



ANNUAL REPORT 2017

SHAPING OUR FUTURE





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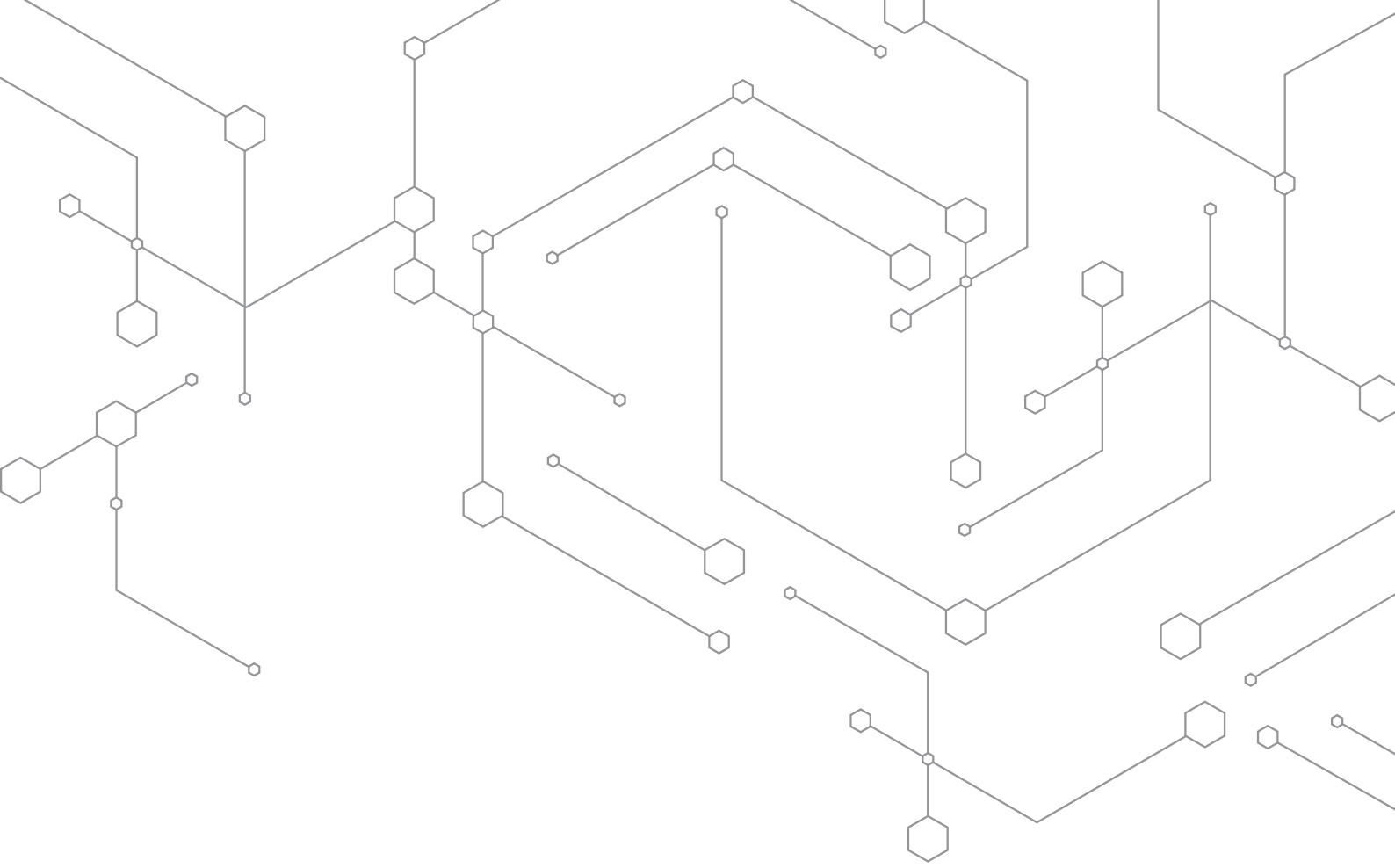
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The APO Secretariat thanks the NPOs for providing updates on their directory information and some of the project-related images used in this report.

