the creation, functions, effectiveness, implications, and sustainability of industrial symbiosis. Forty-two participants from 16 APO members completed the study mission, led by six resource persons: one each from Austria, the ROC, India, and Japan and two from Vietnam.

Participants were familiarized with good practices from the ROC, Colombia, India, Indonesia, Japan, and Vietnam; international frameworks and national standards for EIPs; and global initiatives led by UNIDO, inspiring potential collaboration for more sustainable industry policies. Field visits to the Amata City Bien Hoa Eco-Industrial Park, its water treatment center, and its steam-exchange facilities provided participants with a comprehensive understanding of how circular economy practices could be pursued through effective EIP operations. Participants learned about practical strategies to involve stakeholders in sustainable industrialization and established networks for potential EIP development.

24-CP-45-GE-WSP-A

Workshop on Nutrient-rich Rainfed Crops

GP calls for reducing environmental footprints and mitigating climate change by adopting best practices for enhancing productivity and resilience in agriculture. With limited land and water resources and the increasing impact of global climate change, leveraging nutrient-rich rainfed crops is essential.

The NPC, India, in collaboration with the APO Secretariat, organized an online workshop on nutrient-rich rainfed crops, which was held 18–20 September. The objective was to help participants understand the importance of nutrient-rich rainfed crops, provide them with best practices and technologies for productivity improvement, and discuss strategies to mainstream these crops into food systems to help achieve the SDGs.

Twenty-two participants from 11 APO members completed the workshop, guided by four resource persons: two from India, one from Indonesia, and one from Thailand. These resource persons provided useful information on policies related to climate-smart agriculture (CSA) in member economies and other relevant topics. At the end of the workshop, participants made presentations on what they had learned and possible next steps for their economies.

24-CP-47-GE-WSP-A

Workshop on Productive Livestock Farming for Reducing Greenhouse Gas Emissions

APO members face significant challenges in balancing livestock productivity with environmental sustainability. High greenhouse gas emissions from traditional farming practices and resource constraints necessitate a shift to more efficient, eco-friendly methods. Addressing these issues requires the adoption of innovative approaches tailored to the specific conditions of each member.

The Workshop on Productive Livestock Farming for Reducing Greenhouse Gas Emissions was held online, 3–5 December, and organized by the National Productivity and Economic Development Centre, Nepal, and the APO Secretariat. It aimed to help participants learn about the latest innovations for reducing greenhouse gas emissions in livestock farming and understand the policies and ecosystems that support the adoption of such innovations.

Twenty-two participants from 12 APO members learned about the latest policy developments, innovative technologies, and business models for reducing greenhouse gas emissions from livestock. Two resource persons from Japan and one each from Australia, Nepal, the Netherlands, and New Zealand shared real-world examples, including case studies from developed and developing country perspectives. One resource person emphasized that maintaining or reducing the number of animals is one of the greatest ways to reduce greenhouse gases from livestock. This suggests that increasing animal productivity is a key approach to reducing greenhouse gas emissions from livestock.

Innovation for Productivity

i. Robust Ecosystem and Regulatory Framework

24-IP-01-GE-TRC-A

Training Course on Good Regulatory Practices

"Regulations" refers to the use of legal instruments to implement government policy interventions. Appropriate regulations complement the democratic process and market economy to provide a fair, equitable, efficient environment for citizens and organizations to operate in, enabling the improvement of productivity communitywide. Under the APO Public-sector Productivity Framework, good regulatory practices (GRP) are an important contribution to the overall efficiency, effectiveness, and productivity of the public sector. With the growing interest in GRP among member economies and in line with the APO strategic thrust of contributing to a regulatory environment that stimulates innovation, this course focused on capacity building.

To learn about the fundamentals of GRP in the public sector and examine the requirements for a stable, enabling regulatory environment to support productivity and economic progress, the DAP organized a face-to-face training course on GRP, which was held 23–27 September. Twenty-four participants from 14 APO members attended the course with two resource persons, one from Malaysia and one from the UK.

Participants were familiarized with GRP principles and frameworks; regulatory impact analysis; effective enforcement, monitoring, communication, implementation, and compliance; risk-based regulation; and the future of GRP. Site visits to public sector organizations reinforced the learning points and provided discussion topics.

24-IP-02-GE-CON-A

Conference on Open Innovation in the Public Sector

The APO is committed to promoting an innovation culture to enhance public sector productivity. Introducing the concept of open innovation to improve services delivered by the public sector will assist APO member governments in developing innovative policies, programs, practices, and services, which ultimately benefit their citizens. It involves creating mechanisms for engagement, such as innovation labs, hackathons, crowdsourcing platforms, and public-private partnerships, as well as policies that support data sharing, intellectual property management, and service co-creation. This supports the APO Vision 2025 by enhancing the innovation capability of the public sector in the long run.

To discuss and exchange knowledge on challenges, trends, and issues related to the application of open

innovation in enhancing the productivity of public sector organizations, the DAP held the Conference on Open Innovation in the Public Sector, 28–29 August.

Eighty-five participants from 17 APO members attended the face-to-face conference with a total of five resource persons from France, Japan, the Philippines, Singapore, and Thailand. Participants were familiarized with the concept and applications of open innovation in the public sector through topics such as understanding open innovation, building a culture of open innovation for public sector organizations, collaborative innovation platforms, and best practices and case studies in open innovation management.

24-IP-04-GE-TRC-A

Training Course on Building Social Innovation Systems

The APO promotes sustainable socioeconomic development in the Asia-Pacific by enhancing productivity through social innovation systems. These systems integrate policy frameworks and innovative solutions to address social issues, improve citizens' welfare, and boost productivity. Strong social innovation ecosystems facilitate the diffusion of ideas and foster entrepreneurship, business creation, and employment opportunities. They involve actors from various sectors supported by legal and cultural norms and infrastructure.

STAMEQ, Vietnam, organized a face-to-face training course on building social innovation systems, which was held 1–5 July in Da Lat, Vietnam. The training course was designed to provide a comprehensive understanding of building effective social innovation systems, emphasizing the importance of structured approaches to create, diffuse, and utilize innovations to tackle social challenges. The course was attended by 23 participants from 16 APO members and guided by a total of four resource persons from Australia, Malaysia, the UK, and Vietnam, who provided knowledge and expertise on the intricate relationships between variables within social systems.

Key outcomes of the course were exchanges of knowledge on social innovation systems. Site visits to mushroom villages, VoCo Coffee, and Garden Mountain allowed participants to observe positive impacts. At the end of the course, participants developed plans for sustainable and inclusive strategies across APO regions.

24-IP-05-GE-CON-A

Conference on Organic Agriculture for Biodiversity and Sustainable Development

Organic agriculture, as a holistic production system, focuses on enhancing agroecosystem health by promoting biodiversity, soil health, and sustainable practices while eliminating synthetic inputs. This approach addresses critical global issues such as climate change, biodiversity loss, and food security. By ensuring crop productivity and economic benefits for farmers, organic agriculture supports long-term sustainability goals. The conference sought to raise awareness of climate change, promote GP in agriculture, and explore policy and ecosystem strategies for scaling up organic farming.

The Conference on Organic Agriculture for Biodiversity and Sustainable Development was held face-to-face in Colombo, Sri Lanka, 9–10 December. It was implemented by the NPS, Sri Lanka. The project aimed to foster an understanding of the linkages between organic agriculture, biodiversity, and sustainability while sharing best practices and policy insights to promote biodiversity-friendly agriculture.

A total of 98 participants from 15 APO members successfully completed the project, guided by seven resource persons: one each from Bangladesh, Denmark, India, Indonesia, and Japan and two from Sri Lanka. Participants discussed global trends, policies, and practical case studies shared by the resource persons, including the international perspectives of the International Federation of Organic Agriculture Movements (IFOAM – Organics International). The national perspectives of India, Indonesia, Japan, and Sri Lanka highlighted strategies for integrating organic agriculture into national ecosystems. The conference successfully built a platform for knowledge exchange and networking among stakeholders, promoting practical solutions to enhance biodiversity, sustainability, and agricultural productivity across APO members.

24-IP-22-GE-WSP-A

Workshop on Development of Rural Economies through Smart Villages

The smart village concept is a transformative approach that leverages digital infrastructure and innovation to enhance the quality of life and economic opportunities in rural communities. It addresses urgent needs such as enhancing economic opportunities and preventing urban migration by providing sustainable, innovative solutions for agriculture, energy, healthcare, and education.

The face-to-face Workshop on Development of Rural Economies through Smart Villages was held 27–30 August in Jakarta, Indonesia. It was organized by the Ministry of Villages, Development of Disadvantaged Regions, and Transmigration of Indonesia together with the Ministry of Manpower of the Republic of Indonesia. The aim of the workshop was to advance the APO Vision 2025 by promoting smart transformation in rural areas. It focused on leveraging digital technologies and business innovations to enhance productivity, efficiency, sustainability, and quality of life in rural communities. Participants were introduced to the smart village concept, which emphasizes sustainable development, through innovative digital models from India, Indonesia, the ROK, and Thailand.

The project brought together 27 participants from 15 APO members, who engaged in in-depth discussions and examined case studies on how to promote the smart village concept. The workshop covered key aspects such as policies, frameworks, technologies, and critical success factors necessary for creating smart villages. Six resource persons, two from India, two from Indonesia, one from the ROK, and one from Thailand, shared valuable insights, enriching participants' understanding and equipping them with practical strategies for promoting smart villages in their own national contexts.

24-IP-23-GE-OSM-A

Multicountry Observational Study Mission on Implementing the Sufficiency Economy Theory to Sustain Community Development

The sufficiency economy philosophy (SEP), introduced by the late King Bhumibol Adulyadej of Thailand during the 1997 economic crisis, focuses on resilience, balance, and well-being for sustainable community development. Rooted in the Thai cultural principles of moderation, prudence, and resilience, SEP has gained global recognition as a sustainable development model. By 2023, 23,000 Thai villages had adopted SEP, and it had spread to neighboring countries like Lao PDR. SEP addresses issues such as overproduction, environmental pollution, and resource depletion in various sectors, promoting diversified production and resilience.

A face-to-face multicountry OSM on implementing SEP to sustain community development was hosted by the FTPI, 31 July–2 August. The mission introduced SEP concepts, shared best practices, and discussed potential applications in APO members. Twenty-nine participants from 14 APO members and two resource persons from Thailand attended. The program included visits to the Khao Hin Sorn Royal Development Study Center, where participants learned about the SEP framework, and site visits to a village community and Kubota Farm to observe SEP in commercial activities. Additionally, participants visited the Chitralada Technology Institute, where SEP is applied in youth training for industrial and business innovations, and the Bank for Agriculture and Agricultural Cooperatives, which supports farmers using SEP principles.

The mission concluded with discussions on potential SEP applications in APO members based on the insights and ideas generated during the site visits.

ii. Innovation Capability

23-IP-12-GE-TRC-A

Training Course on Advanced Technologies in Manufacturing Industries

The APO is driving digital transformation in manufacturing through initiatives like the COE on Smart Manufacturing. While Industry 4.0 offers significant productivity enhancements through advanced technologies and data analytics, SMEs face challenges in adopting these changes due to a lack of digital understanding.

The APO's 2021 *Digital Innovation Process Guide: Handbook for Manufacturing SMEs* recommends collaboration with experts for skill development and adopting horizontal, agile management. The APO recognizes the need for more skilled professionals with expertise in this area who will be able to advise industries on digitalization and the integration of advanced technology.

An online training course on advanced technologies in manufacturing industries was implemented 26–29 February by the NPO of Turkiye and the APO Secretariat. Fifty-three participants from 17 APO members attended. Two resource persons, one from the ROC and one from the ROK, delivered sessions and facilitated the training course. In this online course, participants obtained knowledge on Industry 4.0 and smart manufacturing, automation for manufacturing systems, IoT, machine learning, data from manufacturing systems, cyber-physical production systems, data cleaning and refinement, modeling and simulation, and the outlook of smart manufacturing.

24-IP-07-GE-WSP-A

Workshop on Innovations in Public Service Delivery

The APO aims to assist policymakers in enhancing digital public service delivery. Governments must provide quality services, meet diverse demands, and build trust in the digital era. This involves using IT, the internet, mobile devices, and social media to transform public service management. Revamping delivery ensures agility, crisis management, and data-driven action. The Workshop on Innovations in Public Service Delivery explored approaches to revolutionizing service delivery, emphasizing solutions aligned with citizens' needs to improve efficiency, promote inclusivity, and meet evolving expectations. Case studies of successful innovations were highlighted to inspire and inform other public sector entities.

The KPC and the APO Secretariat organized the Workshop on Innovations in Public Service Delivery, which was held online, 11–13 June. It was designed to identify drivers of innovation in public services; analyze successful government practices in coordinating ICT, regulatory tools, and management models for improving service delivery; and present case studies based on a common analytical framework of real-world examples.

Twenty-three participants from 11 APO members completed the workshop, guided by four resource persons: one from Japan, two from the ROK, and one from Malaysia. The resource persons provided insights into key technologies and trends, customer-based solutions, and the importance of citizen engagement in public sector innovation. The workshop explored methods of improving public service delivery, enhancing public trust and citizen satisfaction, and disseminating best practices through case studies. Participants developed action plans to apply the strategies and achieve more efficient, effective, and inclusive public services.

24-IP-12-GE-TRC-A

Training Course on Innovative Dairy Farming

The productivity of dairy farms in the Asia-Pacific is lower than in other regions, such as Europe and North America, due to smaller farm sizes and relatively low levels of technology adoption and mechanization. Innovations in dairy farming have significant potential to address the challenges of the dairy sector and drive sustainable growth. In addition, learning about innovative dairy farming technologies and sharing best practices from leading dairy countries are crucial to improving productivity.

The NPO, Bangladesh, in collaboration with the APO Secretariat, organized a training course on innovative dairy farming, which was held online, 22–25 July. The objective was to equip participants with a better understanding of the latest dairy farming technologies and their effectiveness, the history of dairy farming, key success factors in innovative dairy farming, and improving dairy farming productivity.

Fourteen participants from six APO members completed the course, guided by four resource persons: two from India, one from Indonesia, and one from Japan. At the end of the training course, participants expressed satisfaction with and appreciation for this course and the useful information provided.

24-IP-13-GE-WSP-A

Workshop on Advancing Gene Editing in the Agrifood Sector

Accelerating the adoption of gene-editing technologies in the agrifood sector is essential to boost agricultural productivity and sustainability, thereby meeting the growing food demand. This project supports the APO Vision 2025 goal of smart transformation. Gene editing offers precise, cost-effective improvements in plant, fish, and animal breeds while also enhancing yields, nutrition, and environmental resilience. Compared to traditional breeding, it is faster and cheaper, with simpler regulatory hurdles, especially in the Asia-Pacific region, where the adoption of genetically modified crops has been slow. Developing countries can use this technology to address food security, nutrition, and national needs efficiently.

The APO Secretariat held the Workshop on Advancing Gene Editing in the Agrifood Sector online, 25–27 September. The workshop aimed to help participants understand gene-editing applications in the agrifood sector; learn from case studies from Australia, India, Japan, and the Philippines; and discuss advancing gene-editing applications in APO members.

The project achieved significant results by enhancing participants' understanding of gene-editing applications in the agrifood sector. Thirty-two participants from 11 APO members completed the workshop, guided by five resource persons: one from Australia, one from India, two from Japan, and one from the Philippines. Participants presented the latest information on their local gene-editing activities, which helped deepen participants' understanding of key enablers and obstacles in APO members.

24-IP-15-GE-TRC-A

Training Course on Nurturing Creative Industries

Creative and cultural industries account for 3.1% of the worldwide GDP and support 6.2% of all employment. These industries include advertising, arts, crafts, design, fashion, performing arts, publishing, research and development (R&D), software, and toys and games. However, they face challenges such as the high level of informality within these industries, calling for legal frameworks to protect labor, creative content, gender equality, and weak ecosystems to support SMEs.

STAMEQ, Vietnam, and the APO Secretariat organized an online training course on nurturing creative industries, held 4–7 June. The objectives were to build a foundational knowledge of the varieties, natures, and trends of creative industries and learn about national policies and strategies for nurturing and unlocking their potential for economic progress in more inclusive, sustainable ways. Twenty-four participants from nine APO members examined the creative economy and industries, covering video gaming and music, entrepreneurship, education, and technology. The course was guided by a total of five resource persons from the Czech Republic, India, Indonesia, the Netherlands, and the UK.

24-IP-16-GE-TRC-A

Training Course on AI Applications in the Service Sector

The APO Vision 2025 encourages smart transformation and workforce quality improvement by preparing for the future of work through increased productivity. By leveraging data collection, automation, decision-making, and cybersecurity capabilities, AI can improve profitability by an average of 38%. AI not only frees up valuable time for employees but also enhances client satisfaction, data-driven decision-making, cost-effectiveness, and overall corporate competitiveness in the service industry. Automation plays a key role in eliminating mundane tasks, allowing workers to focus on more strategic and creative endeavors, ultimately boosting organizational productivity.

An online training course on AI applications in the service sector was conducted by the APO Secretariat, 23–26 April. It was designed to equip participants with a comprehensive understanding of how AI enables predictive field service, anticipates service requirements, and automatically adjusts business processes, thereby maximizing productivity, workforce efficiency, and customer satisfaction while reducing costs. As businesses strive to thrive in the rapidly evolving digital landscape, integrating AI technologies is becoming increasingly imperative for success.

Fifty-one participants from 15 APO members completed the course, guided by a total of four resource persons from Japan, the ROK, Singapore, and the UK. The resource persons provided insight into and guidance on AI trends and applications, data analytics using no-code systems, strategic perspectives, and best practices. Through hands-on exercises, attendees were able to apply AI tools and no-code platforms to real-world problems within their organizations.

24-IP-18-GE-TRC-A

Training Course on Applications of Virtual and Augmented Reality

The training course on the applications of virtual reality (VR) and augmented reality (AR) was conceived against the backdrop of the expanding influence of VR and AR technologies across sectors. VR and AR are pivotal elements of the Fourth Industrial Revolution, and this course aimed to introduce advanced technological skills for enhancing productivity and efficiency and contributing to the socioeconomic development of APO members. The 2020 *Seeing Is Believing* report by PwC estimated VR and AR could impact global GDP by up to USD1.5 trillion by 2030, disrupting traditional business models while fostering growth and innovation.

This online training course was hosted by the KPC and the APO Secretariat, 23–26 April, and attended by 25 participants from 12 members. It increased understanding of VR and AR technologies and their transformative impacts across sectors. Objectives included equipping participants with knowledge of VR and AR applications in education, healthcare, and business by exploring VR and AR project management, ethical considerations, and AI integration to enhance operational productivity and technological advances.

A total of three resource persons from Indonesia, the ROK, and the UK presented sector-specific innovations in applying VR and AR technologies, particularly in healthcare, demonstrating the potential for revolutionary advances in medical training and therapy.

24-IP-19-GE-TRC-A

Training Course on Blockchain Application

The APO promotes innovation to bolster productivity, particularly through the development of technological capabilities that strengthen value chains. Blockchain applications, recognized as a vital component of Industry 4.0, hold promise for expediting manufacturing processes. Identified by WEF as one of the transformative technologies shaping the future, blockchains offer solutions to persisting inefficiencies in financial intermediaries' control over asset movement and allocation. The APO has been at the forefront of promoting blockchain adoption in its members, as exemplified by the 2023 Workshop on Blockchain Technologies for Business Innovation and Productivity.

As part of its Innovation Capability Program, the NPC, India, in collaboration with the APO Secretariat, hosted an online training course on blockchain applications, 2–5 April. The course introduced sector-specific concepts and approaches, enabling participants to grasp the nuances of utilizing blockchain applications effectively.

The project yielded significant outcomes, enhancing blockchain comprehension among 29 participants from 13 APO member economies. Facilitated by four resource persons, two from India, one from Japan, and one from the USA, the course aimed to enhance productivity by harnessing the power of blockchain innovations. Participants acquired essential knowledge of harnessing blockchains' potential for diverse applications and bolstering competitiveness amid the Fourth Industrial Revolution. The introduction of crypto assets, smart contracts, and innovative identification systems could improve financial transparency and efficiency, addressing critical needs in APO economies. Furthermore, the project fostered collaboration and knowledge exchanges, aligning with the APO's regional growth objectives. Unexpectedly, it generated broader interest, signaling the potential for widespread innovation within member economies.

24-IP-20-GE-TRC-A

Training Course on Gamification and Game Design for Customers and Employee Engagement

Gamification involves applying game design principles and features in nongaming contexts, like education, customer service, or marketing, to boost user engagement and motivation. It encompasses incorporating mechanics, aesthetics, and storytelling to create captivating, immersive experiences. The integration of gamification and game design principles in customer and employee engagement contexts can increase motivation, engagement, and productivity. This can be achieved by creating engaging, enjoyable experiences that encourage customers and employees to participate and achieve their goals. The availability of new tools and platforms has made it easier for businesses and organizations to create engaging, motivating experiences for customers and employees.

The CPC and APO Secretariat conducted the online Training Course on Gamification and Game Design for Customers and Employee Engagement, 18–21 June. The course was led by four resource persons: three from the ROC and one from the Netherlands. The objective was to help participants understand gamification concepts and how to apply them to customer and employee engagement; learn about game design elements, tools, and techniques for effective gamification strategies; and gain an overview of technology's role in enabling and supporting gamification, including an introduction to relevant platforms.

Thirty-nine participants from 10 APO member economies enhanced their understanding of gamification and its applications for customer and employee engagement as well as education. Participants confirmed its importance and requested more training opportunities on this topic.

24-IP-24-GE-TRC-A

Training Course on Innovative Technologies in Vegetable Farming

Vegetables are an important human dietary component, and their production is an essential part of the agriculture sector of APO member economies. With the global population predicted to exceed nine billion by 2050, members need to dramatically increase vegetable yields to meet the nutritional needs of a growing population. However, many members face difficulties in increasing vegetable production, improving quality, and reducing operating costs. Innovative technologies in vegetable farming can improve productivity, stabilize management, and maximize profits.

The CPC held a face-to-face training course on innovative technologies in vegetable farming in Taipei, the ROC, 3–7 June. The objective was to equip participants with a better understanding of the latest technologies, measures for improving the productivity of vegetable farming, the effectiveness of different innovative technologies and measures, and key success factors in innovative vegetable farming.

Twenty-four participants from 14 APO members completed the course, guided by four resource persons: two from the ROC, one from Indonesia, and one from Japan. Site visits to an innovative vegetable farm, an organic vegetable farm, and a research institute allowed participants to observe and learn about the latest technologies in vegetable farming in the ROC. At the end of the training course, participants delivered presentations on their learning and plans for implementing it in their respective contexts.

24-IP-25-GE-WSP-A

Workshop on Innovative Transformation for Lifestyle and Service Sectors

The APO Vision 2025 emphasizes the importance of smart transformation for service sector productivity, particularly in the lifestyle and service sectors, which are vital across APO members. Smart transformation can be achieved by leveraging digital technologies, which have been catalyzed by the COVID-19 pandemic's impact on remote work and business dynamics. Innovative transformation has multifaceted components and offers strategies for boosting productivity in these dynamic sectors.

The Workshop on Innovative Transformation for Lifestyle and Service Sectors was organized by the SGPC and the APO Secretariat and held online, 23–25 April. It was designed to help participants understand innovative transformation and its multifaceted components for productivity improvement by examining its

impacts, highlighting successful case studies, and exploring innovative strategies to enhance productivity in those sectors.

Twenty-two participants from 13 APO members completed the workshop, guided by four resource persons: one from Germany, one from the ROK, and two from Singapore. The resource persons provided insights into innovative transformation for the lifestyle and service sectors. A key outcome of the workshop was the greater awareness of digital transformation potential in those sectors gained by participants.

24-IP-26-GE-WSP-B

Workshop on Value Addition of Gemstone Products for Compliance with International Standards

Substantial gemstone resources are found in most APO member economies, such as India, Pakistan, Sri Lanka, and Vietnam, presenting an opportunity for industry growth. However, this industry faces challenges, including inadequate cutting and polishing techniques, a shortage of skilled artisans, a lack of supportive policies and business environments, and insufficient access to major gemological labs for affordable testing as well as global markets.

The NPO, Pakistan, held the Workshop on Value Addition of Gemstone Products for Compliance with International Standards face-to-face in Islamabad, Pakistan, 22–25 April. The objective of the workshop was to equip participants with a better understanding of international standards for gemstone products; cutting, polishing, designing, and heating techniques; and best practices and technological advances in gemstone value chains.

Twenty-eight participants from eight APO members completed the workshop, guided by three resource persons: one from Pakistan and two from Thailand. A site visit to Khyber Pakhtunkhwa Technical Education and Vocational Training Authority, Peshawar, allowed the resource persons to demonstrate gemstone processing to participants. At the end of the workshop, the participants developed action plans to enhance the gemstone industry in their economies.

24-IP-27-GE-WSP-A

Workshop on the Role of Intellectual Property in Sustainable Innovation and Economic Growth

Innovation-driven productivity growth is a key focus of the APO Vision 2025, which highlights the need for strong innovation ecosystems. Intellectual property (IP) plays a crucial role in these systems by balancing knowledge creation, dissemination, and usage, which supports social welfare and investment returns through exclusive-use provisions. IP fosters sustainable innovation and productivity growth by protecting and sharing knowledge, stimulating productivity, and contributing to economic and job growth. Effective IP frameworks encourage investment and innovation, which are essential for addressing modern challenges and achieving economic expansion.

The Workshop on the Role of Intellectual Property in Sustainable Innovation and Economic Growth was organized by the Department for Productivity Implementations, Ministry of Industry and Technology, Turkiye, and the APO Secretariat and held online, 10–12 September. This workshop aimed to provide an understanding of how IP drives innovation-led productivity growth and contributes to socioeconomic development within APO member economies.

Forty-four participants from 13 APO members completed the course, which was led by five resource persons: two from Germany, one from India, one from the ROK, and one from Turkiye. The project enhanced participants' understanding of the critical role of IP in driving productivity growth and sustainable innovation. It provided practical knowledge of effective IP management practices and offered insights into policies and governance frameworks that promote IP rights. The project also raised awareness of IP's role in fostering innovation ecosystems, helping participants navigate the link between IP and productivity. Overall, it contributed to the APO Vision 2025 goals of innovation-led growth and sustainable economic progress.

Inclusive Productivity

i. SME Development

24-CL-03-GE-OSM-A

Multicountry Observational Study Mission on Digital Innovation for SMEs

Digital upgrading has become indispensable for SME productivity and competitiveness in the constantly changing business environment. However, the majority of SMEs face challenges in mobilizing financial and human resources, accessing suitable technologies and infrastructure, effectively using data, and maximizing the value of digitalization. Sharing suitable strategies and good practices can help SMEs in APO members identify practical steps to initiate, implement, and sustain digital upgrading and innovation.

The ROC has been proactively facilitating the digital transformation of SMEs through the APO COE on Smart Manufacturing. A face-to-face study mission to Taipei, the ROC, on digital innovation for SMEs was implemented by the CPC, 6–8 November. The aim of the mission was to enable participants to observe the digital upgrading practices and strategies of SMEs in the ROC. Thirty-eight participants from 15 APO members completed the study mission, led by three resource persons: two from the ROC and one from Japan.

During the study mission, participants visited Galaxy Software Service Corporation in Taipei and the Industry Accelerator and Incubation Center of Chung Yuan Christian University, Hsinming Youth Hub, and Andong Youth Hub, Taoyuan, which were supported by the Taoyuan City Government, to observe how SMEs and startups in the ROC were assisted in leveraging digital technologies for transformation and innovation. They also observed the applications of recycling and smart agriculture technologies at Strawberry School, which incorporated innovative ideas and technologies to contribute to sustainable development and net-zero goals. Participants also established a network of professionals through discussions with developers of digital technologies, entrepreneurs, representatives of industry associations and places of learning, and government officials facilitating digital transformation.

24-CL-27-GE-WSP-A

Workshop on Job Redesign for the Service Sector

Job redesign refers to the reformation of work tasks and responsibilities to optimize processes and employee allocation, thereby enhancing quality and productivity. While digital technologies support the workforce, and diversity, equity, and inclusion are crucial elements for innovation and profitability, it is necessary to rethink and restructure how work is defined and performed to attract and retain experienced talent while improving productivity. Singapore has been a pioneer in job redesign, especially in the service sector, to optimize company resources and increase employee competence.

The Workshop on Job Redesign for the Service Sector was organized by the SGPC and held face-to-face in Singapore, 1–4 October. The aim of the workshop was to facilitate the observation of strategies and good practices to assist APO members in unleashing the potential of their abundant workforces and talent. Nineteen participants from 16 APO members and three observers from Azerbaijan completed the workshop. The workshop was led by five resource persons: one from Australia, one from the ROC, and three from Singapore.

Participants learned about current trends and methodologies of strategic workforce planning and service design, enabling them to formulate strategies for service innovation and workforce reskilling before initiating endeavors for job redesign in organizations. Site visits to two restaurants (Gochi-So Shokudo and Tun Xiang) and Singapore's Lifelong Learning Exploration Centre provided good practices related to how businesses could enhance productivity and customer satisfaction through effective job redesign and how individuals could identify necessary competencies and available support for reskilling and upskilling.

ii. Broad-based Engagement

23-CL-12-GE-OSM-A

Multicountry Observational Study Mission on Enhancing the Participation of Persons with Disabilities

According to the 2022 *A Three-decade Journey towards Inclusion* report by the UN Economic and Social Commission for Asia and the Pacific (UNESCAP), the Asia-Pacific region is home to more than 700 million persons with disabilities (PWDs). That number is expected to grow due to the aging population, health conditions, and natural disasters. Despite this expected increase, PWDs continue to face multiple barriers to their participation in society and are frequently marginalized in development, hindering equitable progress. The APO Vision 2025 encourages the introduction of disability-inclusive models in alignment with the "inclusive productivity" focus area, drawing from successful initiatives to enhance PWD-friendly practices and foster PWDs' active involvement in broader socioeconomic spheres.

The online multicountry OSM on enhancing the participation of PWDs was implemented by the APO Secretariat, 24–25 April, and designed to help participants evaluate the role of policies and advocacy in promoting disability inclusion in the Asia-Pacific, explore innovative models for disability-inclusive social and business practices, and showcase the best examples of promoting participation by PWDs.

Eighteen participants from nine APO members completed the course, guided by seven resource persons: three from Japan and one each from Bangladesh, Pakistan, Switzerland, and the UK. Participants gained a comprehensive understanding of the impact of policies and global platforms on disability inclusion in the Asia-Pacific. They also gained knowledge of inclusive and innovative social and business models, human resources management, skill development enhancing PWDs' participation, and PWDs' inclusion in disaster management and volunteer activities.

24-CL-18-GE-CON-A

Conference on Youth Education and the Future of Work

Youth are the future of economic growth, and their education is an investment in national well-being. Without updating educational systems and addressing disparities, the majority of youth will be inadequately equipped, leading to widening prosperity gaps, lower productivity, and an ineffective workforce. Preparing youth to thrive in the future job market is essential for APO members.

The DAP organized the Conference on Youth Education and the Future of Work, which was held face-to-face in Manila, the Philippines, 12–13 November. The objectives were to examine future work scenarios shaped by socioeconomic changes and digital transformation, analyze policies and education systems for youth to adapt to evolving job markets, and introduce best practices in APO member economies for dissemination.

Eighty-nine participants from 15 APO members deepened their understanding of approaches for youth and the current generation, including leveraging AI and technologies to cope with a rapidly changing world and the future. They were guided by insights shared by six resource persons, two from India, three from the Philippines, and one from Singapore, representing government, the private sector, international organizations, nongovernmental organizations, and academia.

24-CL-22-GE-WSP-A

Workshop on Agribusiness Entrepreneurship for Persons with Disabilities

The Workshop on Agribusiness Entrepreneurship for Persons with Disabilities, held online, 8–10 October, aimed to enhance the participation of PWDs in agribusiness, a key sector for employment and economic growth in the Asia-Pacific region. This workshop aligned with the APO Vision 2025, which emphasizes inclusive productivity. The workshop explored challenges and opportunities for PWDs in agribusiness while highlighting innovative models and supportive policies that promote their engagement in productive agricultural ventures.

The workshop was led by six resource persons: two from Bangladesh, two from Japan, one from Lao PDR, and one from the Philippines. The resource persons shared real-world examples, including case studies on economic empowerment through integrated mushroom cultivation from Bangladesh, a premium strawberry farming model from Japan, and other inclusive agricultural practices. Participants from various APO member economies learned the best practices and strategies to implement in their local economies and discussed key benchmarks and elements to specifically address the needs of PWDs to ensure their inclusion and effective engagement in agriculture and agricultural value chains.

Twenty-one participants from 11 APO members representing a broad range of stakeholders, including government officials and nongovernmental organization representatives, praised the relevance and practicality of the sessions. They also recommended that the APO continue exploring this topic to facilitate deeper interaction and ongoing sharing of successful practices to further integrate PWDs into the agricultural value chain as part of inclusive productivity.

24-CL-25-GE-TRC-A

Development of Productivity Practitioners for the Youth

The Development of Productivity Specialists is a core APO program for creating productivity experts in members. It has long been associated with NPO development, as most participants are professional NPO staff. It also strengthens networks among NPOs. In 2023, the APO expanded the beneficiaries of the program by targeting youth; the APO aimed to provide opportunities for young professionals and those working with young people, to encourage them to embrace productivity culture, and to help them understand productivity enhancement and its methods, tools, and techniques. The Development of Productivity Practitioners for the Youth training course was the first face-to-face project on the topic and was a continuation of the 2023 Development of Productivity Practitioners among the Youth online course.

With support from the Mongolian Productivity Organization (MPO), the project was held in person in Ulaanbaatar, Mongolia, 10–14 June. Twenty-four participants from 17 members attended the course, which was facilitated by a total of four resource persons from Japan, Malaysia, Mongolia, and Thailand.

In this program, participants and resource persons exchanged knowledge and experience on topics related to youth development and participation in economic development, basic productivity concepts, productivity mindset development, problem-solving techniques for productivity enhancement, interactive productivity tools with generative AI, and the development of productivity programs for the youth. Site visits were hosted by the Mongolian Foundation for Science and Technology, APU JSC, and Gobi JSC.

iii. Productivity Gainsharing

24-CL-23-GE-TRC-A

Training Course on Gainsharing in Agribusiness Enterprises

Gainsharing, as one of the core focuses outlined in the APO Vision 2025, advocates enhancing productivity by the fair distribution of profits. Gain distribution in agriculture is imbalanced, with farmers earning only 13% of global food system profits, compared to 47% and 34% accrued by food retailers and distributors, respectively. The implementation of gainsharing models and national policies such as minimum support price schemes could significantly enhance productivity among agribusiness stakeholders, especially farmers and producers.

The DAP held a face-to-face training course on gainsharing in agribusiness enterprises in Manila, the Philippines, 20–24 May. The objective was to introduce concepts and strategies of gainsharing and profit sharing, examine methodologies to design gainsharing plans and strategies, and explore gainsharing approaches that could foster a more equitable distribution of gains across agricultural value chains.

Twenty-five participants from 18 APO members completed the training course, guided by a total of four resource persons from Bangladesh, India, Malaysia, and the Philippines. Participants were familiarized with

gainsharing concepts and practical applications in agribusiness enterprises through case studies and various exercises including designing action plans. A site visit to Sorosoro Ibaba Development Cooperative demonstrated a successful gainsharing initiative.

24-CL-28-GE-WSP-A

Workshop on Productivity Gainsharing for SMEs

The APO Vision 2025 promotes inclusive, innovation-led productivity growth, advocating for equitable productivity improvements. SME gainsharing aligns with this vision by fostering shared prosperity and inclusive engagement. Research, such as the ILO's *Driving Up Productivity* report (2020), shows that gainsharing initiatives can enhance SME productivity by motivating employees and supporting performance management. Knowledge sharing within SMEs also strengthens their competitive advantage.

The Workshop on Productivity Gainsharing for SMEs was organized by the MPO and held 5–8 November in Ulaanbaatar, Mongolia. The workshop covered effective gainsharing models, focusing on frameworks and practical applications for APO-member SMEs. Twenty-five participants from 12 APO members completed this workshop, which was led by five resource persons: one from Japan, one from the ROK, two from Mongolia, and one from the UK. The workshop aimed to explore the latest concepts and strategies, analyze practical approaches, and develop effective methods for fostering productivity gainsharing among SMEs. By adopting gainsharing, SMEs can leverage these strategies for sustained productivity and continuous improvement. This aligns with the APO goal of promoting inclusive productivity.

During the workshop, participants visited three notable SMEs: APU JSC, a leading beverage company; Evseg Cashmere LLC, a renowned cashmere company specializing in high-quality products; and Breast Clinic of Ulaanbaatar, a promising clinic focused on combating breast cancer. These visits inspired the participants to enhance their understanding of productivity gainsharing by observing the various initiatives implemented by these businesses. The participants, alongside the resource persons, formed groups to create a strategic action plan for implementing the topics discussed during the workshop and observed during their visits.

24-CL-29-GE-TRC-B

Training Course on Productivity-linked Wage Systems

A productivity-linked wage system (PLWS) ensures that pay increases are directly proportional to enhancements in productivity, allowing employees to receive a fair share of the gains resulting from improved performance and productivity growth. This approach has been applied in various sectors and has gained trust in enhancing productivity and equity across organizational and societal levels.

The NPCC hosted a face-to-face training course on PLWSs in Phnom Penh, Cambodia, 1–5 July, which was led by four resource persons: two from Cambodia, one from Malaysia, and one from Singapore. The objectives were to understand effective PLWS applications and concepts and share best practices and innovative PLWS approaches among participating organizations and economies.

Twenty-six participants from 11 APO members attended and explored PLWSs and other gainsharing concepts and their implementation in economies like Cambodia, Malaysia, and Singapore. The course integrated theoretical insights with real-world examples through case studies and site visits to successful PLWS-utilizing enterprises: Lyly Food Industry Co., Ltd., and N.V.C Corporation Co., Ltd. Participants developed action plans to promote PLWS adoption and presented them in groups at the conclusion of the course.

24-CL-31-GE-WSP-A

Workshop on Labor–management Relations in the Digital Era

The diffusion of digital technology into nearly every business and workplace is reshaping the world of work. The way that work is conceptualized and how people perform their jobs have been transformed by digitalization due to the increased speed of business processes, reduced transaction costs, and increased efficiency of resource use. Driven by advanced technology, conventional work styles requiring high labor intensity have shifted toward less physical interaction, ultimately transforming labor and management relations in recent years.

To examine the current status of and issues related to labor–management relations in the digital era among APO members and identify the roles of different stakeholders in promoting harmonious labor–management relations to improve productivity, the KPC organized the Workshop on Labor–management Relations in the Digital Era, which was held face-to-face, 26–29 November. Nineteen participants from 18 APO members attended the workshop, with a total of three resource persons from Japan, the ROK, and the Philippines.

Participants were familiarized with the following concepts: managing workplaces in the digital era, e–human resources management, digitalization and labor–management issues, new digital technologies in workplaces, rethinking workplaces in the digital era, labor productivity performance in the digital era, AI and its impact on labor–management relations, strengthening labor–management relations in the digital era, and labor–management relation transformation in the future. The program also included site visits to Douzone Bizon and the National Human Resources Development Institute, representing the private and public sectors respectively.

24-CL-32-GE-CON-A

Conference on Productivity Gainsharing for Rural Development

Rural areas face unique challenges such as limited access to markets, education, and decent jobs, resulting in increasing city populations and aging rural communities. Rural development is thus critical for balanced socioeconomic growth. The APO promotes gainsharing to equitably share the results of productivity improvement.

Gainsharing among rural stakeholders may reduce urban migration by generating agribusiness income in rural areas. The Lao National Productivity Organization (LNPO) organized the Conference on Productivity Gainsharing for Rural Development, which was held face-to-face in Vientiane, Lao PDR, 2–3 October. The objectives were to understand productivity gainsharing policies, frameworks, and models; learn about innovative gainsharing approaches for rural development; and share effective gainsharing practices in the context of rural development, focusing on fair sharing among stakeholders.

One hundred and six participants from 16 APO members attended the conference to deepen their understanding of productivity gainsharing concepts, policies, frameworks, models, and applications in rural development, guided by six resource persons: two from Lao PDR and one each from Japan, Malaysia, the Philippines, and the UK.

Regional Catalyst

i. Certification and Accreditation

24-RC-01-GE-CBD-A

Management of the APO Accreditation and Certification Program

The APO Accreditation Body (APO-AB) strategizes its action plans to align activities and outputs with the overall goals of the APO Vision 2025. The Accreditation and Certification Program was one initiative designed to support members in their productivity efforts by accrediting certification bodies (CBs) to certify productivity specialists. In 2024, the program continued to support CBs in meeting APO-AB standards, update the APO-AB standards to meet the needs of accredited CBs and NPOs aspiring to be CBs, review the progress of accredited CBs and ensure that they comply with APO-AB standards, and provide technical assistance and financial support to CB promotion campaigns in their member economies.

By the end of 2024, a total of nine CBs had been accredited by the APO-AB since the program was introduced in 2018, with the latest additions of two new CBs for operating the GP Specialists certification

scheme: the Singapore National Productivity Organization CB (SG NPO-CB) and the FTPI Center of Professional Certification (FTPI-PC), Thailand. Both CBs were accredited after a rigorous assessment process by the APO-AB and accreditation review panel meetings.

To ensure that accredited CBs maintain the quality standards set by the APO-AB in operating the certification schemes, surveillance assessments of five CBs accredited by the APO-AB were conducted in hybrid format in 2024: India, Indonesia, Malaysia, Pakistan, and Vietnam.

The 6th Annual Meeting of the APO-AB Council was held in Hanoi, Vietnam, 5–6 March, hosted by STAMEQ and attended by the APO-AB Council members for 2023–25, to discuss and determine the future direction of the APO Accreditation and Certification Program and the promotion of accreditation practices within member economies. For the promotion of the Vietnam Productivity Specialist CB (ViProCB) the International Conference on Productivity Accreditation and Certification was hosted alongside the APO-AB Council meeting, attended by 80 participants including eight APO-AB Council members.

24-RC-01-GE-CBD-A-AP01

Workshop Meeting of Heads of APO Certification Bodies

The APO Accreditation and Certification Program involves the certification and recertification of CBs that operate APO certification of persons schemes. The APO-AB continuously reviews the accreditation management system and devises ways to support CBs. With the growing number of accredited CBs, the role of the APO-AB has become more significant in catering to the needs of CBs so that they remain abreast of the latest CB standards compatible with international practices.

The inaugural Workshop Meeting of Heads of APO Certification Bodies was hosted by the APO Secretariat in Tokyo, 9–12 July. It was attended by 11 participants from seven APO-AB-accredited CBs and two developing CBs. A total of three resource persons from Indonesia, Malaysia, and Singapore introduced the latest initiatives of the APO-AB and facilitated sessions for sharing experiences and challenges faced by CBs, designing effective business plans for CB sustainability, and discussing enhanced mutual cooperation among CBs.

The workshop covered requirements for productivity specialists and GP specialists; a CB impartiality action plan; CB promotion case studies; CB experiences, challenges, and best practices; the standardization of CB certificates; the establishment of a mutual recognition agreement framework; and group work and presentations.

24-RC-01-GE-CBD-A-AP02

Training Course for Assessors of the APO Certification Bodies

The APO Accreditation and Certification Program conducts compliance, surveillance, and reaccreditation assessments of APO CBs. Since the program was launched in 2018, nine CBs have been accredited, and three NPOs or affiliated organizations are in various stages of development to become APO CBs. The APO-AB grants accreditation and reaccreditation to CBs after they have been thoroughly evaluated by APO-AB assessors. To ensure high standards and alignment with international practices, the APO-AB maintains a qualified pool of assessors. The 6th Annual Meeting of the APO-AB Council recommended the enhancement of the assessor pool and organization of a training course to improve competency, assessment procedures, and report-writing skills.

A face-to-face training course for assessors of APO CBs was organized by the APO Secretariat to develop qualified assessors for the APO-AB by enhancing their understanding of certification requirements, accreditation procedures, and competencies. The training course was hosted by the APO Secretariat in collaboration with the FTPI in Bangkok, 25–29 November, and attended by 25 participants from 13 APO members. The course consisted of instructional sessions, individual and group assignments, and mock assessments led by one resource person from Indonesia and one from Pakistan. The course was designed to stimulate participant learning and encourage participation in exercises simulating real CB situations, such as opening and closing meetings or identifying nonconformities.

The course provided fundamental knowledge for assessing CBs, including assessment procedures and report-writing skills. Practical, hands-on sessions led by experienced resource persons were key to developing competencies and participants' skills so that they could assist the APO-AB with CB assessments. The course also covered relevant ISO standards along with APO-AB standards, which broadened participants' understanding of international assessment techniques.

24-RC-02-GE-TRC-B

Training Course for Assessors for the Productivity Specialists Certification Program

APO-AB-accredited CBs operate productivity specialist certification schemes and grant productivity specialist certification to candidates after their successful evaluation by appointed CB assessors. The assessment process is crucial for certification schemes and to ensure the consistency and quality of schemes, enhance the credibility and reputation of both certified persons and CBs, oversee compliance with rules and standards, and uphold the code of ethics. The APO-PS 101:2023 Requirements for Productivity Specialists provide guidelines for APO-AB-accredited CBs to conduct assessment processes, including documentation verification, examination, desktop assessment, and face-to-face panel interviews, before issuing certification to candidates.

The Training Course for Assessors for the Productivity Specialists Certification Program was hosted face-to-face by STAMEQ, 16–20 September, in Ho Chi Minh City, Vietnam. The course aimed to achieve sustained productivity growth, the first APO Vision 2025 goal, by producing qualified assessors who can contribute to APO-AB-accredited CB operation. The program was designed in a structured manner to engage all participants in group discussions, with presentations aimed at collective learning to develop qualified assessors and strengthen CBs.

Twenty-one participants from 12 APO members completed the course with guidance from four resource persons: two from Malaysia and two from Vietnam. The resource persons provided in-depth knowledge on the scope and levels of certification; prerequisites and competency requirements; roles and responsibilities of assessors; methods for assessing productivity domain expertise, process skills, and people skills; the certification and recertification process; and assessors' code of conduct.

24-RC-03-GE-TRC-B

Training Course for Assessors for the Green Productivity Specialists Certification Program

The APO Certification Body Development (CBD) Program aims to develop NPOs and their affiliated organizations to become APO-AB-accredited CBs and operate GP Specialist certification schemes. The APO Accreditation and Certification Program certifies and recertifies CBs that operate APO certification schemes. In 2023, the APO updated its certification schemes for productivity and GP specialists. The APO-GPS 201:2023 Requirements for GP Specialists scheme includes verification, examination, desktop assessment, interviews, and report evaluation for candidate certification.

The Training Course for Assessors for the GP Specialists Certification Program was held face-to-face, 22–26 April, hosted by the NPC, India, in New Delhi. The course aimed to develop qualified, competent assessors for APO-AB-accredited CBs; familiarize participants with APO-GPS 201:2023 Requirements for GP Specialists; and impart the methods, criteria, and competencies required by assessors to conduct assessment of GP certification candidates.

Twenty participants from 10 APO members successfully completed the training course. A total of three resource persons from India, Malaysia, and Singapore shared knowledge and skills with participants through presentations and group exercises. Qualified participants will be able to assist APO CBs in assessing GP certification candidates.

ii. Capacity Building of NPOs

23-SN-08-GE-TRC-A-UAS

Executive Leadership Programs for NPOs

In an effort to enhance leadership capacities within the productivity movement, the APO partnered with the European Institute of Business Administration (INSEAD) to develop and implement an intensive executive leadership program specifically tailored for NPOs.

The program was held 29 April–3 May at INSEAD's Europe Campus in Fontainebleau, France, and attended by 12 NPO representatives. Guided by eight global thought leaders and practitioners in productivity-related domains, including Alexandra Roulet, former macroeconomic and public policy adviser to France's President Emmanuel Macron, and Philippe Aghion of the College of France and founder of the new growth theory, the program focused on addressing emerging productivity challenges and devising effective strategic initiatives. In the opening address, the APO Secretary-General highlighted the urgent need for the Asia-Pacific region to tackle emerging structural productivity challenges. He emphasized the importance of pursuing sustainable productivity and inclusive growth, calling for innovative approaches and breakthrough ideas to navigate an increasingly complex global landscape.

The program's framework adopted a business-centric perspective on formulating productivity initiatives that foster widespread prosperity. By leveraging technological advances such as AI, participants explored cutting-edge strategies and solutions to drive productivity and innovation within their organizations and economies.

23-RC-06-GE-TRC-A

Capacity Building of NPOs in New Digital Systems

The APO's digital transformation journey continues with the development of a new platform with integrated functions for NPOs, project participants, and resource persons to maximize operational efficiency and minimize redundant work. The APO Strategic Digital Capability Plan 2021–25 aims to strengthen the digital capability of the Secretariat and improve operations and member services by integrating core functions through a common platform. This aligns with the APO Vision 2025's strategic thrust of achieving operational and institutional excellence.

The APO Secretariat held the Capacity Building of NPOs in New Digital Systems training course online, 16–19 January. Fifty-one individuals attended the course, including 39 selected participants and 12 observers from 20 APO members, representing APO Liaison Officers, NPO senior officers, IT personnel, and staff involved in coordinating with the APO Secretariat. The training course was designed to build the capacity of NPOs and develop their understanding of roles and responsibilities in Salesforce, the customer relationship management system that was implemented in 2023, and to operate the participants' and resource persons' information management system.

In the welcome remarks, the APO Secretary-General emphasized that the organization's digital transformation is an ongoing journey, marked by the introduction of innovative IT systems and technologies to foster a competitive, efficient, and healthy work environment.

The training and demonstration sessions, designed to develop participants' understanding of the new digital system, were led by two resource persons from Japan. The program covered new digital systems, the roles of the APO and NPOs in using new digital systems for project management activities, NPO access and dashboards, handling announcements of APO projects, managing candidates' applications and nominations, document sharing, conducting online surveys, disseminating certificates, and generating reports. The training also provided hands-on practice and a platform for NPOs to pilot test the new digital systems.

iii. Digital Learning Platform

23-CP-38-GE-DLN-A

Energy Conservation Opportunities and Best Practices in Industry Sectors

The cement, steel, textile, paper, and fertilizer sectors are key to economic development. They provide job opportunities, boost industrialization, spur technological advances, improve workers' skill levels, and contribute to GDP. However, the use of fossil fuels such as coal and oil is deeply embedded in the processes of these major energy-consuming sectors. Their decarbonization is needed to achieve targets under international agreements such as the 2015 Paris Agreement, the UN SDGs, and the 2021 Glasgow Climate Pact. Adopting energy-efficient operating practices and technologies would also benefit stakeholders across value chains. This e-course provides information on improving the energy productivity of specific industrial sectors.