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**Abbreviations
and Acronyms**

APO DIRECTORS, ALTERNATE DIRECTORS, NPO HEADS, AND LIAISON OFFICERS*



APO Chair

Chew Mok Lee
APO Director for Singapore

APO First Vice Chair

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APO Director for Sri Lanka

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Dr. Pasu Loharjun
APO Director for Thailand

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Secretary, Ministry of Industries

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Cambodia

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Hong Kong

Director

Not designated

Alternate Director

Not designated

Liaison Officer

Not designated

NPO Head

Not designated

India

Director

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Industry, Government of India*

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*Director General,
National Productivity Council*

Liaison Officer

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National Productivity Council*

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*Director General of Training and Productivity,
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Alternate Director

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NPO Head

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Director & NPO Head

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Kazutaka Maeda
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Director & NPO Head

Somdy Inmyxai
*Director General, Lao National Productivity
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Industry and Commerce*

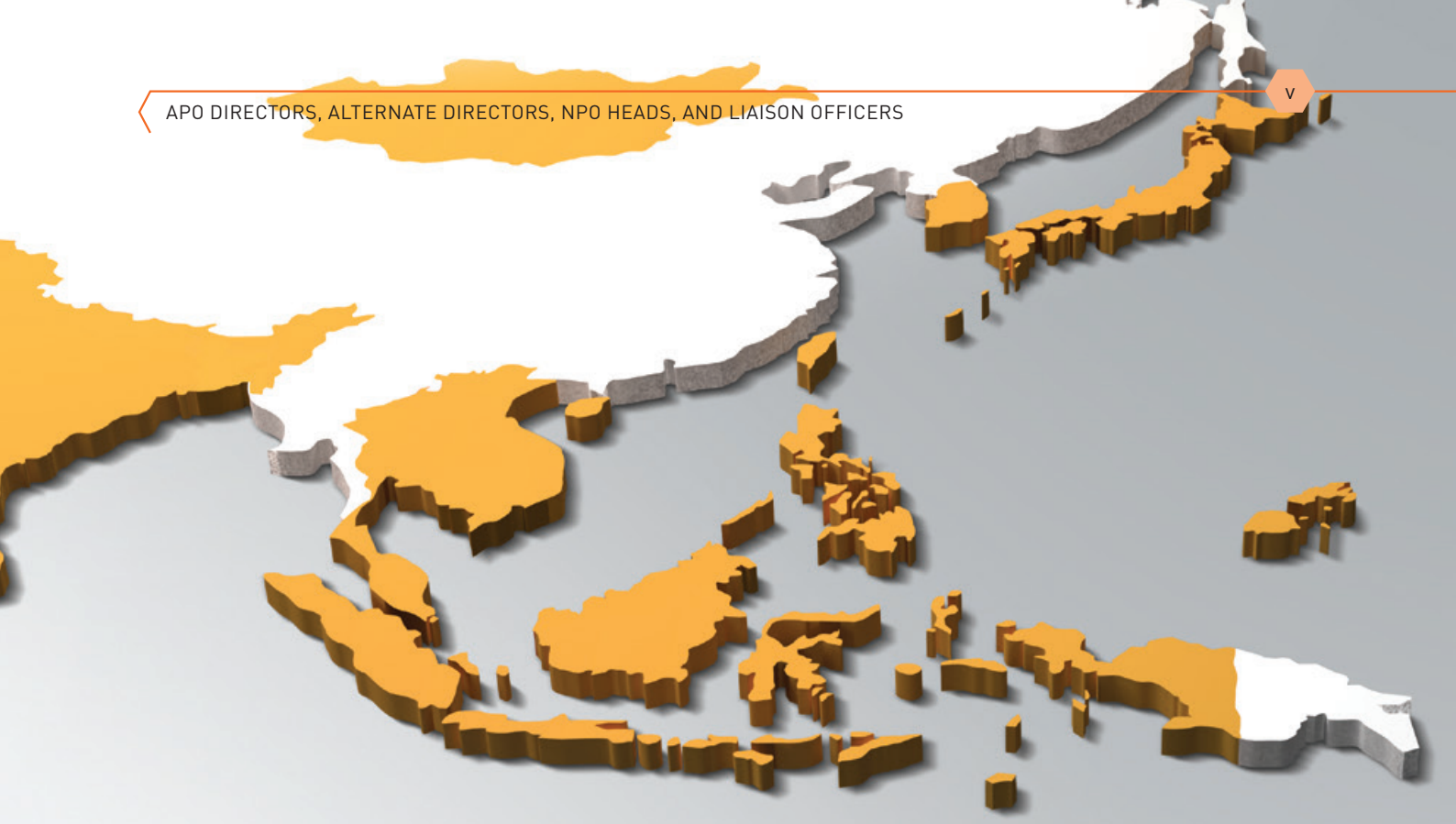
Alternate Director

Sa Siriphong
*Deputy Director General, Lao National
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Ministry of Industry and Commerce*

Liaison Officer

Vilakone Philomlack
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of Small and Medium Enterprise Promotion,
Ministry of Industry and Commerce*





Malaysia

Director

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Chairman, Malaysia Productivity Corporation

Alternate Director

Mohd. Razali Hussain
Director General, Malaysia Productivity Corporation

Liaison Officer

Khidzir Ahmad
Consultant, Malaysia Productivity Corporation

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Director

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Director

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NPO Head

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Undersecretary for Regional Development Office, National Economic and Development Authority

Alternate Director & NPO Head

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Officer-in-Charge, Development Academy of the Philippines

Liaison Officer

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Director & NPO Head

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Assistant Chief Executive, Capabilities & Partnership, SPRING Singapore

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Liaison Officer

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Director