The Energy Conservation Opportunities and Best Practices in Industry Sectors e-course explains the key aspects of major energy-consuming sectors at the national level and outlines approaches to identifying energy conservation opportunities at the plant level. It also explains best operating practices for improving energy productivity and shares emerging technological trends that can reduce the adverse environmental impacts of manufacturing and operating processes.

The e-course was launched in February, and as of the end of December, 144 people had enrolled, 53 had completed, and 25 had passed the course.

23-CP-41-GE-DLN-A

Lean Management in the Public Sector

Lean management is a set of principles and methods focused on the identification and elimination of non-value-added activity. It promotes a healthy balance of service quality and cost in the public sector. Toyota Motor Corporation, the pioneer of lean methods, has exemplified their successful implementation for optimizing cost, quality, and customer service since the 1950s.

The APO launched the e-course project Lean Management in the Public Sector with the objectives of explaining the principles and best practices of lean management in the public sector. The course shows how lean methodologies and strategies enhance public sector efficiency and effectiveness, giving examples of quality improvement processes in public service delivery through lean management applications.

The course launched on the APO e-learning platform in September, and as of the end of December, 109 participants had enrolled, 44 had completed, and 35 had passed the course.

23-IP-04-GE-DLN-A

Innovative Entrepreneurship for the Youth

Creating and promoting decent employment opportunities for the youth has been among the top priorities of APO members. According to the ILO, the global youth unemployment rate was as high as 15.6% in 2021, more than three times the adult rate. Promoting youth entrepreneurship is seen as a key solution to youth unemployment. However, due to various factors such as limited role models, inadequate education, lack of experience, financial barriers, weak networks, and market biases against youth-owned enterprises, 73% of youth-led businesses are unlikely to last longer than 3.5 years.

Against this backdrop, this e-learning course was created for aspiring entrepreneurs or anyone who wants to learn how to start and sustain a new business in a postpandemic, digitally connected, rapidly evolving world. Bringing together concepts from the worlds of business, design thinking, innovation, and startups, this e-course teaches the fundamentals of solving meaningful problems and scaling up innovative solutions into a sustainable business.

The e-course was released on 13 December, and as of the end of December, 10 participants had enrolled,

four had completed, and three had passed the course. The course will remain open and is scheduled to continue in 2025 and beyond.

23-IP-14-GE-DLN-A

Innovation Management for SMEs

The ISO 56000 series of standards for innovation management addresses the growing need for systematic innovation management in today's fast-paced business environment. These standards are particularly valuable for SMEs, which often face resource constraints while competing in dynamic markets with shortened product life cycles. By providing standardized vocabulary, concepts, principles, and implementation guidelines, the ISO 56000 series helps organizations establish structured approaches to innovation management. This standardization enables companies to more effectively accelerate and adapt their innovation processes, ultimately enhancing their productivity and competitive position in the market.

This e-course explores the vital role of innovation management in SMEs and its impact on organizational productivity. It provides a comprehensive understanding of the ISO 56000 series standards, offering practical guidance for implementing structured innovation processes. Through an examination of tools, methods, and success factors specific to SMEs, participants learn how to effectively manage innovation initiatives within resource constraints. The course covers ISO 56000 requirements, conformance guidelines, and best practices that enable organizations to establish systematic approaches to innovation. Participants gain insights into integrating these standards into their operations while exploring real-world applications of successful innovation management in SMEs.

The e-course was released in December, and as of the end of December, 39 participants had enrolled, 23 had completed, and 22 had passed the course.

24-CL-08-GE-DLN-A

Diversity and Inclusion in the Service Sector

A variety of viewpoints drawn from the wide-ranging personal and professional experiences of a team can offer new perspectives that inspire colleagues to see the world differently. Encouraging collaboration and the exchange of ideas among people with diverse backgrounds fosters inclusive work environments, fueling creativity. Such environments not only boost productivity and innovation but also attract and retain the best talent. This would especially benefit the service sector, as its workplaces can better meet diverse customer preferences and adapt to rapidly changing business environments.

This e-learning course was designed to help learners understand the importance of creating a culture of diversity and inclusion at an organizational level to boost productivity. It also teaches participants how to build and manage such a culture to improve performance and innovation, with a particular focus on the service sector.

The e-learning course was released on 20 December, and two participants had enrolled by the end of December. It will remain open and is scheduled to continue in 2025 and beyond.

24-CL-16-GE-DLN-A

New Participatory Governance Mechanisms for the Public Sector

Participatory governance mechanisms empower individuals and organizations outside government to engage in public decision-making while enabling public and private sector collaboration. They include citizens' assemblies, participatory budgeting, citizen report cards, deliberative polling, and e-participation platforms. Digital technologies provide enhanced opportunities for participatory governance. These public engagement mechanisms increase transparency and government responsiveness while improving public service delivery and productivity.

The objectives of the New Participatory Governance Mechanisms for the Public Sector e-course are to help participants learn about the fundamentals and changing nature of the relationship between civil society and government in different contexts; understand the principles of participatory, deliberative

governance; discover emerging methods of engaging the wider public in governance; and learn how to implement these methods to enhance inclusivity and improve policy development.

The e-course was launched in September. Thirty-four participants had registered, 10 had completed, and eight had passed the course by the end of December.

24-CP-14-GE-DLN-A

Smart Poultry Farming

Poultry is a critical segment of livestock farming because of the demand for its meat and eggs and its market value in the Asia-Pacific region. Poultry is an important source of protein for many people in the Asia-Pacific, where it is widely consumed and affordable. It provides employment and income in rural areas, but further improvements must be made to advance efficiency and productivity in sustainable ways. Recent digital innovations have enabled more productive and efficient poultry management with less environmental impact.

This e-learning course was designed to help learners understand key smart farming concepts and methods, their implementation in poultry farming, applications of smart farming technologies in poultry production, and the digitalization of small-scale farming.

The e-learning course was released on 20 December. As of the end of December, 11 participants had enrolled, five had completed, and three had passed the course. The course will remain open and is scheduled to continue in 2025 and beyond.

24-CP-16-GE-DLN-A

Innovative Unmanned Aerial Vehicle Applications in Agriculture

Leveraging unmanned aerial vehicle (UAV) technology enhances agricultural productivity, cost-effectiveness, and sustainability. This course explores the advantages and challenges of UAVs, offering practical examples of precision agriculture. Participants will gain insights into operational and regulatory considerations and be equipped to integrate UAVs responsibly by optimizing resource management and decision-making in agriculture. The use of UAVs in agriculture has increased rapidly in recent years, bringing numerous benefits to farmers and agribusinesses. A MarketsandMarkets report in 2020 predicted that the global agricultural drone market would grow to USD5.7 billion by 2025, with a compound annual growth rate of 35.9%. UAVs have the potential to revolutionize agriculture by improving crop monitoring and reducing operational costs. However, knowledge and expertise in effectively utilizing UAV technology remain limited.

This e-course provides basic knowledge on UAV applications in agriculture, covering key areas such as data collection and analysis, crop monitoring, and farm management, with an emphasis on practical applications. The course objectives are to help participants understand how UAV technologies are utilized in agriculture; acquire knowledge of their effective use in monitoring, mapping, and analyzing crops; and learn about operational aspects, regulatory requirements, and future trends and challenges specific to UAVs in agriculture.

The e-course was released on 5 December, and as of the end of December, 31 participants had enrolled, 14 had completed, and 13 had passed the course. The course will remain open and is scheduled to continue in 2025.

24-CP-21-GE-DLN-A

Digital Transformation Strategies for the Service Sector

This e-course provides a comprehensive overview of digital transformation in the service sector, from digitalization roadmaps to the adoption of emerging technologies for service organizations. Participants will gain insights into navigating and implementing digital transformation through case studies and strategic applications. The digital revolution is significantly impacting the service sector, requiring organizations to adapt to remain competitive. However, many service organizations struggle to keep pace, often relying on trial-and-error approaches. This e-course addresses these challenges by offering a clear understanding of the digital landscape along with strategies and tools for successful digital transformation.

The course objectives are to help participants understand the requirements for and implications of accelerating service delivery and enhancing quality through digitalization; acquire knowledge of digitalization strategies and roadmaps for service organizations; and understand the practical and legal considerations and the potential risks of service sector digital transformation. Real-world case studies highlight the advantages of digital transformation in specific service industries, including professional business services (business-to-business), charities (social services), and retailers (business-to-consumer).

The e-course was released in August, and as of the end of December, 117 participants had enrolled, 72 had completed, and 60 had passed the course. The course will remain open and is scheduled to continue in 2025.

24-CP-30-GE-DLN-A

Evidence-based Decision-making for Innovation in Public Organizations

Public sector organizations in APO members face increasing pressure to drive innovation amid rapid technological change. Formulating effective strategies for public service innovation requires evidence-based decision-making. This enables policymakers to design informed policies, allocate resources effectively, monitor performance, enhance transparency, and plan for the future. By leveraging data, analytics, AI, and machine learning, public leaders can make informed decisions on improving services for citizens. However, public sector professionals must develop the necessary skills to gather, analyze, and interpret data effectively to support strategic decision-making.

This e-course aims to build capabilities in evidence-based processes and policymaking for public sector innovation, focusing on frameworks for data collection, evaluation, and analysis. It also explores foresight applications, including AI and machine learning, impact assessments, and decision-model accounting, to address risk and uncertainty management in the public sector, and it includes case studies of public sector organizations. It helps participants understand the principles and concepts of evidence-based decision-making; learn how to interpret, evaluate, and analyze data; and acquire expertise in assessing evidence-based approaches to enhance public sector innovation.

The e-course was released on 11 December, and as of the end of December, 17 participants had enrolled, eight had completed, and six had passed the course. The course will remain open and is scheduled to continue in 2025.

24-CP-44-GE-DLN-A

Circular Economy Implementation and Strategies for the Public Sector

Implementing circular economy policies and strategies is essential for boosting productivity by improving resource efficiency, fostering innovation, and promoting sustainable practices. These approaches enhance competitiveness, create jobs, and support socially responsible governance in line with the APO's efforts to promote GP. The public sector, as a policymaker and major player in the economy, has significant potential to drive the transition to a green economy through circular economy applications. However, it has yet to fully leverage the circular economy as a productivity tool. To address this, this e-course aims to build the capacity of the public sector to implement circular economy strategies that promote economic resilience, environmental stewardship, and sustainable development.

The objectives of the e-course are to present the core principles and concepts of the circular economy, to show how to formulate effective circular economy strategies tailored to unique sectoral challenges and opportunities, and to offer practical insights into integrating circular economy practices into existing public sector policies, strategies, and practices.

The e-course was released in mid-November, and as of the end of December, 14 had enrolled, six had completed, and five had passed the course. The course will continue to be available in 2025 and beyond.

24-IP-09-GE-DLN-A

Productivity Statistics for Effective Policymaking

Productivity statistics are vital to assess current economic performance, make projections for the future, and

compare achievements with targets. Methods and techniques for productivity analysis and internationally comparable data are evolving fast, and it is crucial for public managers and policymakers to be able to use them effectively for evidence-based policymaking and monitoring the status of economies.

The objectives of the Productivity Statistics for Effective Policymaking e-course are to introduce participants to key productivity concepts and measurement approaches and to help them learn how to derive vital information from productivity data and statistics to monitor economic performance and informed policymaking.

The e-course was launched on 30 November, and by the end of December, 39 participants had registered, six had completed, and three had passed the course.

24-IP-17-GE-DLN-A

Innovation Management for Productivity Improvement in the Service Sector

Innovation management is a powerful strategy for streamlining internal operations and amplifying business productivity, especially in today's dynamic technological landscape. As businesses navigate rapid advances in technology, they constantly seek novel approaches to refining methods and processes. In the service sector, where competition is fierce and customer demand is always evolving, innovation management is of paramount importance. The ability to generate and implement innovative ideas can help enterprises leapfrog over competitors and carve out a distinct market position.

This e-course presents the core principles, knowledge, and skills needed to identify, implement, and manage innovative solutions and improve productivity. It combines fundamental knowledge of innovation management with practical methodologies tailored to the service sector and explores strategies for fostering a culture of innovation within organizations. Through case studies and interactive learning modules, participants can gain insights into identifying opportunities for innovation, managing innovation projects effectively, and integrating technology to raise productivity in the rapidly evolving business landscape.

The e-course was released in October, and as of the end of December, 33 participants had enrolled, 10 had completed, and eight had passed the course. The course will remain open and is scheduled to continue in 2025.

24-RC-04-GE-DLN-A

APO Productivity Talks

As an information clearinghouse, the APO has a responsibility to disseminate knowledge and expertise on productivity-related matters. The Productivity Talk (P-Talk) series was introduced with that responsibility in mind, offering up-to-date information on specific topics.

In 2020, the Secretariat launched a series of live P-Talks featuring productivity experts, representatives of international organizations, academics, and leading specialists. Buoyed by their positive reception, the P-Talks continued into 2024, complemented by the Productivity Gemba series, highlighting new productivity-related innovations, research, products, and services. Each one-hour session (live or recorded) was streamed on the APO YouTube channel and promoted via the social networks Facebook, X (formerly Twitter), and LinkedIn.

In 2024, 28 P-Talk sessions were held, drawing 41 speakers from around the globe. These sessions garnered over 4,000 views per month on average, drove YouTube subscribers beyond 5,500, and generated around 1,000 likes and 1,600 shares. Aligned with the APO Vision 2025, P-Talk topics comprised smart transformation (four sessions), quality of the workforce (two), GP (three), robust ecosystems and regulatory frameworks (eight), innovation capability (two), SME development (two), broad-based engagement (two), and productivity gainsharing (five). These carefully structured discussions underscored the APO's commitment to the APO Vision 2025 and the pursuit of its goals. Furthermore, three new Productivity Insights publications were released: *Post-COP28: Climate Change and Productivity Opportunities for Businesses*, *The Art of Digitalization: A Dive into e-Estonia*, and *Unlocking Productivity in Green Supply Chain Management*. These Productivity Insights reports were developed from P-Talk topics with the resource persons as the authors. Going forward, the

APO will continue leveraging digital platforms and seeking innovative ways to extend its reach to member economies and beyond.

24-RC-04-GE-DLN-A

Productivity Gemba Videos (Series 2) (MOFA Japan Cash Grant Project)

As a continuation of the Productivity Gemba videos released in 2023, the APO Secretariat continued the collaboration with the JPC to develop the second series in 2024. As with the first series, the objectives were to showcase the continued importance of the Japan-based productivity improvement initiatives encapsulated in the gemba approach; illustrate applications of gemba-based methods, tools, and techniques for enhancing productivity and quality in the manufacturing, service, and agriculture sectors; and share insights into implementation from practitioners' viewpoints. Funded by a special cash grant from the Government of Japan, the scope of the second series was expanded by exploring more specific topics related to gemba, such as digitalization in the tourism industry, environmental conservation, inclusive workplaces, food safety, and kaizen culture in agriculture.

A total of six new videos were produced and uploaded on the APO YouTube channel between March and May. Five productivity experts and six selected companies in Japan were involved in this project. The videos covered balancing environmental conservation and economic activity, creating a kaizen culture, digitalization in the bus tour industry, the inclusive workplace, quality control of fresh produce, and food safety management.

iv. Research and Program Development

21-RC-13-GE-RES-B

Research on Emerging Needs of APO Member Economies

The continuous assessment of emerging needs helps private sector firms rebound and regrow. Understanding the challenges and needs in reviving the productivity movement in APO member economies has become more relevant than ever in the aftermath of the COVID-19 pandemic. In addition, redirecting the focus of support for sustainable business recovery will involve the adoption of innovations for higher productivity. By analyzing the success factors of private sector firms, this research will generate recommendations on approaches and techniques for successful business operations.

Research on Emerging Needs of APO Member Economies was initiated in 2021, led by the consulting firm CHEMSOLVE and seven national experts from India, Indonesia, Malaysia, the Philippines, Thailand, Turkiye, and Vietnam. The objective was to determine emerging needs for productivity enhancement by exploring successful business models adopted in private sector firms and evaluating the connection between the deployment of best business practices and productivity.

The final report, *Strategies for Ensuring Business Continuity of SMEs in the APO Developing Economies*, was completed and published in March on the APO website.

22-RC-12-GE-RES-B

Review of Productivity Assessment Tools for the Agriculture Sector

The agriculture sector in Asian economies is continuously evolving. This includes the transition from traditional low-intensity systems to more modern, higher-intensity ones, with greater capital investment characterized by mechanization and larger-scale farms. Agricultural productivity indicators are an important tool for facilitating sustainable modernization. Their adoption by farmers, agroindustry, and agricultural policymakers is critical for sustained modernization initiatives and requires some prerequisites.

This research project reviewing productivity assessment tools for the agriculture sector was initiated in 2022, led by the International Food Policy Research Institute and six national experts: two from Indonesia and one each from India, the Philippines, Thailand, and Vietnam. The objective was to review existing

agricultural productivity indicators and develop new assessment tools for agricultural productivity to facilitate sustainable modernization of the sector and formulate agricultural modernization business strategies and policies.

The final report, *Sustainable Agricultural Modernization Productivity Tools in Asia*, was published in April on the APO website.

22-RC-13-GE-RES-A

Research on Emerging Needs of APO Member Economies

To ensure that productivity enhancement remains relevant for socioeconomic progress, productivity challenges and needs must be identified. Digitalization, for example, may boost firm productivity, but this can only be achieved if certain conditions are met. Advanced APO member economies like the ROC, Japan, the ROK, and Singapore faced various challenges during the COVID-19 pandemic and addressed those challenges efficiently by adopting digital technologies swiftly.

Research on Emerging Needs of APO Member Economies was initiated in 2022 with the participation of the four aforementioned APO members, led by a chief expert from the ROK with national experts from the ROC, Japan, and Singapore. The objectives were to examine how the deployment of best business practices could affect productivity and to provide guidelines on successful business practices in private sector firms for widespread adoption in APO member economies.

The final report, *Best Strategies for Ensuring SME Business Continuity in Advanced APO Economies*, was completed and published in February on the APO website.

22-RC-19-GE-RES-A

Research on Institutional Ecosystems to Drive Productivity

Innovation flourishes when appropriate, effective institutional settings are in place. This requires a set of prerequisites such as well-governed arrangements, mechanisms, and interactions among stakeholders, in other words, a conducive institutional ecosystem. Economies with well-established national innovation systems tend to exhibit higher rates of productivity growth. An efficient national innovation system determines innovation capacities, which in turn contribute to the productivity growth trajectory. A sound national innovation system also facilitates the creation of policies ensuring that the diffusion of new technologies can generate productivity gains.

Research on Institutional Ecosystems to Drive Productivity was initiated in 2022. The objective was to examine the role and contributions of national innovation systems in boosting productivity and growth and propose policy recommendations for improving institutional ecosystems and achieving productivity gains. This project was led by a chief expert from India with nine national experts from Cambodia, Fiji, India, Indonesia, Mongolia, Pakistan, the Philippines, Turkiye, and Vietnam.

The final report, *Institutional Innovation Ecosystems to Drive Productivity in APO Member Economies*, was published in January on the APO website.

23-RC-10-GE-RES-A

Productivity Analysis Series

In today's fast-changing environment and with the diverse stages of economic development of APO members, more in-depth analyses of member-specific situations are required. Tapping into the expertise of national institutes enables the APO to keep up with the latest productivity knowledge and recent challenges faced by its members. This collaboration also widens networks and strengthens partnerships for a better understanding of productivity development.

The APO initiated research on digital transformation in the Pakistan manufacturing sector as part of its Productivity Analysis series with the objective of addressing key productivity issues and policy priorities for

rebounding and regrowth to pre-COVID-19 levels in APO members. The aim of this research project was to collaborate with national research institutes specializing in productivity and economic development studies to continue the Productivity Analysis series.

A report entitled *Roadmapping for Synergized Digital Transformation and Workforce Skill Evolution to Elevate Manufacturing Sector Productivity in Pakistan* is expected to be published in March 2025.

23-RC-11-GE-RES-A

APO Productivity Outlook

The APO Productivity Outlook series provides annual insights into economic growth and productivity prospects across key sectors in member economies. The 2024 edition highlighted manufacturing as a critical driver of economic dynamics, revealing that labor productivity gaps stem from varying levels of manufacturing activity and technological adoption. Upgrading production capabilities is essential for enhancing economic complexity and sustaining long-term productivity growth. Manufacturing productivity benefits from technology transfers and spillovers, which also strengthen other industries. This edition focuses on trends in total factor productivity (TFP), knowledge spillovers in manufacturing industries, and policy recommendations to address barriers and enablers. The objectives of this research were to analyze the status and prospects of sectoral TFP, examine determinants to enhance sectoral labor productivity through knowledge spillover effects, provide evidence-based policy implications for enhancing productivity in APO member economies, and publish the *APO Productivity Outlook 2024*.

The final compiled report, *APO Productivity Outlook 2024*, was completed and published in April on the APO website.

23-RC-12-GE-RES-A

Research on the Informal Economy and Productivity Growth

The informal economy accounts for a significant share of employment and output in most APO economies, contributing 60% to employment in the Asia-Pacific region (ILO, 2020). However, informal businesses are often unproductive and stagnant, hindering aggregate productivity growth and economic advancement. The sector's expansion, exacerbated by the COVID-19 pandemic, has increased social challenges and competitive pressure on formal firms, posing risks to long-term development and inclusive growth. Addressing these issues involves reducing worker vulnerabilities, mitigating negative impacts on formal sectors, and enhancing productivity. This analysis provides insights and policy recommendations to support inclusive development and improve economic outcomes for APO members.

This project was led by a chief expert from India with 10 national experts from Bangladesh, Cambodia, Fiji, India, Lao PDR, Malaysia, Mongolia, Pakistan, Sri Lanka, and Turkiye. The objectives of this research were to examine the status of informal business activities, their statistics in national accounts, and their impact on productivity growth and to draw implications for policy on the informal economy and productivity enhancement.

Informality, Productivity, and Financial Inaccessibility: A Study of Selected APO Members was completed and published in October on the APO website.

23-RC-13-GE-RES-B

Research on Premature Deindustrialization and Productivity Performance

Premature deindustrialization is characterized by a decline in the manufacturing sector's share of the economy and an increase in that of the service sector at an earlier stage of economic development than occurred in advanced postindustrial countries. This poses significant risks to labor productivity, competitiveness, and growth prospects in emerging economies. Many APO members, particularly middle-income economies, face this trend, with falling manufacturing employment, limited high-tech exports, and reduced industrial complexity in global value chains. These challenges threaten their global competitiveness and hinder production network development. Addressing premature deindustrialization requires targeted industrial and economic

policies. Investigating its status and impacts on long-term productivity among APO members will provide valuable policy insights to counter these trends and sustain economic growth.

This project was led by a chief expert from the ROC with nine national experts from Bangladesh, Cambodia, India, Malaysia, Pakistan, the Philippines, Sri Lanka, Thailand, and Turkiye. The objectives of this research were to study the risk of premature deindustrialization among APO member economies, to estimate the impact of deindustrialization on long-term productivity performance, and to generate implications for industry and productivity policies.

The final report was completed and published in September on the APO website, with the title *Global Perspectives on Premature Deindustrialization: Insights from APO Member Economies*.

23-RC-14-GE-RES-B

Research on New Dynamics of Global Supply Chains and Implications for Productivity

In the aftermath of the COVID-19 pandemic and increasing tensions in the geopolitical landscape, global supply chains have been drastically reshaped. With multiple sourcing strategies and supply network relocation, global manufacturers have shifted their production sites. The trend of supply chain diversification and relocation could have positive impacts on productivity growth in APO member economies. The questions of whether this business strategy will have positive impacts on company productivity, whether the new global supply chain dynamics will benefit new host economies, and whether new hosts will have sufficient absorptive capacity to benefit from technological spillover effects are worth studying.

Research on New Dynamics of Global Supply Chains and Implications for Productivity was begun in 2023 and completed in 2024. The objectives of the research were to analyze the new dynamics of global supply chains post-COVID-19 and determine human resources' level of readiness to respond to the new global supply chain dynamics and their policy implications.

This project was let by a chief expert from the ROC and nine national experts from Bangladesh, Cambodia, India, Lao PDR, Malaysia, Pakistan, the Philippines, Thailand, and Turkiye. The final report, *New Dynamics of Global Supply Chain Systems and Implications for Productivity in Asia*, was completed and published in December.

23-RC-15-GE-RES-A

APO Productivity Databook and Database 2024

The APO conducts annual research and measurement of productivity trends and economic growth performance in member economies and reference regions to assist economic analysts, policymakers, and development planners in analyzing national productivity performance and socioeconomic progress. The APO Productivity Database is constructed under an internationally harmonized measurement framework. It enables cross-border productivity analyses and comparisons and can be accessed on the APO website. The 2024 edition of the *APO Productivity Databook* features economic growth, labor productivity, and TFP estimates in APO members and selected nonmember economies in Asia and elsewhere.

The project was successfully completed with the active involvement of 18 APO members. It achieved the objectives of developing comprehensive, harmonized productivity accounts for APO members, selected nonmembers in Asia, and reference economies covering 1970–2022; analyzing the productivity performance of APO members, selected nonmembers in Asia, and reference economies; and forecasting economic growth and labor productivity trends in APO members up to 2030.

The final report, *APO Productivity Databook 2024*, was published in September on the APO website.

23-RC-16-GE-RES-B

Research on Agile Working Styles for Productivity

Interest in agile working has grown significantly since the COVID-19 pandemic highlighted the need for

adaptable, flexible work environments. Despite the advantages of agile working styles, such as enhanced productivity and improved work-life balance, their implementation remains a challenge for many organizations. This study provides insights into agile working practices and guidance for organizations seeking to transform their work environments and maximize the benefits of agility.

The research project was successfully led by a chief expert from the ROK and seven national experts from Bangladesh, Cambodia, India, Malaysia, Pakistan, Sri Lanka, and Turkiye. It achieved the objectives of exploring approaches to creating agile workplaces across sectors, determining factors for successful agile implementation, investigating challenges and suggesting strategies to overcome them, providing recommendations for introducing agile practices, and addressing key issues faced by employers and employees during adoption.

The final report, *Agile Working Styles for Productivity*, was published in June on the APO website.

23-RC-18-GE-RES-A

Research on Measuring the Institutional Capacity of Key Productivity-promoting Institutions in APO Members

Measuring institutional capacity is essential for identifying strengths and weaknesses to boost productivity and efficiency, and strong institutional ecosystems are critical for addressing productivity challenges and fostering economic growth and well-being. This research examined institutions that drive productivity and competitiveness, focusing on the ease of doing business as a key indicator. It highlights the adoption of e-business tools to streamline licensing, reduce costs, and enhance transparency. By analyzing institutional ecosystems and the impact of regulations and public service delivery, the study provides strategies for promoting long-term productivity, competitiveness, and economic growth among APO members.

The objectives of this research were to measure the capacity of key productivity-promoting institutions in APO members, to identify key factors contributing to or hindering institutional capacity to achieve higher productivity performance and adopt innovative approaches, and to propose policy recommendations to contribute to overall national growth and development.

The final report, *Institutional Capacity and Its Impact on Productivity*, was completed and published in December on the APO website.

23-RC-19-GE-RES-A

Research on Agricultural Productivity in Asia

Agriculture must double production with limited land and water to meet the needs of over nine billion people by 2050 (FAO). Degrading natural resources and climate change complicate this. This research measured agricultural productivity trends in selected Asian and non-Asian economies, guiding policy recommendations for enhancing sector productivity in APO members. Inadequate systems hamper accurate monitoring, undermining efforts to reduce rural poverty and achieve food security. This project will create a reliable, harmonized regional database for measuring productivity and benchmarking trends, ensuring that policymakers can devise effective strategies to support the agriculture sector and foster sustainable economic growth.

The project objectives are to measure and monitor agricultural productivity in APO member and reference economies, examine agricultural productivity measurement and monitoring abilities to strengthen national programs for improvement, develop a harmonized regional database on agricultural productivity indicators for benchmarking, and make policy recommendations for enhancing agricultural productivity in the region.

This research was initiated by the APO with the University of Queensland. The final report, set for early 2025, covers global agricultural trends, measurement methods, economic drivers, key issues in Asia, and policies for enhancing productivity in APO members.

23-RC-20-GE-RES-B

Research on Assessing Needs of APO Members

The COVID-19 pandemic disrupted SMEs across sectors, delaying socioeconomic progress but also providing opportunities to foster resilience and creativity. Many SMEs adapted to external shocks by adopting new economic models to survive. Assessing the resilience and innovation needs of SMEs in APO members, as well as sector-specific challenges and opportunities, is crucial. By understanding the factors behind successful adaptations, recommendations on strengthening SME capacities and developing strategies for sustainable growth in competitive markets can be made. Continuous evaluation and tailored support are essential to overcome challenges, encourage innovation, and ensure the long-term recovery and expansion of SMEs.

The project was let by a chief expert from Cambodia with six national experts from Bangladesh, Cambodia, Fiji, Mongolia, Pakistan, and Sri Lanka. The objectives of this research were to identify and assess the productivity enhancement needs of identified sectors in selected APO members by analyzing challenges and opportunities faced during and after the pandemic; to examine linkages between business resilience, productivity, and innovation at enterprise level; and to make recommendations addressing the identified needs to strengthen the resilience and competitiveness of SMEs.

Strategies for Enhancing SME Business Continuity in APO Developing Economies was completed and published in October on the APO website.

23-RC-21-GE-RES-A

Research on New Productivity Tools in Agriculture

Innovation in agriculture is influenced by socioeconomic conditions, cultural norms, education levels, and access to information. Successful innovation requires understanding these factors and designing strategies suiting the diverse contexts of APO members. Predictive agriculture tools are valuable assets for guiding decision-making; they provide precise information enabling the improvement of operational efficiency through the modeling and simulation of agricultural systems. By harnessing data analytics, machine learning, and predictive modeling, these tools offer insights into complex scenarios, allowing stakeholders to anticipate trends and outcomes. However, the utilization of such tools in agriculture for predicting the adoption of innovation remains underexplored.

A research project on new productivity tools in agriculture was launched in September 2023 in collaboration with the Commonwealth Scientific and Industrial Research Organisation. The aims of the project were to explore the digital prediction tools available for adoption and to develop guidelines and provide learning materials on the adoption of these tools in the agriculture sector in APO members.

The final report, *Improving Agricultural Policy and Programming through Data-Driven Adoption Prediction*, was completed and published in November on the APO website.

23-RC-22-GE-RES-A

Research on New Productivity Tools in the Public Sector

Regulation is at the heart of policymaking and is anchored in good governance principles in public administration. Regulatory reform, therefore, has been undertaken by many governments across the Asia-Pacific region to produce tangible results and support inclusive growth, higher productivity, and innovation within the framework of good regulatory management systems. As part of continuing capacity-building initiatives for the public sector, the APO explores and provides know-how on the concepts, essentials, and importance of good regulatory practices for long-term public sector productivity.

The APO initiated the research project on new productivity tools in the public sector in 2023 in collaboration with the School of Government, Victoria University of Wellington, New Zealand. The objectives were to design quality public regulations that would enhance the productivity of the public sector and to disseminate a compendium of tools on good regulatory design to improve the performance of public sector regulatory management systems.

A Regulatory Policy Toolkit to Improve Productivity was completed and published in May on the APO website.

23-RC-23-GE-RES-A

Research on Strategic Modeling for Future Agriculture in Asia

Agriculture will be impacted by ongoing climate change, including rising sea levels, droughts, and floods, compounding pressure on food production systems. Due to expected changes in environmental and socioeconomic trends, it is essential to conduct strategic modeling to predict the future of agriculture in Asia.

This research project on strategic modeling for future agriculture in Asia was successfully completed. It focused on the effects of climate and socioeconomic changes on agricultural productivity and consumption, explored the potential of research and development investments as adaptation measures, projected long-term growth based on international modeling, and recommended policies for enhancing agricultural productivity in APO members. Conducted in collaboration with the International Food Policy Research Institute, the project achieved its objectives and provided valuable insights for policymakers and stakeholders.

The final report, *Strategic Modeling for Future Agriculture in Asia*, was published in January 2025 on the APO website.

23-RC-24-GE-RES-A

Research on Emerging Trends in APO Members

Emerging technologies such as IoT and AI are driving global digital transformation, including in APO members, by optimizing operations and fostering socioeconomic development. Governments and businesses are increasingly adopting these technologies in the postpandemic era to enhance productivity and competitiveness. Digital transformation integrates digital technologies across industries, presenting both opportunities and challenges that vary by sector and region. While some economies and industries adopt new technologies rapidly, others face unique barriers. Identifying emerging trends in digital transformation is essential to support policymakers and businesses in making informed decisions and to ensure that APO members remain competitive in the evolving digital landscape.

This project was let by a chief expert from Japan and 12 national experts from Bangladesh, Cambodia, the ROC, India, Mongolia, Nepal, Pakistan, the Philippines, Sri Lanka, Thailand, Turkiye, and Vietnam. The objectives of this research were to identify trends in digital transformation in industry, agriculture, the public sector, and services in APO members; to examine member-specific levels of adoption of emerging trends, technologies, and innovations across sectors; and to derive evidence-based policy implications related to those trends to increase productivity in APO members.

The final compiled report, *Digital Transformation in Asian Economies: Enhancing Productivity, Socioeconomic Impacts, and Policy Insights*, was completed and published in July on the APO website.

23-RC-26-GE-RES-B

Research on Public-sector Performance Management in the APO Members

Measuring productivity within the framework of organizational performance management is currently emphasized in the public sector. Many APO members have introduced performance management systems covering individual employees and entire organizations. They aim to create and sustain effective, result-oriented cultures in public sector organizations while meeting citizens' needs. Although it is not a new concept, the emergence of performance management in the public sector focuses not only on individual employees but also on teams, programs, processes, and organizations as a whole.

A research project on performance management in the public sector was conducted in 2023. It was led by a chief expert from Kazakhstan with nine national experts from Bangladesh, the ROC, India, I.R. Iran, Malaysia, Pakistan, the Philippines, Sri Lanka, and Turkiye. The objectives were to review performance management systems in public sector organizations, undertake comparative analyses, and recommend ways to improve performance management systems in APO members.

The final compiled report, *Recent Trends in Performance Management Systems in the Public Sector in Asia*, was completed and published in August on the APO website.

24-RC-09-GE-RES-A

Productivity Analysis Series

Labor productivity is complex, constantly changing, and shaped by multiple factors. Economic conditions, technological advances, government policies, climate change, and societal shifts play pivotal roles in the overall labor productivity landscape. The COVID-19 pandemic caused significant economic, business, and social disruptions. The APO recognizes the need for a comprehensive understanding of the evolving landscape affecting overall productivity performance.

The 2025 Productivity Analysis series is a result of collaborative efforts among institutions and experts at the forefront of productivity research in APO members. The research aims to analyze emerging economic trends, technological advances, and social issues impacting labor productivity in APO members postpandemic; identify new opportunities to foster labor force resilience and adaptability; and compile efficient policies and best practices in different economic sectors in APO members to promote productivity enhancement.

Three reports in the 2025 Productivity Analysis series are expected to be published by March 2025: one on AI in the information technology and business process management sector in the Philippines, one on digitalization in Indonesian manufacturing micro and small enterprises, and another on financial inclusion and TFP in Nepal.

24-RC-10-GE-RES-A

APO Productivity Outlook

The APO publishes the annual Productivity Outlook series to monitor economic growth and provide insights into productivity prospects across key sectors in its member economies. The series supports evidence-based policymaking through cross-border analysis of productivity trends, drivers, and growth rates. The 2025 edition focuses on the impact of climate change on productivity, highlighting how even small temperature increases can lead to extreme weather events that disrupt activities and reduce productivity. Climate variability threatens food security, economic stability, and livelihoods, making it essential to develop tailored policies that ensure sustainable productivity growth amidst these environmental challenges.

The objectives of this research are to analyze the impact of climate change on various sectors, the current challenges of climate change, and effective ways of enhancing productivity; to examine evidence-based policy implications for enhancing productivity in APO member economies in key sectors; and to publish the *APO Productivity Outlook 2025*.

The final report is expected to be published in March 2025.

24-RC-11-GE-RES-A

Research on Raising Informal-sector Productivity

Although it employs a vast share of the labor force in APO members, the informal sector is characterized by low productivity while posing challenges for inclusive growth. Enterprises in the informal sector suffer from low economies of scale and lack of access to finance, undermining their productivity. However, informal sectors encourage entrepreneurship and digital technology use, providing secondary jobs in times of high inflation. Multicountry analysis allows hypotheses about the informal sector's effects on economies to be tested, enabling identification of economic factors, determinants, and policy implications.

This research project on raising informal sector productivity aims to study the effects of the informal sector on productivity in APO member economies, identify trends in and determinants of productivity in the informal sector, identify its impacts on national economies, and examine policy interventions for managing the informal sector to improve productivity growth and achieve better socioeconomic outcomes.

The final report is expected to be completed in December 2025.

24-RC-12-GE-RES-A

Research on Economic Upgrading Strategies and Productivity Growth

Economic upgrading involves the transition from low- to high-value-added activities and is crucial for enhancing productivity, competitiveness, and work quality. For APO members, many of which are middle-income economies, tailored modernization strategies are essential for strengthening technological capabilities and improving product quality. Leveraging digital technologies plays a pivotal role in this process. This research explores the connection between economic upgrading and digital transformation, focusing on key sectors such as manufacturing, IT services, agriculture, and services. By enhancing firm-level technological capabilities, this study aims to enhance productivity growth and promote sustainable economic development across APO members.

The objectives of the research are to examine the need for and feasibility of implementing economic upgrading strategies in APO member economies, to identify specific priority sectors with high potential for economic upgrading, to review the implications of digital technology in advancing overall upgrading of economies, and to provide an analysis of the expected contributions of economic upgrading to overall productivity growth.

The final compiled report with individual country chapters is expected to be released in June 2025.

24-RC-13-GE-RES-A

Research on Technological Capability Enhancement Support for SMEs and Productivity Improvement

Since the COVID-19 pandemic, SMEs have faced significant challenges in productivity and innovation, requiring effective support policies for recovery and sustainable growth. Enhancing technological capabilities is essential because they drive SME productivity and innovation. According to the 2023 APO report *SME Transformation for Meeting the SDGs in Asia*, SMEs in Asia accounted for 70% of employment, making them a critical economic force. Strategies such as integrating into global value chains and leveraging foreign investment spillovers have traditionally supported SME development, but the pandemic has disrupted these mechanisms. This research aims to identify targeted measures to help SMEs recover, build resilience, and strengthen both traditional and emerging industries.

The objectives of this research are to assess SME technological capabilities and innovation systems, to identify effective support measures for enhancing SME technological and innovation capabilities, and to propose policy recommendations for creating an enabling environment that promotes SME productivity and innovation through enhanced technological capabilities.

The final compiled report with individual member chapters is expected to be released in June 2025.

24-RC-14-GE-RES-A

APO Productivity Databook and Database 2025

The APO conducts annual measurement research on productivity trends and economic growth performance, publishing results in its Databook and Database to support evidence-based policymaking for APO members. Constructed under an internationally harmonized framework, the APO Productivity Database allows cross-border comparisons and is accessible on the APO website. This approach helps policymakers, economic analysts, and development planners analyze national productivity performance and socioeconomic progress. The 2025 edition will highlight economic growth, labor productivity, and TFP in APO member and selected nonmember economies in Asia and beyond.

The project objectives are to analyze the productivity performance of APO members, selected nonmembers in Asia, and reference economies; to develop comprehensive, harmonized productivity accounts of those economies covering 1970–2023; and to project economic growth and labor productivity trends in APO members until 2035.

Research for the 2025 Databook and Database began in 2024 with 17 APO members. The final report, expected in October 2025, will cover economic growth sources, labor and capital productivity, TFP, industry origins of growth, energy productivity, the Asian Economy and Productivity Map, and labor quality changes.

24-RC-15-GE-RES-A

Research on Emerging Trends in APO Member Countries

In its role as a regional catalyst for improving productivity, the APO must analyze emerging trends, government development priorities, and NPO focuses to identify new productivity tools and techniques, provide evidence-based policy advice, and undertake capacity-building activities. Therefore, economy-specific trends should be investigated holistically, looking not only at challenges posed but also at emerging opportunities to optimize value.

This research project examining emerging trends in APO members was conducted in 2024 with the participation of four APO members that will produce seven emerging trend reports. The objectives were to examine emerging trends across sectors and identify their impacts on productivity and growth dynamics at national and regional levels, including potential policy responses to the trends, to enhance the APO's role as a regional adviser for its members.

Three individual-country emerging reports from the Philippines and Nepal were released in 2024: (1) *Emerging Technological Trends and Business Process Management: Preparing the Philippines for the Future*, (2) *Investigating the Effects of ICT Use on R&D Productivity: A Case Study on Optics and Photonics Research in the Philippines*, and (3) *Nepal's Gig Economy and its Implication on Labor Participation and Income Distribution*, while four more reports were released in February 2025 on the APO website.

24-RC-16-GE-RES-A

Research on Assessing the Needs of APO Member Countries

As economies strive for sustainable development and growth, understanding and improving productivity become increasingly crucial. Productivity growth impacts competitiveness, job creation, and overall prosperity, yet levels vary due to differences in policies, infrastructure, technology adoption, and institutional frameworks. Identifying common challenges and needs across members and sectors is essential for formulating capacity-building efforts.

A research project on assessing the needs of APO member economies was launched in July 2024 in collaboration with Forward-Thinking Aust., Pty., Ltd., from Australia with national experts from Bangladesh, Cambodia, the ROC, Fiji, India, Indonesia, I.R. Iran, Japan, the ROK, Lao PDR, Malaysia, Mongolia, Nepal, Pakistan, the Philippines, Singapore, Sri Lanka, Thailand, Turkiye, and Vietnam. The aim of this research project is to contribute to the APO Post-2025 Vision development by aligning productivity enhancement efforts with national development priorities, particularly in strategic sectors. This involves leveraging the collective expertise and resources of the APO and strengthening NPO programs to align with national productivity plans. This initiative seeks to foster productivity growth across the region for socioeconomic development post-2025 while adhering to the APO's mission.

The report is expected to be finalized in March 2025.

24-RC-17-GE-RES-A

Research on Enhancing Productivity among Persons with Disabilities

APO members have ratified the UN Convention on the Rights of PWDs and pledged to reduce inequality for PWDs under the SDGs, yet many still face critical socioeconomic challenges. Addressing these issues aligns with the APO Vision 2025 target of inclusive productivity. "PWDs" encompasses those with long-term physical, mental, intellectual, or sensory impairments. The World Health Organization estimates 1.6 billion people globally (16% of the population) have disabilities, and UNESCAP counts 472 million in the Asia-Pacific workforce. The ADB reports that over half of Asia's PWDs are over 60. Varying national standards, legal frameworks, and fiscal capacities compound barriers, especially for women. This study explores

policies and practices in APO members to enhance PWD inclusivity.

The project objectives are to study the status of PWDs in APO members, identify structural barriers relating to inclusive employment, and examine employment policy interventions to enhance the productive inclusion of PWDs in APO members.

In 2024, this research project on enhancing PWD productivity was conducted by a chief expert from Finland and seven national experts from Bangladesh, Cambodia, Lao PDR, Mongolia, the Philippines, Sri Lanka, and Turkiye. It examined PWD status, structural barriers, employment policies, and workforce inclusion. The final report, expected in early 2025, covers PWD prevalence, workforce participation, infrastructure support, policy changes, and productivity measures for greater inclusion.

24-RC-18-GE-RES-A

Research on the Women's Empowerment Index in the Agriculture Sector

Agriculture in the Asia-Pacific faces challenges in increasing output due to land-, climate-, and labor-related constraints. Women in the agriculture sector also face barriers preventing their full participation. Empowering women in the sector can help to achieve the APO's goal of inclusive productivity by catalyzing agricultural productivity.

Research on the Women's Empowerment Index in the Agriculture Sector was launched in July 2024. The project objectives were to study the roles and involvement of women in the agriculture sector among APO members, including productivity performance; identify structural, social, and economic barriers women in the agriculture sector face; and examine ways to increase women's engagement, contributions, and well-being while promoting gender equality in the agriculture sector.

The final compiled report, including individual member chapters, is expected to be released in December 2025.

24-RC-19-GE-RES-A

Research on Policies Supporting the Shift to a Knowledge-based Economy

The transition to a knowledge-based economy is vital for APO members, enabling them to drive productivity growth through knowledge, information, and high-level skills. AI technologies are central to this shift; they offer advanced automation, data analytics, and decision-making capabilities that enhance productivity and innovation. As global economies continue to evolve from traditional industrial models, access to knowledge and information remains a key factor in fostering competitiveness and sustainable prosperity. Analyzing existing policies and leveraging government support are essential steps in optimizing the adoption of the knowledge economy and unlocking its transformative potential.

The objectives of the research are to analyze knowledge-based economy trends and APO member policies that promote a knowledge-based economy and enhance productivity, to investigate the opportunities and barriers that accompany the transition to a knowledge-based economy, and to provide strategies and models for adopting advanced technologies and maximizing their impact on productivity.

The final report is expected to be released in May 2025.

24-RC-20-GE-RES-A

Research on Productivity Readiness

Productivity growth drives economic development and improvements in living standards. However, the unpredictable nature of productivity growth, which can occur unexpectedly at various times, emphasizes the importance of readiness to effectively address or adapt to such changes.

This research project on productivity readiness was launched in June 2024. Continuing from *APO Productivity Readiness 2020*, this research examines changes in productivity readiness, analyzes underlying drivers, and links them to key economic factors. It will identify new focus issues for increasing productivity and

highlight the strengths and weaknesses of each member's performance in the Productivity Readiness Index. By describing overarching productivity themes and identifying productivity determinants affected by government decisions, this research aims to contribute to a better understanding of the fundamental factors in national productivity readiness for all stakeholders in the Asia-Pacific region.

The final report is expected to be published in June 2025.

24-RC-21-GE-RES-A

Research on Measuring Productivity in Digital Workplaces

Advances in technology have made digital workplaces possible. They are supported by new work styles and performance measured by output rather than physical presence. The new workplace model focuses on productivity, collaboration, leadership, and culture in the digital age. However, there are challenges to be addressed in measuring productivity in digital workplaces. By exploring the productivity implications of the rapid increases in the number of digital workplaces, this research will provide insights into the changing workforce needs accompanying digital transformation.

Research on Measuring Productivity in Digital Workplaces was conducted in 2024, led by a chief expert from the ROK with nine national experts from Bangladesh, India, Malaysia, Mongolia, Nepal, Pakistan, the Philippines, Thailand, and Turkiye. The objectives were to study the productivity gains from new work styles and digital workplaces resulting from advanced technology applications, explore how new digital tools improve performance in meeting client expectations, and recommend proposals to strengthen digital workplace strategies.

The final compiled report is expected to be published on the APO website in November 2025.

24-RC-22-GE-RES-B

Research on Crowdsourcing for the Public Sector

Crowdsourcing has gained global recognition among governments for its potential to boost productivity, improve service quality, and meet citizen expectations. A member-level assessment of how APO member governments leverage this approach will help shape successful governance strategies and increase public participation. Crowdsourcing allows individuals to collectively engage in problem-solving, policy deliberation, and innovation. Evidence shows it can foster policy innovation, generate better public services at lower cost, and deepen citizen engagement. When used effectively, it enhances public sector efficiency, transparency, and trust. This research examines APO members' adoption of crowdsourcing and offers recommendations on strengthening these initiatives to promote citizen-centric governance.

The project objectives are to innovate and increase citizens' engagement in the delivery of public services, identify crowdsourcing approaches and success factors that promote innovation and productivity performance in the public sector, and analyze lessons learned from crowdsourcing in APO members to enhance existing policies and programs.

In 2024, research on crowdsourcing for the public sector was conducted by a chief expert from the ROC with six national experts from the ROC, India, Malaysia, Pakistan, Thailand, and Turkiye. It examined crowdsourcing applications for innovation, citizen engagement, and public service delivery. The final report, expected in early 2025, covers crowdsourcing models, best practices, success factors, impacts on citizen participation, challenges, lessons learned, and future trends to strengthen crowdsourcing in the public sector.

24-RC-24-GE-RES-A

Research on Government Rightsizing and Restructuring to Improve Bureaucratic Efficiency in APO Member Economies

Rightsizing and restructuring in the public sector are reforms under the new public management theory and good governance, embodying the principles of streamlining, downsizing, and rationalization. This reorganization of a bureaucracy can lead to higher productivity and greater citizen satisfaction. In APO member

economies, rightsizing and restructuring are key to improving bureaucratic efficiency and overall productivity.

Research on Government Rightsizing and Restructuring to Improve Bureaucratic Efficiency in APO Member Economies began in 2024, led by a chief expert from the ROK with seven national experts from Fiji, Malaysia, Mongolia, Nepal, Pakistan, the Philippines, and Sri Lanka. The objectives are to provide a comparative analysis of rightsizing and restructuring reforms undertaken by the governments of participating member economies and assess rightsizing reforms' success in increasing the productivity and performance of public sector organizations.

The final compiled report with individual country chapters is expected to be released in December 2025.

24-RC-25-GE-RES-B

Research on Productivity Gainsharing Best Practices in the Agrifood Sector

Fair gainsharing along the agrifood value chain boosts farm-level productivity, farmer profits, and national food security, ultimately reducing poverty and improving living standards. The COVID-19 pandemic exposed vulnerabilities in global food supply chains, increasing the urgency of enhancing agricultural productivity amid trade challenges, natural hazards, and economic constraints. In many Asian economies, small-scale farms dominate the agrifood sector, limiting economies of scale, market access, and the adoption of advanced technologies. Governments have implemented price controls, hedging techniques, and cooperative models to address these challenges. This research evaluates the effectiveness of these measures, offering valuable policy insights for improving agricultural productivity and equity.

This program is led by a chief expert from Bangladesh with 10 national experts from Bangladesh, India, Lao PDR, Mongolia, Nepal, Pakistan, the Philippines, Thailand, Turkiye, and Vietnam. The objectives are to explore the best applications and practices of productivity gainsharing models in the agrifood sector in APO member economies, assess their effectiveness, and provide recommendations based on the lessons learned.