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Secretary, Ministry of Public Administration and Management

Alternate Director & NPO Head

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Additional Secretary, Ministry of Public Administration and Management

NPO Head & Liaison Officer

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Thailand

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Liaison Officer

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Director

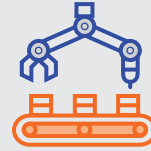
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Project Assistant

Shoko Kinoshita
Project Assistant

[*] As of 31 December 2017



FOREWORD

2017 continued to be another year of rapid technology advances. These have not only been changing the business environment dramatically but also upstaging the fundamentals of products and services; some of them have fallen by the wayside, while others have started to feel the heat. The emergence of the gig economy and the changing geopolitical situation, particularly the “look-inward” approach adopted by global leaders, are also threatening to impact APO member economies.

While the APO has done extremely well over more than half a century, catalyzing national productivity movements and equipping generations of productivity champions and practitioners, the pace at which technologies and business models has started to change is unprecedented. It is a challenge as well as an opportunity for APO member countries to rethink how we can act with agility, adapt proactively, and shape the future to meet national productivity agenda goals.

Against that background, we at the APO decided to take some major initiatives toward promoting sustainable productivity-enhancing policies and serving as a platform for sharing information, experiences, and best practices to enable member countries to adopt the technology-driven economy. The Secretariat also started to put in place processes and programs that can help it advise economies on how to strengthen the governance of institutions devoted to enhancing sustainable productivity and for improving the design and implementation of productivity policies, while considering specific national contexts.

In 2017, the Secretariat reviewed the progress of the Roadmap to Achieve the APO Vision 2020. The roadmap and its strategies are a living document and guiding force that should continue to evolve along with the global environment and explicitly recognize possible areas for improvement. The time has come for a new model of member country engagement, one that strengthens and deepens communication among member governments, national productivity organizations (NPOs), the Secretariat, and the sectors we want to make more productive.

Member country engagement has been for too long focused on structured annual meetings. If engagement is to be meaningful and productive, it needs to be a year-round conversation about improving the value of the APO to key stakeholders. We should recognize this and embrace our responsibilities to deliver extraordinary outcomes to them.