The final compiled report is expected to be published on the APO website in September 2025.

v. *Centers of Excellence*

23-RC-25-GE-COE-C-IN01

Consultation Program and Training of Trainers (ToT) on Artificial Intelligence (AI) Tools and Technologies for SMEs toward Responsible Digital Transformation

The COE on IT for Industry 4.0 supports industries in APO members to become more competitive and productive in the global digital economy. Continuous scaling up of COE performance will align activities with the desired level of excellence while bridging knowledge gaps and upskilling the workforce. This consultation and training-of-trainers program aimed to expand the knowledge and capacity of officers in the NPC, India, responsible for COE activities and equip them to disseminate knowledge on the applications of Industry 4.0, AI, and other advanced technologies contributing to successful adoption and integration in the smart manufacturing sector.

This hybrid, individual-country consultation and training-of-trainers program on artificial intelligence tools and technologies for SMEs was conducted under the COE program by the NPC, India, 8–19 January. The objectives were to equip NPC officers to train professionals in AI applications for smart manufacturing; strengthen the capacity of the COE on IT for Industry 4.0; and develop a roadmap to disseminate, test, and measure new competencies related to AI through pilot projects for SMEs in APO members. Sixty-five NPC and regional branch staff attended. The sessions were facilitated by two resource persons, one from the UK and one from India, with a combination of consultation, lectures, and group exercises.

The program covered AI tools and technologies for responsible digital transformation; AI learning platforms; generative AI tools for digital transformation of manufacturing; people, culture, and knowledge networks; AI tool installation and usage; and hands-on AI experience.

23-RC-25-GE-COE-C-JP04

Preparatory Study Mission for the Pilot Project on Climate-smart Agriculture Technologies

Considering the escalating challenges posed by climate change and recognizing the pivotal role agriculture plays in the nation's economy, a preparatory study mission was needed to lay the groundwork for the implementation of a pilot project in Thailand by the COE on CSA. Thailand emerged as the most prepared candidate for the pilot project in 2024, given its notable readiness factors indicated in the need and readiness assessment survey conducted in 2023 among eight APO members. Consequently, Thailand was chosen for the pilot project to introduce and tailor the technologies developed by the National Agriculture and Food Research Organization (NARO) to the local context.

To implement the pilot project, a face-to-face preparatory study mission was conducted by NARO as the COE on CSA, 23–26 April, in Bangkok and Suphan Buri Province, Thailand. The mission aimed to identify the needs and potential data sources for introducing CSA technologies, undertake on-site inspections, and conduct in-depth interviews, with the goal of introducing the soil carbon sequestration visualization tool and carbon credit methodology to Thailand.

Six international resource persons from NARO, Japan, and two local resource persons from the Department of Agriculture, Thailand, conducted in-depth interviews on existing CSA policies and methodologies with the Ministry of Agriculture and Cooperatives, site visits to paddy fields and biochar manufacturers, and technical introduction of the soil carbon sequestration tool and carbon credit methodologies developed by NARO. Needs and potential data sources for introducing CSA technologies were identified and collaboration and support from local stakeholders were established.

24-RC-23-GE-COE-C-PH01

Workshop on Need Assessment of APO Members in Public-sector Productivity

The COE on Public Sector Productivity refocused its operations starting from 2024 with an emphasis on understanding the unique requirements related to public sector productivity of APO members. It aimed to reassess and realign its strategic directions and interventions according to the new guidelines provided for COEs.

Under this realignment, the DAP implemented the Workshop on Need Assessment of APO Members in Public-sector Productivity face-to-face, 13–17 May, in Manila, the Philippines. It was attended by 29 representatives from 14 APO members. Two local resource persons and three international resource persons from the ROK, Kazakhstan, and Malaysia conducted and moderated training and case study group sessions. Presentations focused on the current landscape of the public sector in the Asia-Pacific region and how it relates to the APO framework on public sector productivity.

Existing productivity challenges and trends within APO members' public sectors were evaluated to gain insights into the current state, and crucial areas for enhancement and emerging concerns pertaining to public sector productivity were specified. Exchanges of knowledge and best practices were fostered among NPOs, and new strategies and recommendations were formulated for improving the efficiency and productivity of the public sector.

24-RC-23-GE-COE-C-IN01

Development of a Need and Readiness Assessment Survey on the Adoption of Industry 4.0 and Artificial Intelligence Tools and Technologies for SMEs toward Responsible Digital Transformation

Under the strengthening program for the COE on IT for Industry 4.0, the development of a need and readiness assessment survey was intended to expand the capacity of officers in the NPC, India, and assist SMEs in adopting Industry 4.0 and AI tools and technologies. This would contribute to their successful integration into the smart manufacturing sector.

An online consultation project was implemented by a resource person from the UK for the COE on IT for Industry 4.0, 15 April–15 May. The project aimed to develop a need and readiness assessment survey for

the adoption of Industry 4.0 and AI tools and technologies for the digital transformation of SMEs. The first objective was to develop an assessment model and roadmap to disseminate, test, and measure readiness for the adoption of AI tools and technologies by SMEs in APO members.

The COE and NPC officers are now able to conduct need and readiness assessments for the adoption of Industry 4.0 and AI tools for smart manufacturing by SMEs. That know-how can be disseminated to other APO members by NPC trainers. Follow-up activities will be pilot tested through surveys in other members. The development of a training toolkit for SMEs on the adoption of Industry 4.0 and AI tools and an international conference for sharing best practices with APO members are planned for early 2025.

24-RC-23-GE-COE-C-IN02

Development of Training Manual on Industry 4.0 and Responsible AI Adoption for SMEs

SMEs face challenges in adopting Industry 4.0 and AI, so a framework and training-of-trainers toolkit is invaluable for guiding them in defining and implementing relevant strategies. This initiative supports the officers from the COE on IT for Industry 4.0 in India by evaluating SMEs' AI adoption capabilities through a readiness assessment and then conducting capacity building, hybrid consultations, and training of trainers. The objectives include equipping officers from the NPC, India, to assess SME readiness and train professionals in AI-driven smart manufacturing. The framework and toolkit will provide SMEs with essential knowledge, helping them assess their maturity, identify focus areas, and prioritize digital initiatives for responsible Industry 4.0 transformation.

The initiative supports the COE on IT for Industry 4.0 by developing a comprehensive framework and training-of-trainers toolkit focused on the responsible use of AI for SMEs. It covers Industry 4.0 fundamentals and responsible approaches to AI, enabling SMEs to assess readiness, identify focus areas, and prioritize digital initiatives, accelerating digital transformation among APO members.

Key achievements of the project to date are the completion of desk research on the existing training manuals; development of an AI framework document, online training manual, assessment toolkit, and facilitators' guide; establishment of the online training platform; and pilot testing of the diagnostic framework and toolkit with 10 officers from the NPC, India, and five SMEs in India. The expected remaining activities to be undertaken are refining and finalizing the diagnostic framework and toolkit, incorporating the pilot test reports, the final collection and analysis of data results, and final reporting and recommendations. The expected end of project implementation is March 2025.

24-RC-23-GE-COE-C-JP01

Workshop on Capacity Development for Soil Carbon Visualization

Building upon the results of a need and readiness assessment survey on CSA technologies conducted in 2023, a preparatory study mission by NARO for the implementation of a pilot project in Thailand was conducted from 23 to 26 April 2024. The mission introduced a soil carbon sequestration visualization tool and carbon credit methodology to Thailand and other APO members involved in the survey. As part of this project, it was decided to organize a capacity development workshop in Japan on soil carbon visualization and develop the capacity to examine model performance and determine possible adjustments at the regional level.

Scientists and agricultural experts from APO members convened in Tsukuba, Japan, 1–4 October, for the Workshop on Capacity Development for Soil Carbon Visualization. Organized by NARO as the host of the COE on CSA, the workshop focused on advancing CSA technologies, particularly in soil carbon management. The event included an international symposium and hands-on sessions delivered by 14 resource persons: five from Japan, two from Thailand, and one each from Bangladesh, the ROC, India, Indonesia, the ROK, Pakistan, and the Philippines. The event attracted over 150 participants, both face-to-face and online, with representation from nine APO members.

The workshop emphasized the critical role of soil carbon in mitigating climate change and enhancing agricultural productivity. Participants gained valuable skills in understanding soil carbon dynamics and using the Rothamsted carbon (RothC) model to assess and manage soil carbon levels in their regions. By enhancing

the capacity of national experts, the workshop aimed to build more resilient agricultural systems across the Asia-Pacific. This initiative highlighted the collective efforts of APO members to promote productive, sustainable agriculture through improved soil carbon management practices, contributing to long-term climate resilience and regional food security.

24-RC-23-GE-COE-C

APO Centers of Excellence: Expert Panel Meeting on the COE Proposal from Vietnam

The APO COE guidelines recognize two channels through which COEs may be established: being nominated by an NPO or scouted by the Secretariat. The APO Secretariat received a proposal from STAMEQ, Vietnam, for establishing a COE on Innovation and Productivity for Youth. STAMEQ strongly promotes engaging young people in productivity initiatives, focusing on developing the next generation of productivity experts. The proposed COE would aim to create a robust network of young productivity practitioners and facilitate training, consulting, and competition through fostering future productivity leaders across APO members.

An expert panel meeting was convened on 7 August to evaluate the proposal and ensure it met the criteria and requirements under the guidelines. After a thorough review and in-depth exchanges of views with STAMEQ, the expert panel recommended that to achieve the criteria of excellence, STAMEQ's current proposal needed substantial improvements in the form of a capacity-strengthening program before it could be considered for reapplication.

The Secretariat received the GB's endorsement of the panel's recommendations and notified STAMEQ of the approval of implementing a capacity-strengthening program.

24-RC-23-GE-COE-C

APO Centers of Excellence: Expert Panel Meeting on the Assessment of the COE on Climate-smart Agriculture (CSA)

Hosted by NARO of Japan, the COE on CSA promotes and implements CSA-related activities to contribute to the improvement of agricultural productivity while reducing greenhouse gas emissions in the agricultural sector. The COE on CSA has been conducting needs assessments, international conferences, workshops, and pilot projects on disseminating climate change mitigation and adaptation technologies and know-how, primarily for rice as this is the staple food in APO members.

In line with the APO COE guidelines, on 19 July, the expert panel responsible for assessing the COE on CSA's transition from the "Designation Phase" to the "Delivery Phase" unanimously endorsed the continuation of the COE's activities for the 2024–26 period. Over the next three years, the COE on CSA is expected to continue to showcase, disseminate, and promote NARO's best practices among APO members in alignment with the roadmap presented during the panel meeting.

Strengthening of NPOs and Policy Advisory

i. Bilateral Cooperation between NPOs

23-SN-03-GE-BCN-C-PH01

Public-sector Excellence and Performance Evaluation

Public sector productivity efforts have been implemented in Mongolia since 2016 with the support of the APO. In 2019, a government order was issued recommending that local governance offices improve public service productivity. As a result, the Authority of Government Supervision of Mongolia was established in 2022 to improve the quality of public services, enhance organizational capacity, increase government pro-

ductivity, improve the well-being of citizens and state employees, and establish a streamlined, innovative, efficient governance process.

To assist the Authority of Government Supervision of Mongolia in measuring and improving public sector productivity, the DAP and the APO Secretariat implemented the individual-country Bilateral Cooperation between NPOs (BCN) project on public sector excellence and performance evaluation, 9–22 February. It was attended by four participants from Mongolia.

The DAP arranged visits to the DAP office and key Philippine government agencies, such as the National Economic and Development Authority, Civil Service Commission, Department of Budget and Management, and Department of Labor and Employment.

23-SN-03-GE-BCN-C-SG03

Development of a Productivity Framework for the Service Sector

The service sector contributes approximately 40% to Thailand's GDP. It faced difficulties during the COVID-19 pandemic but has since begun to recover due to the drastic increase in tourists since early 2023. However, there are shortages of skilled labor and limited productivity support schemes for the sector. To help address these challenges, the FTPI has presented the ISO 23592:2021 service excellence framework to clients from the private sector, and it wished to learn about advanced initiatives and support schemes from the SGPC and other relevant organizations in Singapore through a BCN project.

The SGPC hosted the mission on the development of a productivity framework for the service sector, 25–27 March. It was attended by four participants from the FTPI. The SGPC arranged visits to the SGPC office, Orchard Road Business Association, Singapore General Hospital, and Hotel Novotel Singapore.

The mission allowed participants to learn from best practices in supporting the service sector for productivity improvement and to discuss the possibility of future cooperation in productivity improvement in the service sector, sustainability, and other relevant areas.

24-SN-03-GE-BCN-C-JP01

Benchmarking Study on Productivity Enhancement Initiative in Japan

Benchmarking is an ongoing process of self-assessment combined with the initiation of actions aimed at bridging performance gaps. This process uncovers valuable insights, which are crucial for identifying deficiencies in existing processes and developing strategic plans to achieve a competitive advantage. A significant challenge faced by Fiji in enhancing productivity has been the effective dissemination of productivity improvement initiatives to its tripartite stakeholders.

To address this challenge and establish essential frameworks for productivity enhancement in Fiji, a BCN project comprising a benchmarking study on productivity enhancement initiatives was held in Tokyo, 14–16 May, hosted by the JPC. Four representatives from Fiji's Ministry of Employment, Productivity, and Industrial Relations participated in this program. One of the key objectives was to gain insights into critical success indicators, best practices, and productivity promotion strategies from the JPC.

Participants acquired invaluable knowledge through lectures and site visits to locations that have demonstrated excellence in productivity, innovation, and integrating AI into their operations: the JPC; NARO; the University of Tokyo; and the Japan Organization for Employment of the Elderly, Persons with Disabilities and Job Seekers (JEED). The program allowed the participants to identify key areas where Fiji could develop similar structures to those seen in Japan, offering a path forward in enhancing productivity across the nation.

24-SN-03-GE-BCN-C-LA01

Enhancing Bureaucratic Efficiency: A Peer-Learning Study on Streamlining Public Service Delivery

Public sector organizations worldwide are increasingly adopting technology to enhance service delivery,

reduce bureaucratic inefficiencies, eliminate redundant procedures, and improve service quality. By improving public service delivery, governments can boost productivity, streamline operations, increase citizen engagement, and reduce costs. Although the tools and methodologies used to enhance the efficiency and effectiveness of public service delivery have evolved over time, not all public organizations have fully embraced these advancements, such as digital technologies, due to challenges such as a lack of resources or necessary skills in the workforce.

A peer-learning study aimed at streamlining public service delivery would provide a valuable platform for the exchange of best practices and knowledge, fostering collaborations that would contribute to more efficient public service delivery.

The LNPO, Ministry of Industry and Commerce, hosted a BCN on enhancing bureaucratic efficiency in Vientiane, Lao PDR, 29–31 July. Four participants from Nepal and one local resource person attended. Throughout the program, participants gained insights into key government initiatives in Lao PDR, including the implementation of e-governance and the single-window service delivery system for foreign investment. These initiatives aligned directly with the objective of this BCN, which was to streamline bureaucratic processes and improve service delivery. The program also included site visits to both public and private organizations. These visits were pivotal in deepening participants' understanding of the key activities that drive the efficiency of public sector operations, bureaucratic processes, and resource allocation, leading to more efficient and effective service delivery.

24-SN-03-GE-BCN-C-MY01

Development of a Productivity Measurement System and Productivity-based Incentives

The implementation of the National Productivity Master Plan for Pakistan is set to drive and accelerate the national productivity movement. To fully meet the master plan requirements for productivity data, Pakistan identified a key challenge: the lack of sector-specific productivity data from vital productivity organizations. This hinders the development of effective productivity enhancement initiatives. The NPO, Pakistan, has committed to designing a comprehensive national program aimed at addressing these issues. Central to this strategy is the establishment of a robust productivity measurement system and the adoption of the PLWS, which will promote gainsharing and incentivize improved productivity across sectors.

In support of these efforts, the MPC hosted a BCN project on the development of a productivity measurement system and productivity-based incentives in Kuala Lumpur, Malaysia, 12–15 August. The program was attended by four participants from Pakistan and two local resource persons. Presentations emphasized the critical role of public organizations in driving productivity and covered national policies and government initiatives designed to strengthen the PLWS. Additionally, the session introduced the e-Shared Prosperity Organization as a key initiative for fostering inclusive economic growth. The blend of discussions, lectures, and site visits significantly deepened participants' understanding of productivity measurement systems and the PLWS, equipping them with the essential knowledge to implement these strategies and drive Pakistan's national productivity movement forward.

24-SN-03-GE-BCN-C-TH01

Green Productivity Tools and Methodology

The APO Vision 2025 of "inclusive, innovation-led productivity growth" includes strengthening the organizational capability of NPOs as a strategic thrust area for social development, economic prosperity, and environmental protection. Singapore is currently one of the nine CBs accredited by the APO-AB. Following the accreditation of the SG NPO-CB in May 2024, significant progress has been made in certifying GP specialists. Currently, eight individuals from Singapore are recognized as certified GP specialists. To further enhance the capabilities of the SG NPO-CB, it is essential to engage in knowledge exchange with other CBs. This collaborative effort will not only address challenges but also drive continuous improvement in the certification process.

In line with this objective, the FTPI hosted a BCN project on GP tools and methodologies in Bangkok, 14–16 August. Five participants from Singapore, including one self-funded individual, attended the program, which

was facilitated by two local resource persons. The objectives included holding discussions with the FTPI regarding the development of a collaborative GP exchange program for enterprises in both Singapore and Thailand. A key outcome of the event was the signing of an MOU between the SGPC and the FTPI, which came into effect on 14 August 2024. The MOU lays the foundation for the exchange of knowledge, consultation practices, and collaborative research efforts between the two organizations. This partnership is expected to foster greater collaboration and may serve as a model for other APO members.

24-SN-03-GE-BCN-C-TR01

Enhancing Malaysian Manufacturing Productivity through Human Capital Development

SMEs play a crucial role in most economies in the Asia-Pacific region, acting as key drivers of growth and productivity enhancement. One of the key result areas of the APO Vision 2025 is the engagement of SMEs. In Malaysia, SMEs are vital to the nation's economic growth, and continuous efforts have been made to improve their performance. The MPC recognizes the potential of academic institutions, particularly universities that own model factories, for providing practical training for SMEs, thereby enhancing workforce skills. This human capital development can significantly contribute to the enhancement of manufacturing productivity across the country.

In an effort to gain insights from the successful experiences of SMEs in Turkiye, a BCN project on enhancing Malaysian manufacturing productivity through human capital development was implemented in Ankara and Kayseri, Turkiye, 2–5 September. Hosted by the NPO of Turkiye, the project was attended by four participants from Malaysia and one resource person. Through presentations and site visits, participants were exposed to various strategies for improving productivity. Key takeaways included the impact of implementing lean practices and digital transformation in model factories, which resulted in enhanced service delivery and stronger stakeholder engagement. These successful experiences demonstrated that fostering an efficient and skilled workforce is essential for driving national productivity and achieving sustainable growth in the manufacturing sector.

24-SN-03-GE-BCN-C-PH01

Productivity Promotion Strategies and Experiences

National productivity promotion is a central responsibility of NPOs. While some organizations engage in a broad range of activities and operations dedicated to productivity promotion, others concentrate on more specialized areas. The advancement of productivity promotion has been significantly influenced by the development of productivity tools and the integration of digital technologies and new communication platforms. By exchanging knowledge on effective productivity promotion strategies, NPOs can transform these strategies into actionable tools and initiatives, effectively reaching target groups, including private organizations. This collaborative learning model enables NPOs to strengthen their capabilities in utilizing available tools and techniques, thereby enhancing their ability to lead and drive productivity initiatives across various sectors.

To expand understanding of successful productivity promotion strategies, a BCN project on productivity promotion strategies and experiences was implemented in Manila, the Philippines, 5–8 November. The project was hosted by the DAP. Three participants from Bangladesh and one local resource person attended. The local resource person provided insightful presentations covering key national policies, government initiatives, and the roles of productivity organizations in driving productivity in the country. Participants developed action plans based on the project contents, site visits, and discussion sessions.

24-SN-03-GE-BCN-C-VN01

Best Practices for Managing NPO Certification Bodies

The APO plays a crucial role in helping NPOs become APO-AB-accredited CBs in line with the APO Vision 2025. The APO CB development program is integral to productivity enhancement as it significantly strengthens the capacity and capabilities of NPOs. To further enhance the institutional capability of the NPS, Sri Lanka, efforts to establish an NPS CB began in 2023. This BCN project enabled ViProCB to share the knowledge and expertise on certifying productivity specialists it had gained since it was accredited in September 2021.

To deepen the NPS's understanding of the functions, roles, and responsibilities of CBs, this BCN project on best practices for managing NPO CBs was implemented in Hanoi and Ho Chi Minh City, Vietnam, 25–29 November. Hosted by STAMEQ, the project was attended by four participants from Sri Lanka and two local resource persons. The presentations included an overview of the activities of the ViProCB, highlighting its achievements and best practices in certifying productivity specialists. Participants had the opportunity to gain firsthand experience and insights into the challenges faced in developing their own CBs.

ii. Individual-country Observational Study Missions

24-SN-01-GE-OSM-C-MN01

Enhancing Startup Ecosystems: Incubation Program Strategies

The APO Vision 2025 emphasizes the importance of a robust innovation ecosystem, with R&D identified as a critical component. R&D significantly contributes to the innovation capability within the broader innovation ecosystem. An effective innovation ecosystem for startups is pivotal for productivity improvement as it provides essential access to various support mechanisms.

The MPO hosted a face-to-face individual-country observational study mission (IOSM) for Cambodia on enhancing startup ecosystems and incubation program strategies in Ulaanbaatar, Mongolia, 27–31 May. The program equipped participants with knowledge of ecosystems and system-based incubation startups through presentations and site visits to Dream Sky Resort, Gund Investment Knowledge Sharing Center, iT park Mongolia, Mongolian Foundation for Science and Technology, the MPO, and Socratus Startup Studio.

Eight participants from Cambodia, including two self-financed participants, attended the mission, during which two local resource persons shared insights into startup activities, methodologies, and tools applied in the startup incubation program to ensure competitiveness and productivity. A significant outcome of the mission was a mutual agreement between the General Department of Science, Technology and Innovation of Cambodia and Socratus Studio LLC of Mongolia to collaborate over the next five years. They signed an MOU establishing a platform for cooperation, promoting awareness, research, knowledge sharing, and the implementation of a system-based incubation methodology in Cambodia and Mongolia.

24-SN-01-GE-OSM-C-VN01

Green Productivity and Sustainability Development in Vietnam's Textile and Apparel Sectors

As one of the world's largest textile exporters, Pakistan faces significant challenges in achieving sustainability. The textile industry's heavy reliance on water, energy, and chemicals have strained the country's natural resources as production processes have led to heavy air and water pollution, soil degradation, and resource depletion. To advance toward a sustainable industry, Pakistan must address these environmental challenges.

GP provides a pathway to address these challenges. GP is one of the strategic thrusts of the APO Vision 2025, where it serves as a critical driver of sustainability and enables both public and private organizations to promote economic growth while protecting the environment. It involves applying productivity and environmental management policies, tools, techniques, and technologies to minimize the environmental impact of organizational activities. By integrating GP into production processes, Pakistan can reduce its environmental footprint, optimize resource utilization, and contribute to long-term sustainability. This not only ensures the continued success of the textile industry but also supports global environmental goals.

An IOSM on GP and sustainability development in Vietnam's textile and apparel sectors was held in Hanoi and Ho Chi Minh City, Vietnam, 24–28 June. The program was hosted by STAMEQ, and 11 participants from Pakistan attended, including five self-financed participants. Two local resource persons delivered presentations and shared insights into sustainability initiatives in Vietnam, illustrating innovative approaches and best practices in the textile industry. The program not only enhanced participants' understanding of the regulatory frameworks that drive successful sustainability efforts but also led to the development of strategies based on the outcomes of activities.

24-SN-01-GE-OSM-C-VN02

Green Productivity for Sustainable Business Models

The adoption of GP is crucial in addressing the growing consumer demand for products, services, and processes while minimizing environmental impact. This global trend has prompted numerous industries to embrace new business models centered on sustainability. Nepal, recognizing the importance of GP, aims to learn from GP-related approaches introduced by both public and private sector entities in Vietnam. This knowledge exchange between the NPOs of Nepal and Vietnam will contribute to the achievement of key APO targets, including the APO Vision 2025's strategic thrust on GP.

To facilitate this exchange of learning, an IOSM on GP for sustainable business models was held in Hanoi and Ho Chi Minh City, Vietnam, 12–16 August. The program was hosted by STAMEQ, and six participants from Nepal and two local resource persons attended. The program provided valuable insights into the development and implementation of standards, technical regulations, and conformity assessment procedures in Vietnam. Participants also explored various GP initiatives, particularly those adopted by SMEs. This kind of exchange of experience is vital in promoting the adoption of sustainable practices and tools to shift to sustainable business models and will also lead to the achievement of long-term sustainable goals for environmental and economic sustainability.

24-SN-01-GE-OSM-C-TW02

ESG Knowledge Exchange

GP specialists have a vital role in the productivity movement, acting as trainers, consultants, and practitioners for enterprises across the Asia-Pacific region. Their expertise is essential for the successful implementation of the Singapore Green Plan and the achievement of Singapore's goal to reach net-zero emissions by 2050. To this end, the SGPC set up a Certified Green Productivity Specialist program to certify highly qualified individuals working on the application of GP solutions and related activities. The key objective was to build a skilled pool of GP professionals who would drive the nation's sustainable development efforts. This IOSM would enable Singapore to draw valuable insights from the ROC, which is a COE on GP, regarding its successful initiatives and approaches.

An IOSM on ESG knowledge exchange was held in Taipei, the ROC, 3–5 September. It was hosted by the CPC, and six participants from Singapore and two local resource persons attended. The program aimed to promote bilateral exchange of best practices, foster a collaborative community of practice between Singapore and the ROC, and strengthen mutual efforts in advancing GP and addressing climate change. The participants learned from real-world GP company case studies implemented by the CPC, which provided the SGPC with valuable insights for developing its own GP framework. The program also highlighted extensive research in sustainability, particularly relating to the manufacturing sector. A key takeaway from the learning exchange was the potential for the SGPC to adapt the CPC's GP framework and methodologies to the Singapore context, with an emphasis on aligning the approach more closely with the service sector. This project marks a significant step toward building a sustainable future for both economies while fostering innovation and collaboration in GP practices.

24-SN-01-GE-OSM-C-JP01

Talent Development for Enhanced Productivity and Competitiveness

A skilled workforce is essential for driving productivity across sectors, and many nations have developed educational and training programs aimed at skilling and reskilling workers to equip them with advanced capabilities. Malaysia has implemented similar initiatives but has faced the growing issue of skill mismatches, which has impacted productivity growth, particularly in high-productivity sectors. Addressing this issue is crucial and can significantly enhance productivity, reduce operational costs, improve the quality of products and services, and boost the nation's competitiveness. Furthermore, bridging the skill gaps can attract foreign investment, making Malaysia a more attractive destination for global businesses.

To gain valuable insights into effective talent development practices, an IOSM on talent development for enhanced productivity and competitiveness was held in Tokyo, 18–20 September, hosted by the JPC. Six

participants from Malaysia and two local resource persons attended the program. During the program, the participants gained knowledge through discussions, presentations by resource persons, and on-site visits to JEED; Chiba Polytechnic Center; the JPC; the Ministry of Education, Culture, Sports, Science and Technology (MEXT); and the Japan Institute for Labour Policy and Training.

These activities and key outputs provided a deeper understanding of Japan's talent development strategies, which have contributed to its high levels of productivity and competitiveness. The program highlighted best practices and successful models, offering valuable lessons that can be applied in Malaysia to better align skills with the needs of high-productivity sectors and ultimately drive sustainable economic growth.

24-SN-01-GE-OSM-C-TW01

Successful Smart Farming in the ROC

Agriculture plays a vital role in the economy of Lao PDR, with fresh vegetable production being a key area of focus. However, farmers in Lao PDR face several challenges, including limited access to modern farming technologies, inadequate infrastructure, and poor market linkages. These challenges can be addressed by enhancing productivity and improving the quality of vegetable production, leading to increased agricultural output and a more robust economy. The ROC has made significant strides in this field. Through smart farming, it has leveraged technology and innovation to enhance productivity, sustainability, and profitability in agriculture.

To share this knowledge, the CPC hosted an IOSM on successful smart farming in the ROC from 14 to 18 October in Taipei, the ROC. Six participants from Lao PDR attended the program, gaining exposure to advanced agricultural technologies and practices employed in the ROC. The program included site visits to the CPC; Dayi Agritech Co., Ltd.; HAN KUAN Agriculture; Kiao Farming; Known-You Seed Co., Ltd.; Magical Mushrooms Tribe; Taiwan Agricultural Research Institute, Ministry of Agriculture; Yumei Biotec Corporation; and ZHAN SHIAN Agricultural Biotechnology Co., Ltd. Through these visits, participants observed cutting-edge practices, innovative technologies, and effective business models that could be adapted and applied in Lao PDR.

The program emphasized the critical role of smart farming in promoting sustainable productivity. Smart farming practices help reduce natural resource degradation and minimize carbon footprints while giving rural farmers access to real-time information on agrifood markets, thus enhancing their profitability. By applying the lessons learned in the ROC, Lao PDR can address its challenges in agricultural development, improve market linkages, and ultimately promote inclusive growth and sustainable agriculture. This IOSM demonstrated the transformative potential of smart farming in shaping a resilient and productive agricultural sector.

24-SN-01-GE-OSM-C-TH01

Sharing Best Practices in Sustainability for Innovation, Education, and Human Resources

Sustainability is a crucial factor for institutions aiming to create long-term value and have a positive impact on society and the global market. By adopting sustainability practices, institutions can drive economic growth and enhance their capacity to remain resilient in the face of emerging trends and challenges, ensuring the successful delivery of their responsibilities and commitments. Various institutions, including government bodies and academic institutions, have developed effective sustainability practices across sectors.

An IOSM on sharing best practices in sustainability for innovation, education, and human resources was held in Bangkok from 12 to 15 November. Six participants from Turkiye and a resource person joined the program organized by the FTPI. The program offered valuable insights into Thailand's digital sustainability practices, which have been developed through strong public-private partnerships. These initiatives highlight Thailand's commitment to advancing the digital economy while addressing skill gaps and promoting inclusive access to resources. Participants gained a deeper understanding of how these strategies have enhanced organizational efficiency and supported digital transformation. These insights can provide valuable lessons for Turkiye, especially in adapting similar models to foster SME transformation and build digital skills in the workforce. The program emphasized the importance of sustainability in driving innovation and supporting human resource development for the future.

iii. Certification Body Development

23-SN-05-GE-CBD-C-TH01

Development of the Thailand Productivity Institute as an APO Certification Body

The FTPI is committed to introducing new ideas and practices, utilizing various tools, techniques, and methods to drive individual and organizational improvement for sustainability and national productivity. One of the latest initiatives of the FTPI was to become an APO CB and establish a GP specialist certification system, ensuring productivity expertise and sustainable growth.

The APO Secretariat organized the CB development program for the FTPI in four phases, which were conducted by three resource persons from Malaysia, Singapore, and Indonesia in face-to-face modality from August 2023 to April 2024. Following the compliance assessment by APO-AB assessors from Singapore and Indonesia in April and an APO-AB accreditation review, the FTPI-PC achieved accreditation for the GP specialist certification scheme in May.

A key outcome of the program was the establishment of a certification management system and rules, procedures, and processes compliant with APO-AB standards for the FTPI-PC to certify GP specialists in Thailand.

23-SN-05-GE-CBD-C-SG01

Development of the Singapore Productivity Centre as an APO Certification Body

The SGPC aims to be the leading expert in enterprise excellence and to help SMEs create growth roadmaps. In this endeavor, the SGPC provides business advisory, consultancy, overseas study missions, training, certification, and case study publication services. Developing as an APO CB was a new initiative for the SGPC and would further foster its mission to certify productivity consultants and assist enterprises in improving productivity. With a greater focus on the Singapore Green Plan, it was timely for the SGPC to adopt green and sustainability initiatives. CB accreditation would enable the SGPC to develop a pool of GP specialists who could help enterprises create greener business functions.

The APO Secretariat organized the CB development program for SGPC in four phases, which were conducted by three resource persons from Malaysia, Thailand, and Indonesia in face-to-face modality from November 2023 to March 2024. Following the compliance assessment by APO-AB assessors from Indonesia and Thailand in April and an APO-AB accreditation review, the SG NPO-CB achieved accreditation for the GP specialist certification scheme in May.

A key outcome of the program was the establishment of a certification management system and rules, procedures, and processes compliant with APO-AB standards for the SG NPO-CB to certify GP specialists in Singapore.

23-SN-05-GE-CBD-C-BD01

Development of the National Productivity Organisation, Bangladesh, as an APO Certification Body

NPOs play a pivotal role in promoting productivity in their economies. The NPO, Bangladesh, collaborates closely with stakeholders to enhance productivity and competitiveness. Becoming a CB would strengthen the NPO's credibility as an accredited member of the sole productivity organization dedicated to productivity enhancement and help build a pool of certified productivity specialists for productivity promotion. The APO CB Development Program aims to establish CBs within NPOs or their affiliated organizations so that they can operate the APO scheme for certifying productivity specialists following the APO-AB standards.

The key objectives of the NPO, Bangladesh, were to conduct research and studies to identify productivity-related challenges, develop and implement training and capacity-building activities, provide consultancy and advisory services, disseminate best practices, and promote the adoption of international productivity and quality standards. After its certification as an APO CB, the NPO is expected to play a stronger role in spearheading the national productivity agenda.

The APO Secretariat started the CBD Program for the NPO, Bangladesh, in 2023. After the completion of the first phase, the program continued with the initiation of the second phase in March 2024, supported by a resource person from Singapore and attended by 15 participants. However, the remaining phases of CB development were postponed to 2025 due to domestic reasons. The NPO, Bangladesh, is committed to continuing the program and expects to achieve APO-AB accreditation in 2025.

iv. Specific National Program

22-SN-06-GE-SNP-C-BD01

Development of the Monitoring and Evaluation Framework of the National Productivity Master Plan

The Bangladesh National Productivity Master Plan was formulated in 2019 by the NPO, Bangladesh, under the Ministry of Industries with the support of the APO. This Development of the Monitoring and Evaluation (M&E) Framework of the National Productivity Master Plan project aimed to enhance national and sectoral productivity by providing a structured framework for M&E. The APO and the NPO, Bangladesh, collaborated on the project, which commenced in July 2023, to assess productivity levels, identify viable economic sectors, and develop an M&E framework to support continuous productivity improvement. The National Productivity Master Plan aligned with broader national strategies, including the Vision 2041 Perspective Plan, and sought to establish a sustainable monitoring mechanism for tracking productivity trends and informing policymaking. The project also considered productivity challenges across key sectors and focused on capital deepening, TFP, and institutional capacity building.

The project was implemented through a structured process that included research, stakeholder engagement, and data analysis. The first phase involved a comprehensive contextual analysis, incorporating a review of existing productivity goals, stakeholder consultations, and alignment with national development plans such as the Eighth Five Year Plan and the SDGs. This phase identified deficiencies in current productivity measurement practices and established the need for a robust evaluation framework. During the second phase, the project team designed a draft M&E framework to assess productivity at the national, sectoral, and enterprise levels. This framework incorporated key indicators such as labor productivity, TFP, and efficiency measures. Stakeholder consultations were conducted to validate the framework, ensuring its relevance to policymakers, businesses, and research institutions. The draft framework was then tested through pilot applications in selected sectors, allowing for adjustments based on real-world data and feedback.

In the final phase, the project team refined the M&E framework, incorporating lessons learned from the pilot applications and stakeholder feedback. The finalized framework provided clear guidelines for data collection, productivity analysis, and reporting mechanisms. Additionally, the project recommended institutional strengthening measures to support the long-term implementation of the M&E system, including capacity-building initiatives for the NPO, Bangladesh, and for key government agencies. By establishing a systematic approach to productivity monitoring, the National Productivity Master Plan positioned Bangladesh to achieve sustained productivity growth and contributed to its long-term vision of becoming an upper-middle-income country by 2031 and a high-income country by 2041. The project outcomes emphasized the importance of evidence-based decision-making, cross-sectoral collaboration, and continuous evaluation to drive productivity improvements at all levels of the economy. The project report was delivered to the NPO, Bangladesh, in November 2024.

22-SN-06-GE-SNP-C-PH02

Development of Innovation Management Policy Framework for MSMEs in the Philippines

The Development of Innovation Management Policy Framework for MSMEs in the Philippines project aimed to strengthen the innovation management capacities of micro, small, and medium enterprises (MSMEs) under the Small Enterprise Technology Upgrading Program (SETUP) of the Department of Science and Technology (DOST). Recognizing the need for structured policy recommendations to enhance innovation integration, the DAP collaborated with the APO Secretariat and DOST-MIMAROPA to implement this initiative. This project aligned with the goal of the APO Specific National Program (SNP) to support NPOs through targeted training and consultancy services tailored to national priorities.

This SNP project was conducted in a hybrid modality from 13 November 2023 to 29 March 2024 in Manila, the Philippines. The project was structured into three key phases: capacity building on innovation management principles, an innovation management survey, and a consultation workshop for policy development. The capacity-building component introduced participants to global best practices in innovation management and the survey provided valuable insights into the state of MSME innovation capacities. The final phase involved stakeholder engagement to refine policy recommendations for fostering a more structured innovation ecosystem.

The capacity-building stage commenced in November 2023 with a three-day capacity-building session. The innovation management survey was administered among DOST SETUP–assisted MSMEs from December 2023 to January 2024. The findings of the survey were then analyzed and discussed in a consultation workshop in February 2024, where experts and stakeholders collaborated to develop policy recommendations. This workshop also featured presentations on innovation trends, international best practices, and frameworks for enhancing MSME competitiveness. The activities of the project concluded with a dissemination event in February 2024, ensuring that key insights and recommendations were shared with relevant stakeholders to support future policy initiatives.

23-SN-06-GE-SNP-C-LK01

Development of the National Productivity Master Plan for Sri Lanka

As part of efforts to enhance productivity in Sri Lanka, the APO collaborated with the NPS, Sri Lanka, to develop tailored productivity-enhancement policies under the APO's SNP. To support this initiative, the APO engaged the Korean Development Institute, leveraging its expertise in National Productivity Master Plans from other APO member economies, including Vietnam, Lao PDR, and Pakistan. This initiative aimed to assess Sri Lanka's current productivity challenges and develop a comprehensive National Productivity Master Plan to drive economic resilience and sustainable growth.

The policy consultancy project, which kicked off in September 2023, was conducted in two phases focusing on diagnostic analysis and strategic planning. The first phase assessed Sri Lanka's economic productivity trends, highlighting a decline in TFP, labor productivity, and capital efficiency since 2013. Economic shocks, labor shortages, and an overreliance on remittances further exacerbated the economy's challenges. The second phase centered on policy formulation and identified key areas for investment, including manufacturing, transport, financial services, and technology-driven sectors. The project also emphasized the importance of human resource development, urbanization, and fiscal policy reform to enhance productivity sustainably. Data gathering and consultations with stakeholders were conducted on a visit to Sri Lanka in March 2024.

The final recommendations proposed a mid- to long-term agenda for national productivity enhancement structured around three key pillars: (1) transforming Sri Lanka into a strong and resilient economy through R&D, human resource development, and modernized infrastructure; (2) reforming the organizational structure of the government to improve efficiency and labor market flexibility; and (3) nurturing key sectors and industries such as agriculture, textiles, and software development. The project underscored the necessity of institutional reforms, targeted industrial investments, and capacity-building initiatives to ensure Sri Lanka's economic transformation. The findings and recommendations were disseminated through stakeholder engagement sessions, fostering collaboration for future policy implementation. The project was completed in November 2024 upon the delivery of the National Productivity Master Plan document to the NPS.

23-SN-06-GE-SNP-C-MY01

Revision of the Malaysia Productivity Blueprint

The MPC, in collaboration with the APO, initiated a joint SNP project to revise the Malaysia Productivity Blueprint. This project focused on evaluating the Productivity Nexus initiatives launched in 2017, which have played a crucial role in driving sector-specific innovations and enhancing productivity across nine industries. The objectives were to assess the Productivity Nexus initiatives' effectiveness, identify areas for improvement to further strengthen Malaysia's productivity framework, analyze productivity trends using national and APO productivity data, and develop a structured productivity roadmap.

The project engaged key national stakeholders, including the Ministry of Economy; the Ministry of Investment, Trade and Industry; the Department of Statistics Malaysia; and representatives from the Productivity Nexus Secretariat. Surveys and discussions were conducted to gather insights for the development of a comprehensive productivity roadmap. While the Malaysia Productivity Blueprint has made significant progress across its five strategic thrusts (workforce development, digitalization, industry accountability, ecosystem strengthening, and implementation efficiency), challenges such as resource management, skill gaps, and communication barriers have been identified. Addressing these challenges was essential to refining productivity strategies and ensuring sustainable improvements.

Case studies on high- and low-performing Productivity Nexus initiatives were conducted by a team of local and international experts led by Professor Robert Breunig of the Australian National University. The project, which began in April 2024 and is expected to be completed in March 2025, included key milestones such as stakeholder engagement, survey development and analysis, and the submission of findings in a final report. Through this initiative, the MPC and the APO reaffirmed their commitment to fostering sustainable economic growth, setting an annual productivity growth rate target of 3.7% to enhance national prosperity.

23-SN-06-GE-SNP-C-VN01

National Strategy for Advancing the Productivity of Vietnam's Textile and Garment Industry through Technology and Innovation

STAMEQ, Vietnam, launched this research and advisory project in February 2024 in collaboration with the APO Secretariat; the Hanoi Industrial Textile and Garment University, Vietnam; Griffith University, Australia; and the Commonwealth Scientific and Industrial Research Organisation, Australia. The aims of the project included enhancing the productivity and sustainability of Vietnam's textile and garment industry, addressing industry-specific challenges, and establishing a foundation for long-term, innovative growth.

The project focused on key industry concerns, including declining exports to major markets such as the EU and the USA, rising competition from other economies, and the necessity of balancing workforce retention with cost efficiency. Additionally, the industry has faced mounting pressure to adopt sustainable production practices to meet global ESG criteria. The project explored megatrends reshaping the industry, such as sustainability-driven circular fashion, geopolitical trade shifts, textile innovation, digitalization, and workforce upskilling. Industry 4.0 technologies, proactive buyers, and advanced materials were identified as crucial elements influencing competitiveness and future growth.

The study assessed four potential scenarios for the industry's development, each based on varying levels of green growth and technological adoption. These included incremental sustainability adoption (low-tech, low-green), technology-driven efficiency (high-tech, low-green), sustainability-led transformation (low-tech, high-green), and an advanced sustainable innovation model (high-tech, high-green). The findings provided strategic recommendations, such as financial incentives, workforce development, and structured sustainability transitions, ensuring Vietnam's textile industry remains competitive in an evolving global landscape. The project's conclusions were disseminated in a collaborative workshop with STAMEQ and the Hanoi Industrial Textile Garment University in November 2024, which marked the end of the project and ensured that stakeholders were equipped to implement the study recommendations. This workshop emphasized green standards, technological adaptation, and policy reforms to support long-term industry resilience.

24-SN-06-GE-SNP-C-TR01

Development of a Digital Transformation Consultancy Roadmap for Model Factories in Turkiye

The APO and the Ministry of Industry and Technology embarked on this project to develop a digital transformation consultancy roadmap for model factories in Turkiye. This initiative was part of the APO's ongoing efforts to enhance productivity and innovation across member economies by leveraging digital transformation. Running from December 2024 to March 2025, the aim of this project was to assist the Ministry of Industry and Technology in positioning model factories as strategic architects of SME-driven digital transformation. Other key objectives were to upskill lean consultant teams at model factories, enabling them to champion digital transformation initiatives; to improve model factories' research and development and innovation capacity through Industry 4.0 technologies and process governance; and to

develop a roadmap for digital transformation in Turkiye's model factories.

The project was divided into two main phases. The discovery and assessment phase, from 17 December 2024 to 16 January 2025, included a three-day training program covering GP, life cycle assessments, environmental aspects and impacts, and in-plant assessments of selected services and the manufacturing sector. This phase was facilitated by three resource persons from India, the ROK, and the US and attended by 13 participants. Additionally, diagnostic visits to eight model factories in Turkiye, data collection, and online surveys were conducted to assess the current state of digitalization and identify deficiencies. In the development and implementation phase, from 14 to 16 January 2025, a preliminary report presenting digitalization deficiencies, learning needs, and a preliminary roadmap was developed. This was followed by consultation with stakeholders on the preliminary report and the production of the final roadmap, strategy, and scenario. Furthermore, a training manual on lean manufacturing integrating digital transformation was developed and online training for model factory stakeholders was conducted.

The project, which is expected to be completed in March 2025, has identified several potential risks and outlined strategies to mitigate them effectively. These strategies include establishing clear and flexible timelines, comprehensive stakeholder engagement plans, and rigorous financial monitoring systems. Ensuring that data availability assessment, stakeholder engagement, and identification of technological requirements are conducted early is also recommended so that possible challenges can be quickly discovered and addressed.

24-SN-06-GE-SNP-C-TH01

Development of National AI Strategy to Enhance Industry Productivity

AI was expected to have a profound impact on various industries in Thailand and elsewhere. In manufacturing, AI has enhanced automation, quality control, and supply chain optimization. In agriculture, AI has enabled precision farming, resource efficiency, and automation of labor-intensive tasks. The healthcare sector has benefited from improved diagnostics, personalized treatment plans, and more precise patient care. To foster AI readiness, enhance innovation, promote sustainable productivity, and drive economic growth, this SNP project on the development of a national AI strategy to enhance industry productivity was launched by the FTPI with the support of the APO in September 2024. It is expected to be completed in March 2025. This project was designed to develop institutional capabilities through skill development and facilitate knowledge transfer to various sectors through comprehensive training programs.

The project was initiated in September 2024 with a series of consultative meetings and stakeholder engagements to gather requirements and develop an initial curriculum for AI productivity specialists. This phase included strategy design sprint workshops and the development of training modules focusing on AI applications relevant to industry-specific challenges. The second phase, implemented from October 2024 to February 2025, involved delivering the training modules in two waves: the first for the prototype and the second for formal delivery. This ensured knowledge transfer through train-the-trainer programs and solidified sector-specific AI strategies to create a critical mass of AI productivity specialists in the country.

The project continues with ongoing monitoring and evaluation of strategy implementation and training outcomes. This includes continuous feedback loops to ensure the relevance and effectiveness of the training programs and the AI-driven learning management systems. This comprehensive plan aims to position Thailand as a leader in AI development, application, and innovation across Asia; to enhance Thailand's effectiveness in government, defense, education, and the private sector; to boost the country's economic competitiveness; and to engage citizens. The delivery of the project outputs is planned for April 2025.

v. *Technical Expert Services*

22-SN-02-GE-TES-C-LA01

Productivity and Quality Improvement for Fresh Vegetable Producers

In Lao PDR, agriculture is a significant contributor to the country's economy, employing over 70% of the population and accounting for over 25% of GDP. The country's agricultural sector, however, faces limited

access to modern farming technologies, inadequate infrastructure, and poor market linkages. This project was originally submitted as a Development of Demonstration Companies (DMP) project. It was then transformed into a Technical Expert Services (TES) project to assess the main challenges and prioritize the major needs to develop an optimal planning framework for a future DMP project. Through consultations and field visits, factors such as soil fertility, climate, irrigation systems, status of smart farming techniques, and market demand were analyzed.

This hybrid, individual-country Productivity and Quality Improvement for Fresh Vegetable Producers TES project was implemented by the MSME Promotion Agency, Ministry of Industry and Commerce, Lao PDR, and the APO, 19–24 February. The primary objectives were the assessment of the current situation and needs by analyzing existing challenges and opportunities for increasing the yield and quality of fresh vegetables, access to markets, and introducing smart farming techniques. Two resource persons from Japan visited Agrilao and Muanglao Farms, Vientiane wholesale market, and the Department of Agriculture Extension and Cooperatives to observe the status, market restraints, and processing facilities.

The program also involved an online consultation on the prioritization of the farms' needs and meeting with the MSME Promotion Agency, Ministry of Industry and Commerce (LNPO), to evaluate its plans for 2024 APO projects.

22-SN-02-GE-TES-C-TR03

Current Methods and Applications in Impact Assessment

The Impact Assessment Department of the General Directorate of Strategic Studies and Efficiency, Turkiye, carries out impact assessment studies of the support programs that are updated every year and included in its business plan. In order to learn new methods and approaches in the literature, in-depth applied training on current methods in quantitative and qualitative impact assessment was requested.

An online, individual-country TES project on current methods and applications in impact assessments was implemented by the Directorate General for Strategic Research and Productivity of the Ministry of Industry and Technology and the APO, 22 and 24–26 April. The primary objective was to learn about current approaches and techniques from experts who have international practical experience in government policies and support efforts.

The program covered causal inference and its estimation methods, a review of linear regression, practical exercises on building and interpreting regression models, applications of causal inference (nonlinear) and qualitative insights, and bridging qualitative and quantitative methods.

23-SN-02-GE-TES-C-BD02

Public-sector Productivity Training and Assessment for Bangladesh

Public sector productivity is vital for efficient government operations, directly impacting the quality of public services, policy implementation, and resource management. Higher public sector productivity leads to better governance, enhances public trust, and supports economic growth by attracting foreign investment and promoting private sector expansion.

A hybrid, individual-country TES project on public sector productivity training and assessment was conducted by the NPO, Bangladesh, and the APO Secretariat, 19–31 May, to enhance the understanding of public sector productivity and share international best practices. Thirty-three participants from the NPO, Bangladesh, and relevant ministries and associations attended the training and were guided by two resource persons, one from Canada and one from the APO COE on Public Sector Productivity in the Philippines. Visits were also made to the Bangladesh Public Service Commission; the Ministry of Posts, Telecommunications and Information Technology; Bangladesh Civil Service Administration Academy; and the NPO, Bangladesh, to discuss public sector productivity implementation in Bangladesh.

The project enhanced the participants' understanding of public sector productivity and its components based on the APO framework for public sector productivity, showcasing best practices from Canada, Malay-

sia, the Philippines, and the USA. It also highlighted the importance of public sector productivity for national development and the achievement of the Bangladesh Vision 2041. An assessment report was developed identifying the current implementation status as well as pertinent issues and challenges while also providing recommendations for promoting public sector productivity in Bangladesh. This report can serve as a valuable resource for Bangladesh in developing related public sector productivity initiatives and future projects with the APO.