For this reason, the Secretariat introduced various new initiatives such as the Strategic Planning Workshop organized between the Governing Body Meeting (GBM) and Workshop Meeting of Heads of NPOs (WSM) to involve national strategic planners on a more informal basis. In 2017, the Secretariat built up its internal capacity for strategic planning, including strategic foresight, which is critical to shaping future-ready national policies for member economies. We also organized a workshop on Results-oriented Monitoring and Evaluation of Capacity Development Programs and Projects as part of the initiative to enhance the capacity of NPOs in member countries.

In 2017, the Secretariat developed the Specific National Program (SNP). The objective of the SNP is to enable member countries to embark on more impactful national initiatives. We are shifting our approach to working with individual NPOs to address their specific needs through the SNP.

While the *Annual Report 2017* details key initiatives and achievements, I would like to highlight a few projects and activities that reflect the revised strategy and thought process at the Secretariat,



“
The time has come for a new model of member country engagement, one that strengthens and deepens communication among member governments, national productivity organizations (NPOs), the Secretariat, and the sectors we want to make more productive.”



as mandated by the GBM and WSM. Under the Industry 4.0 Program, we initiated research to develop a roadmap that will prepare member countries to embrace Industry 4.0 through a step-by-step approach, evaluating the level of readiness and providing hands-on experience.

As part of that initiative, the Center of Excellence (COE) on IT for Industry 4.0 was launched in India in June 2017. That new COE leverages India's strengths in ICT, which is disrupting manufacturing value chains.

Under the Special Cash Grant Program on Energy Conservation funded by the Ministry of Economy, Trade and Industry of Japan, the APO supported demonstration projects in Bangladesh, Mongolia, Nepal, Pakistan, and Sri Lanka. All the projects were highly successful and achieved double-digit percentage reductions in energy usage.

Another noteworthy initiative taken up by the Secretariat in 2017 was the advisory program to help the Government of Pakistan design a national framework for productivity, quality, and innovation. The program helped Pakistan reinvigorate its productivity movement and align it with the long-term national development agenda.

Assisting member governments in the formulation of national productivity policies will be accorded higher priority. Given the volatile, complex environment that member countries face, the APO launched its Strategic Future Platform to build foresight capabilities in member countries to navigate the uncertain global environment and sustain productivity growth. The year also saw the Secretariat set up a Futures Team to strengthen its capability in using artificial intelligence to identify emerging global trends and driving forces. The team will also work toward providing powerful narratives on how the future might unfold in ways relevant to the mission of the APO.

During the year, the Secretariat launched a mobile version of its digital-learning eAPO platform. We intend to expand e-learning initiatives with massive open online courses to provide even better learning experiences for member countries.

Agriculture remains the economic mainstay in a majority of APO member countries, accounting for one-third of employment in Asia. In 2017, the APO implemented almost 50 projects aimed at boosting agricultural productivity through capital deepening by introducing future-proof smart technologies in farming, food processing, and food safety and quality management systems. However, tackling agricultural productivity alone is not enough.

To address the food security requirements of growing populations, technological solutions must be tested and introduced to produce more food from fewer resources. The APO has started a new Future Food Program aimed at finding food alternatives as well as introducing the next generation of food systems to the Asia-Pacific. This will be the cornerstone of future agriculture initiatives.

I am happy to report that the changes visualized since 2016 are gaining momentum. The APO is adjusting course, adapting, and shaping its role to meet the requirements of the plausible future world. I am confident that by working together, we can shape the impossible.



DR. SANTHI KANOKTANAPORN

APO Secretary-General

Tokyo, June 2018



ORGANIZATION

The Asian Productivity Organization (APO) was established on 11 May 1961 as a regional intergovernmental organization. The APO is nonpolitical, nonprofit, and nondiscriminatory.