23-SN-02-GE-TES-C-PK02

Productivity Promotion for the Gemstone and Jewelry Sector in Pakistan

Pakistan has the fifth-largest reservoirs of gemstones in the world. However, despite huge potential and abundance of raw materials, the country is not among the top 10 gem exporters in Asia. Using older methods and tools is a major reason for this. To ensure the sustainable production of high-quality gems and jewelry in Pakistan, traditional systems of mining, cutting, and polishing should be transformed by using resource-efficient, high-quality production techniques as introduced in this TES project.

This face-to-face, individual-country TES project on promoting productivity for the gemstone and jewelry sector was implemented by the NPO, Pakistan, 26 April–7 May. The training sessions were conducted by three resource persons from Thailand and attended by 190 participants from Rawalpindi Chamber of Commerce and Industry, the Technical Education and Vocational Training Authority, the University of Engineering and Technology, the Federation of Pakistan Chambers of Commerce and Industry, the Gems and Jewelry Centre of Excellence, the Lapidary Center, and the Pakistan Institute of Fashion and Design.

The program covered gem identification and certification techniques, gem cutting and polishing, and structural reforms. It also included practical sessions on rough gemstones and equipment, observational visits to gem and jewelry markets, and sharing of best practices.

23-SN-02-GE-TES-C-TR03

Training Course on Water and Carbon Footprint Calculation

The Scientific and Technological Research Council of Turkiye (TUBITAK) Marmara Research Center (MRC) has been carrying out product-based life cycle assessment for manufacturing sectors and developing datasets for six sectors for the Development of the National Life Cycle Assessment Database project for five years. Within the scope of the Green Deal and the Carbon Border Adjustment Mechanism, companies need detailed carbon footprint and water footprint analyses to achieve sustainable production. MRC group staff needed training related to issues involved in carbon and water footprint analyses.

A face-to-face, individual-country TES project providing training on water and carbon footprint calculation was implemented by the NPO of Turkiye and TUBITAK MRC in Kocaeli, Turkiye, 20–24 May, with the participation of 20 researchers. Two resource persons from the Netherlands conducted training sessions on life cycle assessment, water footprint calculation, ISO 140464-1 and 14067 standards, life cycle assessment software GaBi and openLCA, and moderated case study exercises for the textile, agrifood, and steel sectors.

Through the technical expertise support provided, MRC researchers can support companies in determining their carbon and water footprint, working on reduction scenarios, and realizing sustainable production to reach the national greenhouse gas and water consumption targets of Turkiye.

23-SN-02-GE-TES-C-VN03

Capacity Building on Environmental, Social, and Governance

ESG has become a strategic framework for organizations globally, helping align their operations with sustainable development, social justice, and good governance. ESG principles balance economic growth, social responsibility, and environmental protection, offering competitive advantages while addressing global challenges such as climate change and the transition to a green economy.

To enhance Vietnam's understanding and adoption of ESG, STAMEQ and the APO Secretariat implemented

a face-to-face TES project on ESG capacity building in Hanoi, Vietnam, 9–13 December. Thirty-four participants from government agencies, academia, associations, and enterprises attended the training course and were guided by two resource persons from the ROC. The training delivered in-depth knowledge of ESG concepts, international standards (e.g., Global Reporting Initiative, Sustainability Accounting Standards Board, Task Force on Climate-related Financial Disclosures, Taskforce on Nature-related Financial Disclosures), key regulations (e.g., the EU Carbon Border Adjustment Mechanism, the Clean Competition Act, the California Senate Bill 253), and best practices from leading companies. In addition to interactive sessions, a site visit to Rang Dong Light Source and Vacuum Flask JSC and group exercises were arranged, providing participants with hands-on experience.

As an export-oriented economy, Vietnam is advancing SDG initiatives such as the National Green Growth Strategy (2021–30) and a commitment to net-zero emissions by 2050. This project offered timely and impactful support to Vietnam following the launch of the APO's GP 2.0 initiative in October. By fostering ESG adoption, the program strengthens Vietnam's pathway to sustainable growth, elevates its global market integration, and enhances its competitiveness in the evolving green economy.

24-SN-02-GE-TES-C-BD01

Training on Six Sigma

The NPO, Bangladesh, regularly conducts development of productivity practitioners to expand their pool of experts specializing in specific productivity tools, techniques, and methodologies. This contributes to multidimensional activities like awareness creation, productivity infrastructure development, and productivity improvement programs. Six Sigma is used by organizations to increase operational efficiency and product and service quality. It employs various quality management methods, using empirical and statistical tools to identify and eliminate waste. NPO officials equipped with Six Sigma expertise can contribute to productivity development in different economic sectors and government enterprises.

A face-to-face training course on Six Sigma was held in Dhaka, Bangladesh, 14–18 July, to enhance the technical capacity of 24 NPO officials. One resource person from India conducted sessions covering Six Sigma fundamentals, statistics, measurement systems, hypothesis testing, process modeling, experiment design, control plans, and software applications.

The program covered enhanced knowledge of Six Sigma methodology; strategizing Six Sigma implementation in various industries; and improved competency of advisory and consultancy services on Six Sigma.

24-SN-02-GE-TES-C-BD02

Training on Sustainable Beekeeping, Marketing, and Quality Control

The beekeeping sector of Bangladesh remains underdeveloped, despite the abundant bee flora, large rural employment opportunities, and immense potential for the local and export market. The key challenges are traditional practices, inadequate quality control, limited access to modern technology, ineffective marketing, and low yields. Introducing modern techniques could boost honey production and exports, contributing to overall national productivity. This TES project aimed to enhance local beekeepers' knowledge and skills on sustainable beekeeping practices.

This face-to-face Training on Sustainable Beekeeping, Marketing, and Quality Control was conducted in Bogura, Bangladesh, 16–20 September, with the participation of 24 beekeepers. One resource person from Turkiye conducted hands-on training on modern beekeeping techniques, including pest and disease control, hive tracking systems, and innovations in honey quality control. Field visits to Kafi Honey Bee Farm, Sherpur, Bogura, and Polly Honey Processing Unit, Rural Development Academy, Sadar, Bogura, provided participants with hands-on experience in applying the techniques learned in the classroom, including honey extraction, storage, and quality control processes.

The key achievements of the training included improved understanding of sustainable beekeeping, pest control, and honey quality control. The participants were also introduced to new technologies like hive tracking, robotics, and sustainable chemicals as well as innovative new approaches like apitherapy and

apitourism. Participants recommended additional workshops on advanced marketing strategies and international standards to better equip local beekeepers for exporting honey. The training also raised awareness of the need for greater involvement of women in beekeeping and the establishment of a centralized bee board to coordinate national efforts. The training supported the APO Vision 2025 goal of sustained productivity growth through the quality of the workforce.

24-SN-02-GE-TES-C-KH01

Training of Auditors and Consultants on Auditing Management Systems

The TES Program was conceived as the primary means of strengthening the institutional capacities of NPOs and stakeholders to address emerging productivity issues and challenges. The NPCC has focused on enhancing productivity and quality by promoting effective auditing practices. These practices are instrumental in evaluating the efficiency of implemented systems, providing valuable feedback, and supporting organizations in achieving continuous improvement.

A face-to-face training course on auditing management systems was hosted by the NPCC from 19 to 30 August in Phnom Penh, Cambodia, with 45 participants from governments, manufacturing, services, and academia. One resource person from Malaysia conducted sessions on auditing concepts, terminology, standards, management, implementation, reporting, follow-ups, and challenges along with thorough group work and site visits to Cambodian Chemical Supply Co., Ltd.; F.N.I.C Co., Ltd.; Leang Leng Enterprise; and Khmer Cold Chain Co., Ltd.

The training course also disseminated knowledge via a seminar on the concepts and practices of auditing management systems as part of the opening session, which was attended by 115 participants. It enhanced the competency of participants and developed a local pool of experts on auditing management. The event supported the APO Vision 2025 goals of sustained productivity growth, inclusive engagement, and shared prosperity through workforce quality, engagement of SMEs, and participation of women.

24-SN-02-GE-TES-C-KH02

Development of Public-sector Productivity Specialists

Cambodia's Pentagonal Strategy, aligned with the Cambodia Vision 2050, emphasizes improved governance and institutional efficiency. With public sector employment at 17% and public administration forming 50% of this workforce, enhancing productivity in government institutions is crucial. The NPCC has been pivotal in driving private sector productivity and seeks to extend the benefits to the public sector by building a cadre of productivity specialists. This initiative aligns with the goal of the TES Program, which aims to strengthen the institutional capacities of NPOs and enhance productivity-related knowledge among professionals.

The TES project Development of Public-sector Productivity Specialists is being implemented in hybrid modality by the APO Secretariat and the NPCC from 3 December 2024 to 31 March 2025. This three-phase project includes skill development training, technical consultancy for public organizations, and a dissemination conference to share achievements and future directions.

The project kicked off on 3 December with a face-to-face, intensive, five-day training program in Phnom Penh, Cambodia, covering characteristics of high performing public organizations, leadership, regulatory reforms, citizen-centered service delivery, tools and approaches for improving organizational productivity, and e-government strategies. Two resource persons, one from Canada and one from the Philippines, contributed to the program and 33 participants attended. Key achievements of this phase included identifying priorities for public sector productivity implementation in Cambodia and facilitating the development of a productivity improvement plan. The second phase of technical consultancy and reviewing progress was implemented online between 18 and 20 February 2025. The final phase of a dissemination conference in Phnom Penh to share the success of the project is planned for March 2025.

24-SN-02-GE-TES-C-KH03

Business Excellence Framework

Cambodia's Pentagonal Strategy, aligned with the Cambodia Vision 2050, has a significant focus on governance reform, institutional strengthening, and private sector capacity building. The NPCC plays a key role in supporting SMEs and larger enterprises in adopting productivity-improvement methodologies. The NPCC envisions promoting the widespread adoption of business excellence initiatives and emphasizes the need for structured implementation to achieve sustainable growth and competitiveness. This effort perfectly aligns with the TES Program, which focuses on building up and expanding pools of productivity practitioners within NPOs and affiliated stakeholders.

The TES project Business Excellence Framework is being implemented in face-to-face modality by the APO Secretariat and the NPCC from 16 December 2024 to 31 March 2025 in Phnom Penh, Cambodia. This three-phase project incorporates skill development training, technical consultancy, and a dissemination conference to share achievements and future directions.

The project was inaugurated on 16 December with a five-day face-to-face training program covering business excellence frameworks, core values, scoring systems, and category criteria such as leadership, strategy, customer focus, operations, and workforce development. Thirty participants from different sectors attended the program, and one resource person from Singapore contributed to the project. Key achievements included the formulation of action plans for business excellence implementation in participants' organizations. Follow-up site visits to selected enterprises for technical assistance took place between 24 and 27 February 2025, and the final dissemination conference is planned for March 2025. The project is expected to establish a pool of business excellence practitioners, drive structured business excellence adoption in the private sector, and contribute to Cambodia's long-term economic development.

24-SN-02-GE-TES-C-TW02

Introduction to Japan's Imported Fruit Market and Preservation Technologies

The strengthening of key institutions to tackle emerging challenges and expand pools of productivity practitioners is essential for enhancing productivity. The TES Program plays a vital role in elevating the capabilities of NPOs and stakeholders by offering customized programs that enhance staff skills and address various productivity challenges. The ROC's fresh fruit industry, particularly that of pineapple, has achieved significant export growth due to strong local R&D on breeding and cultivation. To enhance exports and market presence in Japan, the ROC sought expert collaboration to address fruit defects, refine processing, and adapt to evolving consumer preferences.

The face-to-face conference Introduction to Japan's Imported Fruit Market and Preservation Technologies was hosted by the CPC in Taipei and Tainan, the ROC, 6–8 August. The event attracted 130 participants from government, farming, trade, and cooperatives. One resource person from Japan delivered two keynote speeches, conducted four field visits, and led on-site consultations and discussions.

The conference led to several key achievements, including improved knowledge of global trends, a deeper understanding of Japanese consumer preferences, and hands-on consultation at production and processing sites. The participants gained insights into global climate change impacts, trade liberalization, and marketing strategies for fruit in Japan. Additionally, the presence of robust cold chain facilities in the ROC was recognized as crucial in strengthening agricultural trade partnerships with Japan. The event also supported the APO Vision 2025 goal of promoting smart transformation and sustained productivity growth through capacity building among NPO stakeholders.

24-SN-02-GE-TES-C-TW03

2024 International Conference on Smart Agriculture

The TES Program plays an instrumental role in developing the capabilities of NPOs and stakeholders to address emerging productivity issues through tailored solutions. The ROC's agriculture sector faces challenges that include an aging population, labor shortages, and limited arable land, which are further intensified by

rapid urbanization and climate change. The ROC sought expert collaboration to foster the cross-disciplinary and international exchange of knowledge, smart technological solutions, industry trends, and insights into addressing global food security challenges.

This face-to-face TES project, the 2024 International Conference on Smart Agriculture, was hosted by the CPC in Taipei, the ROC, 10–13 September. The event attracted 204 participants from government, industry, academia, and trade sectors. A resource person from Japan delivered a keynote speech; led two local field visits to Solar Farm Corporation in Yunlin and CH Biotech R&D Co., Ltd., in Nantou; and engaged in on-site consultations and discussions. Participants toured the ninth Taiwan Smart Agriweek exhibition and explored innovative products and services.

Key achievements of the conference included an improved understanding of global trends, strengthened international collaboration, and the showcasing of innovative solutions. Participants gained a deeper understanding of Japan's green food strategy and smart agricultural solutions for addressing socioeconomic issues. The dissemination of national initiatives from Malaysia, Thailand, and the ROC also paved the way for holistic thinking and planning. The event supported the APO Vision 2025 goal of sustained productivity growth by promoting smart transformation.

24-SN-02-GE-TES-C-FJ01

Training on ISO 22000:2018 Food Safety Management Systems for Lead Auditors

The National Training and Productivity Centre, Fiji, has been leading efforts to improve productivity and innovation. However, key challenges remain, including training and retaining certified food safety practitioners in the food manufacturing industry.

To meet international standards, Fiji requires more skilled food safety professionals who can audit food business operations. The solution lies in capacity building, and the ISO 22000:2018 Food Safety Management System Lead Auditor training is essential.

This individual-country TES Training on ISO 22000:2018 Food Safety Management Systems for Lead Auditors was conducted in hybrid modality by the NPO of Fiji and the APO Secretariat in Lautoka and Suva, Fiji, 23–27 September. There were 33 participants from manufacturing, food services (hotels, hospitals, and catering), academia, and the public sector. The program aimed to train participants in auditing processes, ISO 19011 and 22000 principles, foodborne hazards, control measures, and risk-based thinking while improving career prospects and contributing to food safety.

24-SN-02-GE-TES-C-FJ02

Enhancing Public-sector Productivity

Increasing productivity in the public sector can help reduce tax burdens and support fiscal sustainability. The government of Fiji plays a key role in maximizing productivity and widely distributing its benefits because productivity is one of the most practical ways to increase living standards and the quality of public services. The Ministry of Employment, Productivity and Industrial Relations (now the Ministry of Employment, Productivity and Workplace Relations), Fiji, asked for the APO's assistance in sharing knowledge gained on public sector productivity from Singapore and the COE on Public Sector Productivity to enhance productivity in Fiji's public sector and contribute to its socioeconomic development.

A face-to-face TES project on enhancing public sector productivity was held in Suva, Fiji, 2–5 December. The training included sessions led by two resource persons, one from the Philippines and one from Singapore. Forty-two participants from 20 different ministries and state-owned enterprises attended these training and group work sessions. The overall purpose was to introduce the APO framework on public sector productivity and enhance participants' understanding of the key areas for improving public sector productivity.

The main topics included an introduction to public sector productivity; public sector productivity measurement; public-private sector partnerships; citizen-centered services; good regulatory practices; productivity improvement tools, techniques, and methodologies; and best practices for e-governance. A workshop

on preparing action plans was conducted toward the end of the course. The APO and NPO will conduct follow-up visits and maintain collaboration with the COE on Public Sector Productivity, appointing Public Sector Productivity Champions for task forces to drive initiatives across the sector.

24-SN-02-GE-TES-C-ID01

Sustainable Beekeeping Practices for Bee Health and Monitoring

Indonesia strengthened sustainable agriculture and environmental conservation through a beekeeping initiative led by the NPO of Indonesia and the Research Center for Pharmaceutical Ingredients and Traditional Medicine. This program was implemented from 15 to 19 July across several areas of Indonesia's South Kalimantan Province: Banjar Regency, Banjarbaru, and Tanah Laut Regency. It aimed to enhance the knowledge and practices of beekeepers, researchers, and government officials and align them with the national goals of agricultural productivity and sustainability.

Participants observed hive monitoring and bee farming practices, engaged with beekeepers, and discussed management practices and challenges during visits to stingless bee farms in Sultan Adam Grand Forest Park, Banjar Regency; Banjarbaru; Tanah Laut Regency; and Pengaron, Banjar Regency. Guest lectures at Lambung Mangkurat University, Banjarmasin, introduced innovations in beekeeping, including drug design, VR, and robotic systems.

The program covered the international context of beekeeping; the economic value of different honeybee species; the effects of climate change, pesticides, and invasive species on native bees; the role of bees in crop production; the importance of stingless bee products; and the potential of stingless bees as pollinators. Participants learned about good apiculture practices, bee behavior, and modern tracking methods and were given hands-on training in hive management and innovative techniques. They also participated in consultations on potential joint projects.

24-SN-02-GE-TES-C-ID03

National Quality and Productivity Convention

Indonesia is committed to advancing its quality and productivity practices as part of its broader goals of economic growth and competitiveness. In line with this commitment, the National Quality and Productivity Convention, organized by the NPO of Indonesia and the APO, took place in Bali, Indonesia, 3–5 December. This convention served as a vital platform for sharing knowledge and strategies to enhance innovation and productivity across various sectors, contributing to Indonesia's long-term sustainable growth. The convention's objectives were clear: to enhance strategic management capabilities, provide practical training on implementing innovation strategies, and foster a culture of continuous improvement and excellence.

The program opened with a keynote speech by Azim Bin Pawanchik, Managing Director of Alpha Catalyst Consulting Sdn. Bhd., Malaysia, on the theme "embracing innovation in an era of rapid change." This set the tone for the event by emphasizing the critical role of innovation in today's fast-evolving landscape. Indonesia's Minister of Manpower H.E. Professor Yassierli, the APO Secretary-General, and other local government officials also delivered remarks. The second day focused on a management and facilitator forum on innovation strategy led by Azim, where the participants were provided with strategic insights and practical approaches for fostering innovation within their organizations. On the final day, participants took part in a training session on implementing innovation strategies effectively, gaining hands-on experience in useful tools and techniques.

Throughout the event, participants deepened their understanding of innovation strategies and learned how to manage and facilitate innovation within their own organizations. These outcomes aligned with Indonesia's goal of enhancing its quality and productivity culture, further supporting the country's economic development. Looking ahead, the convention aimed to establish a network of professionals skilled in innovation strategies who could drive quality and productivity improvements within their respective sectors. Future activities are expected to include follow-up training, technical assistance, and collaborative projects to further embed innovation into Indonesia's development.

24-SN-02-GE-TES-C-MY01

Enhancing State Productivity in Malaysia

The MPC, in collaboration with the APO, implemented the TES project Enhancing State Productivity in Malaysia, in Kuala Lumpur, Malaysia, 24–26 June. This face-to-face, individual-country initiative aimed to strengthen productivity at the state level by leveraging international best practices, particularly from the UK, and developing actionable strategies tailored to the unique economic conditions of each Malaysian state.

The three-day project engaged representatives from state governments, academia, and productivity networks and was structured around expert-led discussions, interactive panels, and group activities. It began with an analysis of Malaysia's productivity landscape, followed by a case study on successful regional initiatives from the UK. A forum on leveling up state productivity in Malaysia brought expert insights into firm-level challenges and policy directions, and Malaysia's *Productivity Report 2024* was also launched as part of the event. Participants then explored adaptable strategies through interactive discussions and group activities, formulating action plans based on best practices. The final sessions addressed implementation challenges, involved group presentations on state-level strategies and discussions on future collaboration, and reinforced the need for sustained coordination and policy alignment.

Key outcomes of this TES project included the establishment of regional productivity networks, the development of state-specific action plans, and strengthened collaboration among key stakeholders. The initiative is expected to reduce productivity disparities, enhance regional economic competitiveness, and contribute to Malaysia's long-term economic growth. Future steps will focus on sustaining engagement, refining implementation strategies, and advocating supportive policies to drive productivity improvements across states.

24-SN-02-GE-TES-C-MN01

Strategic Rightsizing for Productivity Enhancement in the Mining Industry

Mongolia's economy heavily relies on its rich natural resources, with mining accounting for approximately 25% of the GDP and over 90% of exports. The Erdenet Mining Corporation, a critical state-owned enterprise, generates one-third of the government's budget but faces challenges such as high operational costs and functional inefficiencies. To address these issues, a TES project was designed to support government initiatives aimed at building local capacity, reducing costs, and enhancing productivity. This was achieved by building personnel capacity and developing recommendations.

The hybrid TES project Strategic Rightsizing for Productivity Enhancement in the Mining Industry was conducted in Erdenet, Mongolia, 11 November–2 December, with 58 participants. One resource person from Canada led the sessions, which included lectures, discussions, case study presentations, and recommendations on business improvement systems, functional analysis, rightsizing techniques, and organizational restructuring.

The project's key achievements included capacity building aimed at sustainability, introducing global best practices, identifying the scope of improvements, organizational restructuring aimed at strategic alignment, and effective stakeholder engagement. The project facilitated capacity building of key stakeholders, contributing to the APO Vision 2025 goal of sustained productivity growth through enhancing the quality of the workforce.

24-SN-02-GE-TES-C-MN03

Mongolia National Productivity Forum 2024

The Mongolian National Productivity Forum 2024 was a pivotal initiative organized by the Ministry of Family, Labour and Social Protection (MFLSP); the MPO; and the APO. Held on 17 December in Ulaanbaatar, Mongolia, the forum was inaugurated by H.E. Enkh-Amgalan Luvsantseren, Minister of the MFLSP. It brought together key stakeholders from various sectors to explore and promote productivity principles and strategies. The event aligned with Mongolia's broader economic development goals of enhancing national competitiveness and fostering a culture of continuous improvement.

The forum featured a series of keynote speeches, panel discussions, and award presentations focused on productivity, innovation, and performance-based incentive systems. Notable topics included labor productivity policies, international productivity trends, and the role of stakeholders in the productivity movement. The sessions offered valuable insights from experts, including speakers from the MFLSP, the APO, and prominent private sector representatives. The event culminated with the presentation of the Best Quality Circle Award 2024, marking a celebration of excellence in productivity.

Through this forum, participants gained a deeper understanding of productivity principles and were equipped with the tools to implement effective productivity strategies. By fostering dialogue and sharing best practices, the event contributed significantly to Mongolia's economic growth. The forum also served as a platform for continued collaboration, with the potential for follow-up training sessions and collaborative projects to further enhance productivity across Mongolia. Ultimately, this initiative empowered organizations to drive sustained progress and innovation, advancing the nation's productivity culture.

24-SN-02-GE-TES-C-PK02

Leveraging Artificial Intelligence for Business Innovation and Entrepreneurial Education

Despite a growing digital economy, there are deficiencies in AI literacy, such as the underutilization of AI, among Pakistani youth, particularly in academia, hindering productivity and innovation. Evidence also shows low AI integration in businesses and limited educational programs. Collaborating with local universities could help address these deficiencies by offering AI education.

To tackle this problem, the face-to-face TES project Leveraging Artificial Intelligence for Business Innovation and Entrepreneurial Education was held in Lahore College for Women University (LCWU), Pakistan, 6–17 May, with the participation of 500 university students and staff members. The program aimed to train students and faculty members in AI utilization for entrepreneurship, increase the number of AI-integrated business ventures among trained participants, and establish a sustainable framework for ongoing AI education in partnership with Pakistani universities. It was led by a resource person from Japan.

The program covered the potential of AI, AI for entrepreneurship, financial literacy and AI, hands-on training in AI tools and technologies, leveraging AI in academia, and fostering AI innovation among students. Meetings were held with officials at the Punjab Skill Development Authority and Lahore Chamber of Commerce and Industry, visits were made to business incubation centers of partner universities, programs were recorded for WebTV and the LCWU Podcast to be shared on multiple platforms, and a guided tour was conducted to explore the retail industry and business operations.

24-SN-02-GE-TES-C-PK03

Workshop on Generative AI in Education: Harnessing Technology for Enhanced Learning

Established in 2002, the Virtual University of Pakistan (VUP) offers ICT-based distance education delivered through the internet and free-to-air satellite television broadcasts. In 2020, the VUP applied to the APO COE Program, and upon the expert panel's recommendation, capacity-building activities have been carried out for the reapplication. The primary objective of these activities is to empower the VUP to achieve excellence in its services to share the best practices with APO members. A TES project was designed to acquaint VUP faculty members with the practical applications of generative AI in higher education for designing courses, crafting personalized learning paths, and delivering individualized feedback to foster effective learning outcomes.

The three-day online Workshop on Generative AI in Education was implemented by the NPO, Pakistan, and the VUP, 22–24 July, with the participation of 38 faculty members. The sessions delivered by the Japanese resource person from Chiba Keizai University aimed to equip participants with the skills for integrating AI-driven personalized learning approaches into curriculum design.

The workshop was co-hosted by Allama Iqbal Open University and marked a significant step forward in integrating AI technology into educational frameworks. The program coverage enriched participants' knowledge and understanding of AI's potential in education. The organizers expressed their gratitude to the resource

person for their significant contributions and looked forward to the continued success of the workshop in the second phase after the previous capacity development activity enabled the VUP to become a member of the International Benchmarking Framework Initiative for Digital Learning.

24-SN-02-GE-TES-C-PK04

Workshop on Innovations in Educational Content Development

As part of the initiative to enable the VUP to enhance its service quality and share best practices with APO members, a TES project was implemented to introduce VUP faculty members to the practical uses of generative AI in higher education. The project particularly focused on course design, personalized learning paths, and providing tailored feedback to promote more effective learning outcomes.

A three-day online workshop on innovations in educational content development was implemented by the NPO, Pakistan, and the VUP, 26–28 August, with the participation of 52 faculty members from IT, marketing, quality enhancement, and educational content development departments.

The sessions, delivered by a Japanese resource person from Chiba Keizai University, aimed to equip participants with knowledge of innovative educational technologies, immersive learning with AR and AI as instructional design tools, and advanced techniques for engaging content delivery.

24-SN-02-GE-TES-C-PH01

Developing Evidence-based Service Quality Standards for Public Sector Organizations

The public sector plays a crucial role in socioeconomic development by ensuring efficient service delivery that meets public expectations. While frameworks such as ISO 9001:2015 and the Philippine Quality Award guide quality improvement initiatives, there is a growing need for evidence-based service quality standards to enable consistent progress. In response, a TES project was designed to strengthen institutional capacity and embed quality measures within public sector organizations in the Philippines.

This online TES project, entitled Developing Evidence-based Service Quality Standards for Public Sector Organizations, was implemented on 5 December and 10–12 December 2024, engaging 85 participants from Manila, the Philippines. One resource person from the USA evaluated existing guidelines, delivered expert lectures, and recommended frameworks, tools, and strategies for institutionalizing service quality standards in government services.

The project achieved notable outcomes, including the enhancement of the DAP's service quality guide to align more effectively with government operational requirements, equipping 65 participants with practical knowledge of evidence-based quality standards and educating 20 senior officials on leadership strategies for sustainable service improvement. Participants developed actionable plans to enhance public service delivery and align processes with quality benchmarks. The sessions received excellent feedback on their relevance and effectiveness. The project contributed to capacity building in the NPO of the Philippines and other key stakeholders while also supporting the APO Vision 2025 goal of sustained productivity growth through enhanced quality of the workforce.

24-SN-02-GE-TES-C-PH02

Leveraging Artificial Intelligence for Business Innovation and Entrepreneurial Education

The rapid advancement of AI and machine learning has created new opportunities for business innovation and entrepreneurship. Recognizing the potential of these technologies, the APO, in collaboration with the DAP and the University of the Philippines Institute for Small-Scale Industries, implemented the TES project Leveraging Artificial Intelligence for Business Innovation and Entrepreneurial Education in Quezon City, the Philippines, 22–26 July. This initiative aimed to equip researchers, professional staff of the University of the Philippines Institute for Small-Scale Industries, and young entrepreneurs with foundational AI knowledge, practical skills, and insights into AI-driven business transformation.

This five-day face-to-face project consisted of structured training sessions, hands-on workshops, and group

activities facilitated by an expert resource person from Tech Mahindra, India. The program commenced with an introduction to AI and machine learning. The first day covered AI fundamentals and involved hands-on workshops where participants built machine-learning models using graphical tools. Discussions focused on AI applications in business functions and group activities involved designing AI use cases. The session also addressed AI ethics, security, legal considerations, and emerging trends, concluding with an introduction to the AI project framework. Participants developed AI implementation plans and presented their project outcomes.

The TES project successfully empowered participants with AI knowledge, practical skills, and strategic perspectives. It prepared them to integrate AI solutions into their respective business functions and entrepreneurial ventures, thereby fostering AI-driven innovation in business and entrepreneurship. The initiative is expected to contribute to the broader adoption of AI in small-scale industries, enhance competitiveness, and drive sustainable economic growth in the Philippines.

24-SN-02-GE-TES-C-SG01

Development of Green Productivity Specialist Curriculum

The SGPC has trained and certified more than 120 productivity consultants and helped more than 1,000 enterprises to improve productivity. GP-related programs will help the SGPC to build a pool of GP specialists to help enterprises create new business functions and be greener.

This hybrid project was conducted to develop and curate the GP Specialist Course. It was implemented by the SGPC and included an online workshop, 22–27 April, and a face-to-face training-of-trainers course, 19–22 June, held in Singapore. The project covered GP in the circular economy; GP methodologies, tools, and techniques; and case studies.

In the online workshop, a resource person from the Philippines led discussions on incorporating GP 2.0 into the curriculum, developed the proposed outline, and reviewed the curriculum material. The training-of-trainers course reviewed the GP concept, framework, and strategy from business and market perspectives. The training sessions included GP methodology, system approaches, and quality management systems; new approaches such as the triple planetary crisis, Society 5.0, and the happiness economy; and sector-based policies, programs, and approaches. Case study presentations were also given by participants.

24-SN-02-GE-TES-C-LK01

Consultant Development Program: Leveraging AI Technologies for Smart Manufacturing in SMEs

The TES Program is pivotal in enhancing the capacities of NPOs and stakeholders to tackle emerging productivity challenges with customized solutions. The productivity growth of Sri Lanka's SME sector is constrained by outdated manufacturing practices, high production costs, and limited adoption of advanced technologies. Embracing AI-driven smart manufacturing offers significant opportunities to enhance process efficiency and elevate product quality. A TES project was designed to equip SME consultants and stakeholders with the expertise needed to drive digital transformation and promote the adoption of AI technologies.

This face-to-face TES project, entitled Consultant Development Program: Leveraging AI Technologies for Smart Manufacturing in SMEs, was implemented in Colombo, Sri Lanka, 21–25 October, and attracted 27 SME representatives and government officials. One resource person from the ROC delivered lectures, analyzed case studies, led interactive exercises, and engaged in consultations and discussions.

The project's achievements included the introduction of AI tools and their potential benefits for SMEs in specific industries, such as toys, poultry, apparel, footwear, and coffee production. It enhanced participants' understanding of how such tools can be used to improve operational efficiency while providing an overview of current technological trends and advancements in AI. By facilitating capacity building among NPO staff and stakeholders, the project contributed to the APO Vision 2025 goal of sustained productivity growth, focusing on enhancing quality of the workforce as a key result area.

24-SN-02-GE-TES-C-TH01

Resource Productivity Management Using Resource Efficiency, MFCA, and EcoLean Concepts

The Bio-Circular-Green Economy model, announced in 2021, remains central to the Thailand 4.0 policy, which is a national policy aimed at fostering sustainable industrial growth by integrating resource efficiency, environmental responsibility, and innovation. In the government's efforts to build a national production and consumption system that balances environmental conservation and economic growth, the FTPI intends to expand its initiatives on business sustainability. This initiative aligns with the APO's TES Program, which aids NPOs through tailored, expert-driven training and consultancy.

This TES project on resource efficiency, material flow cost accounting, and EcoLean for resource productivity management was implemented face-to-face by the APO Secretariat and the FTPI from 17 December 2024 to 16 January 2025 in Bangkok. This two-phase project was designed to develop institutional capabilities through skill development and facilitate knowledge transfer to SMEs through on-site guided technical consultancy.

The project was initiated on 17 December with a three-day training program covering GP, life cycle assessment, environmental aspects and impacts, in-plant assessment of selected services, and the manufacturing sector. Two resource persons from Malaysia and Vietnam facilitated and 13 participants attended. The second phase was implemented from 14 to 16 January 2025 and covered SDGs, carbon footprints, net-zero pathways, design for environment, sustainability of GP initiatives, and a review of in-plant assessments. It also included a public seminar disseminating the achievements to SMEs and stakeholders.

24-SN-02-GE-TES-C-TH02

Productivity Curriculum Development for Youth

Thailand's National Strategy 2018–2037 emphasizes harnessing the country's demographic dividend to drive economic growth and national development. With a rapidly evolving labor market and technological advancements, Thailand needs to equip young students with productivity skills to enhance workforce readiness and national competitiveness. Recognizing this, the FTPI collaborated with the APO to impart productivity knowledge to students by enhancing the capacity of educators. The initiative perfectly aligns with the TES Program, which focuses on strengthening the capacity of NPOs and stakeholders.

The implementation of the TES project Productivity Curriculum Development for Youth was planned for 11 July 2024 to 19 March 2025 in hybrid modality. This two-phase project was designed to integrate productivity education into curricula, equipping educators with essential skills to impart to students for their future employment and national productivity growth.

The project was inaugurated on 11 July with a one-day online workshop covering key productivity concepts and tools. It also highlighted successful productivity curricula for an efficient academic and professional life, productivity-related programs for youth in Japan, and the importance of AI and productivity knowledge and skills for youth. One resource person from Japan facilitated and 14 participants attended the workshop. The second phase, a three-day workshop, is scheduled for 17–19 March 2025 in Bangkok and will focus on identifying key gaps in productivity education among Thai students, developing a productivity framework tailored to the Thai education system, integrating AI-driven tools and methodologies for enhanced learning, adapting Japanese productivity techniques such as 5S and kaizen, and creating an instructor manual and structured curriculum for educators.

24-SN-02-GE-TES-C-TR02

Increasing Productivity and Efficiency of the Technology Transfer Office of the Ministry of Agriculture and Forestry of Turkiye (MoAF)

The General Directorate of Agricultural Research and Policies (TAGEM) is Turkiye's largest agricultural research institution, employing 2,056 staff members across 49 institutes. To facilitate the effective transfer of R&D outputs for societal benefit, TAGEM established its Technology Transfer Office (TTO). However, the TTO faces several challenges, including a limited capacity, lack of guidance, insufficient training materials, and expertise gaps regarding IP and plant breeders' rights.

To address these issues and strengthen the TTO's ability to protect rights, support commercialization, and improve agricultural research processes, a face-to-face training event was held in Ankara, Turkiye, 11–15 November. The training, titled Increasing Productivity and Efficiency of the Technology Transfer Office of the Ministry of Agriculture and Forestry of Turkiye (MoAF), was hosted by the Ministry of Agriculture and Forestry and attended by 29 participants from TAGEM, the ministry, and R&D-focused companies. The training was delivered by two resource persons from the UK, who led sessions on IP commercialization, benchmarking, valuation, and practical case studies.

By the end of the training, participants reported increased confidence in identifying and resolving issues specific to their roles. The majority gained a solid understanding of the IP valuation process, with several demonstrating a deeper knowledge of modeling techniques. Additionally, the training inspired TAGEM to develop two new project ideas for 2025, which were directly influenced by the concepts and knowledge shared during this TES project. This event marked a significant step toward enhancing the TTO's capacity and advancing Turkiye's agricultural innovation and technology transfer capabilities.

24-SN-02-GE-TES-C-TR03

Promotion of Productivity and Innovation in Beekeeping

This project focused on enhancing the beekeeping sector in Batman Province, Turkiye, which offers ideal conditions for honey production, including a variety of endemic plants and minimal pesticide use. Despite these advantages, honey production in the region remains well below the national average. This project aimed to address this gap by introducing modern techniques and innovative practices to boost sustainable honey production, thereby contributing to local economic growth and strengthening the beekeeping sector's productivity.

A major activity of the project was the Promotion of Productivity and Innovation in Beekeeping training, which was held in Batman, 21–25 October. This face-to-face training was attended by 94 participants, including Ministry of Agriculture and Forestry officials, personnel from the Batman Provincial Directorate of Agriculture and Forestry, and local beekeepers' associations from the Sason and Kozluk Districts of the province. The program introduced advanced beekeeping techniques and was led by two resource persons, one from the ROK and one from Nepal. They covered areas such as hive management, disease control, marketing, and sustainable growth strategies.

The training and site visits were key to bridging the knowledge gap among local beekeepers, improving their technical skills, and encouraging the adoption of best practices. The project also gained significant attention from the Batman Governor and local media, positioning it as a model for other beekeepers in the region. By enhancing local beekeeping practices, the project aimed to contribute to the overall economic development of the province.

vi. Demonstration Companies

23-SN-04-GE-DMP-C-BD01

Application of Lean Management Systems in the Chemical Industry

Over the past decade, Bangladesh has seen a significant rise in the use of imported chemicals, which accounted for 70% of the demand and 3.5% of the total import value just before the pandemic. The chemical industry faces several challenges, including the absence of a strong legal framework for supervision and chemical inventory management.

This hybrid DMP project on the application of lean management systems in the chemical industry was implemented by the NPO, Bangladesh, and the APO Secretariat from July 2023 to September 2024. The project aimed to establish demonstration companies on adopting lean management systems to improve productivity by reducing costs and waste while enhancing production processes in the chemical industry. Three companies, Bangladesh Insulator & Sanitaryware Factory Ltd., TSP Complex Ltd., and DAP Fertilizer Company Limited, participated in this project under the guidance of a Japanese resource person.

The project successfully introduced lean management concepts and methods to the three companies, including 5S, 4M, the seven wastes, kanban, total productive maintenance, value stream mapping, kaizen, and just-in-time manufacturing, helping them systematically identify and eliminate bottlenecks in their performance. Significant improvements were achieved, including an 18% reduction in rejection rates, a 160% increase in the production rate, and enhanced cooling and dilution efficiency. A hybrid dissemination conference held on 4 September showcased the project's success to approximately 100 participants from ministries, agencies, and SMEs in Bangladesh.

23-SN-04-GE-DMP-C-LK01

Productivity Improvement in Manufacturing SMEs

In Sri Lanka, SMEs are defined as businesses with annual turnover of LKR16 million to LKR750 million. They are crucial to the country's economy, representing 75% of active businesses, generating 45% of employment, and contributing 52% to GDP (ADB, 2018). Despite their importance, many SMEs in Sri Lanka, especially in the manufacturing sector, are struggling with low productivity and quality, compounded by rising costs for fuel, electricity, machinery, and raw materials.

The DMP project Productivity Improvement in Manufacturing SMEs was implemented by the NPS, Sri Lanka, and the APO Secretariat from December 2023 to August 2024 in hybrid modality. Three companies, JAK Plastics (Pvt.) Limited, Kiyota Coffee Company (Pvt.) Limited, and Roo Prabha (Pvt.) Limited, participated in this project under the guidance of a Japanese resource person.

The project helped the three companies identify key factory issues and apply productivity tools like 5S, kaizen, and lean manufacturing, leading to significant improvements. These included reductions in waste, damage, and defect rates; enhancements in product quality; optimized equipment effectiveness; reorganized factory layouts to streamline movement and reduce labor; and market expansion. A dissemination conference held in Colombo on 9 August showcased the project's success to 150 participants from ministries, agencies, and SMEs. The improvements achieved are expected to serve as benchmarks and inspire other SMEs to adopt similar productivity practices.

23-SN-04-GE-DMP-C-PK01

Workplace Environment Management through Lean Manufacturing in the Surgical Instruments Industry

Pakistan's surgical instrument sector, which mainly consists of SMEs, is a vital export industry, contributing 0.13% to the national GDP and 0.7% of the global market, and providing employment for approximately 550,000 workers. Despite its significance, the industry faces productivity challenges, including a low rate of technology adoption, inadequate workforce training, high input costs, and health and safety risks, which are the result of labor-intensive and conventional production methods. Addressing these issues is crucial for the industry's sustainable growth, global competitiveness, and improved workplace conditions.

To address these challenges, the Workplace Environment Management through Lean Manufacturing in the Surgical Instruments Industry DMP project was implemented by the NPO, Pakistan, and the APO Secretariat from July 2023 to October 2024 in hybrid modality. It aimed to establish model companies demonstrating productivity and environmental improvements through lean manufacturing. Five companies participated in the project: Chaplet International (Pvt.) Limited, Ekal Surgical Works, Nurikon International (Pvt.) Limited, Rhein Enterprises (Pvt.) Limited, and Surgikare Manufacturing Company. They were guided by six resource persons: five from Japan and one from the NPO, Pakistan.

By introducing lean manufacturing principles and methods and sharing Japanese experiences and practices, the project has had multiple remarkable impacts on participating companies, notably a reduction of rework rates from 40% to 10%, a reduction of material wastage for some processes to as low as 0%, a 73% improvement in time efficiency, and an annual cost reduction of more than USD540,000. Additionally, enhanced practices and measures in microdust control, digital data management, and optimized factory layouts have contributed to safer, more efficient operation and a safer workplace. A dissemination conference held on 31 October in Sialkot, Pakistan, attracted 55 participants from SMEs, associations, and other industry stakeholders to share

project insights and promote lean manufacturing benefits across the industry.

24-SN-04-GE-DMP-C-TR01

Productivity Improvement through AI Application in Carbon Accounting and Emission Management

Turkiye was the world's 17th largest carbon emitter in 2021 and has high vulnerability to climate impacts. To address this, significant efforts have been made by the government, including the ratification of the Paris Agreement and the commitment to achieve net-zero emissions by 2053. Achieving this target requires effective carbon accounting and emission management. However, compliance is complex due to numerous standards, regulations, and frameworks at various levels. To streamline the process, the adoption of advanced technologies, particularly AI-driven solutions, has become essential.

To support this transition, the Productivity Improvement through AI Application in Carbon Accounting and Emission Management DMP project is being implemented by the APO Secretariat and the Ministry of Industry and Technology, Turkiye, since July 2024 in hybrid modality. With the participation of Reengen Enerji Teknolojileri A.S. as a demonstration company and a resource person from Germany, the project aims to establish a role model for leveraging AI to enhance carbon accounting, ensure regulatory compliance, optimize carbon footprints, and improve sustainability and productivity.

Since the kick-off meeting on 24 September, the project has progressed through two face-to-face visits and multiple online meetings to support the development of a multiagent AI framework for carbon accounting and decarbonization management. It will culminate in a dissemination conference in April 2025 to share key outputs and best practices. Furthermore, a publication will be produced to document the demonstration company's productivity journey and advocate for AI-driven carbon accounting and emission management solutions.

vii. Vision 2025 Outreach Program

24-SN-07-GE-VSN-C

APO Vision 2025 Outreach (VSN)

The APO Vision 2025 aims to achieve "inclusive, innovation-led productivity growth in the Asia-Pacific" with specific goals, key result areas, and deliverables. These are translated into APO program areas and annual project lineups to ensure alignment with the vision's strategic direction.

Launched in 2022, the APO Vision 2025 Outreach (VSN) Program provides financial support of up to USD25,000 per year to each APO member for promotional activities under two biennial themes: (1) Innovations for Higher Quality (2022–23) and (2) Inclusive Productivity (2024–25). The program has helped APO members proactively promote the vision, engaging stakeholders and reinforcing the significance and relevance of productivity across the region.

By 31 December, 10 of 16 participating members had completed their VSN activities with notable outcomes. Thirty-one public events were implemented with the engagement of 57 resource persons and 5,022 participants. A key highlight was the surge in the number of promotional materials, which comprised 43,634 videos, animations, brochures, posters, and flyers and 1,550 publications on various topics related to inclusive productivity, including SME development and productivity for youth. This underscores the strong commitment of APO members to promoting the APO Vision 2025 and its central themes to wider stakeholders through meaningful activities.

viii. APO Award Program

23-SN-08-GE-AWD-C

APO National Awards (AWD)

The APO Award Program was established to honor individuals with outstanding contributions to productivity at national and regional levels. The program has enhanced the APO's visibility as a leading international organization promoting productivity. In 2021, the award procedures and conditions were revised to increase recognition within and beyond member economies. The revisions included the introduction of annual national awards, with administration handled by NPOs. These changes were made to reinforce the role of NPOs as key institutions for productivity promotion and enhancement.

Each NPO was responsible for managing the APO National Awards 2023, including announcing them, forming selection panels, shortlisting and selecting recipients, organizing conferment ceremonies, and promoting the events nationwide. Each NPO could select up to two recipients annually in the following categories: the APO National Award for Productivity Advocates (policy, strategic thinking, leadership, and management) and the APO National Award for Productivity Technical Experts (methodology, tools, and techniques). The APO Secretariat continued to provide technical and financial assistance for the preparation and conferment of the awards upon request from NPOs.

The APO National Awards 2023 were carried forward into 2024, with the NPOs of Cambodia, Fiji, I.R. Iran, and Pakistan conferring awards on a total of seven distinguished recipients.

24-SN-08-GE-AWD-C

APO National Awards (AWD)

A productivity champion is an individual who serves as both a practitioner and leader, acting as a role model in the pursuit of excellence. The APO Award Program was established to recognize those individuals and honor their outstanding contributions to productivity at national and regional levels. Moreover, the program has enhanced the APO's visibility as a leading international organization promoting productivity. Since 2021, the administration of national awards by NPOs has reinforced their role as key institutions for productivity promotion and enhancement in their economies.

Each NPO was responsible for managing the APO National Awards 2024, including announcing them, forming selection panels, shortlisting and selecting recipients, organizing conferment ceremonies, and promoting the events nationwide. Each NPO could select up to two recipients annually in the following categories: the APO National Award for Productivity Advocates (policy, strategic thinking, leadership, and management) and the APO National Award for Productivity Technical Experts (methodology, tools, and techniques). The APO Secretariat continued to provide technical and financial assistance for the preparation and conferment of the awards upon request from NPOs.

In 2024, the APO National Award was conferred by the NPOs of I.R. Iran and Malaysia to a total of three recipients. The 2024 award cycle will continue into 2025, with additional conferment expected from other interested APO members.

APPENDIX 3

ABBREVIATIONS AND ACRONYMS

5S	*Seiri*, *seiton*, *seiso*, *seiketsu*, and *shitsuke* (sort, straighten, shine, standardize, and sustain)
ADB	Asian Development Bank
APO	Asian Productivity Organization
APO-AB	APO Accreditation Body
APO-GPS	APO Green Productivity Specialist
APO-PS	APO Productivity Specialist
ASEAN	Association of Southeast Asian Nations
AWD	APO Award Program
BCN	Bilateral Cooperation between National Productivity Organizations
CB	Certification body
CBD	Certification body development
COE	Center of excellence
COP21	21st Conference of the Parties to the United Nations Framework Convention on Climate Change (2015 UN Climate Change Conference, Paris)
COP28	28th Conference of the Parties to the United Nations Framework Convention on Climate Change (2023 UN Climate Change Conference, United Arab Emirates)
COVID-19	Coronavirus disease 2019
CPC	China Productivity Center
CSA	Climate-smart agriculture
DAP	Development Academy of the Philippines
DLN	Digital Learning Program
DMP	Development of Demonstration Companies
EIP	Eco-industrial Park
ERIA	Economic Research Institute for ASEAN and East Asia
ESG	Environmental, social, and governance
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FTPI	Thailand Productivity Institute
FTPI-PC	Thailand Productivity Institute Center of Professional Certification
GB	Governing Body
GBM	Session of the Governing Body (Governing Body Meeting)
GDP	Gross domestic product
GP	Green Productivity
GPA	Green Productivity Advisory
GRP	Good regulatory practices
ICT	Information and communication technology
ILO	International Labour Organization
INSEAD	European Institute of Business Administration
IOSM	Individual-country observational study mission
IoT	Internet of Things
IP	Intellectual property
ISO	International Organization for Standardization
JEED	Japan Organization for Employment of the Elderly, Persons with Disabilities and Job Seekers
JPC	Japan Productivity Center
KPC	Korea Productivity Center

LNPO	Lao National Productivity Organization
M&E	Monitoring and evaluation
MAFF	Ministry of Agriculture, Forestry and Fisheries, Japan
MOFA	Ministry of Foreign Affairs, Japan
MOU	Memorandum of understanding
MPC	Malaysia Productivity Corporation
MPO	Mongolian Productivity Organization
MRC	Marmara Research Center
MSMEs	Micro, small, and medium enterprises
NARO	National Agriculture and Food Research Organization, Japan
NPC	National Productivity Council, India
NPCC	National Productivity Centre of Cambodia
NPO	National productivity organization; National Productivity Organisation, Bangladesh; National Productivity Organisation, I.R. Iran; National Productivity Organization, Pakistan
NPS	National Productivity Secretariat, Sri Lanka
OECD	Organisation for Economic Co-operation and Development
OSM	Observational study mission
PLWS	Productivity-linked wage system
P-Talk	Productivity Talk
PWD	Person with disability
R&D	Research and development
ROC	Republic of China
ROK	Republic of Korea
SDGs	Sustainable Development Goals
SEP	Sufficiency economy philosophy
SG NPO-CB	Singapore National Productivity Organization Certification Body
SGPC	Singapore Productivity Centre
SMEs	Small and medium-sized enterprises
SNP	Specific National Program
STAMEQ	Commission for Standards, Metrology and Quality, Vietnam
TAGEM	General Directorate of Agricultural Research and Policies, Turkiye
TUBITAK	Scientific and Technological Research Council of Turkiye
TES	Technical Expert Services
TFP	Total factor productivity
TWG	Technical working group
UAV	Unmanned aerial vehicle
UK	United Kingdom
UN	United Nations
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNIDO	United Nations Industrial Development Organization
USA	United States of America
ViProCB	Vietnam Productivity Specialist Certification Body
VNPI	Vietnam National Productivity Institute
VSN	APO Vision 2025 Outreach
VUP	Virtual University of Pakistan
WEF	World Economic Forum
WSM	Workshop Meeting of Heads of National Productivity Organizations

ANNUAL REPORT
2024

ISBN: 978-92-833-2529-1 (print)
ISBN: 978-92-833-2530-7 (PDF format)