Strategic Directions



Strengthen NPOs and promote the development of SMEs and communities



Catalyze innovation-led productivity growth



Promote Green Productivity

From 1990 to 2010, APO programs and projects were based on the five thrust areas of knowledge management, Green Productivity, strengthening of SMEs, integrated community development, and development of NPOs. Three strategic directions replaced them for the 2011 to 2020 decade:

1 ▶ Strengthen NPOs and promote the development of SMEs and communities

NPOs need to be strengthened to lead national productivity initiatives, and SMEs play a crucial role in all economies. The APO aims to support NPOs to develop competency centers and improve the productivity of targeted segments of SMEs and communities.

2 ▶ Catalyze innovation-led productivity growth

Productivity improvement includes both increased efficiency and innovation-led gains that increase the quality of products and delivery of services. The APO aims to strengthen management skills through proven knowledge management tools,

improve productivity in the service and public sectors, and promote business collaboration among member economies.

3 ▶ Promote Green Productivity

The APO will work with member countries to promote green technologies, create demand for green products and services, green manufacturing and service-sector supply chains, and promote sustainable practices in agriculture.

Membership

APO membership is open to countries in Asia and the Pacific which are members of the United Nations Economic and Social Commission for Asia and the Pacific. Current membership comprises 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, and Vietnam. These countries pledge to assist each other in their productivity drives in a spirit of mutual cooperation by sharing knowledge, information, and experience.

Mission



Contribute to the sustainable socioeconomic development of Asia and the Pacific through enhancing productivity

Vision



To be the leading international organization on productivity enhancement, enabling APO economies to be more productive and competitive by 2020

Structure

The APO structure comprises the Governing Body, NPOs, and the Secretariat headquartered in Tokyo.

Governing Body

The Governing Body is the supreme organ of the APO. It comprises one government-appointed Director from each member. The Governing Body meets annually to receive the Secretary-General's annual report and the auditor's financial report; determine the APO budget, policies, strategies, directions, and membership; approve the two-year plan and annual programs; lay down guidelines for the ensuing fiscal year's program; and approve the budget and financial guidelines.

NPOs and Workshop Meeting of Heads of NPOs

Each member government designates a national body to be its NPO. NPOs are usually entrusted with spearheading the productivity movement in each country. They also serve as the official liaison bodies with the Secretariat and coordinate APO projects hosted by their governments. Each year, the APO organizes a Workshop Meeting of Heads of NPOs (WSM) to evaluate the previous year's projects, undertake strategic planning, and formulate the two-year plan and detailed program for the next year. The WSM assumes the role of program planning for two years and presents the plans to the Governing Body Meeting

(GBM) for the decision on budget size. It also deliberates on productivity issues, guidelines for future programs, and emerging needs of member countries.

Secretariat

The Secretariat is the executive arm of the APO. Headed by the Secretary-General, four departments, comprised of Administration and Finance, Research and Planning, Industry, and Agriculture, work side by side in carrying out the decisions and policy directives of the Governing Body. In collaboration with NPOs and other partners, it plans the biennial program and implements projects. The Secretariat also undertakes joint programs with other international organizations, governments, and private institutions for the benefit of its members.

Types of Activities

The general feature of APO activities is to provide practical training through a combination of: 1) lectures by experts; 2) field visits to factories, farms, and facilities for observation of actual applications; and 3) country reports by participants for the sharing of experiences. APO projects are intended to be as immediately useful and applicable to participants as possible. The participants are expected to create multiplier effects by disseminating their newly acquired knowledge and understanding to others in their home countries.



1
As a
THINK TANK,
 the APO conducts research on emerging needs of members for their follow-up and for determining appropriate assistance to them.



2
As a
CATALYST,
 the APO promotes bilateral and multilateral alliances among members and between them and others outside the APO region for collaboration in productivity-related activities for mutual benefit.

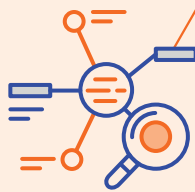


20
Member
Countries

How
the APO
helps?



3
As a
REGIONAL ADVISER,
 the APO surveys the economic and development policies and performance of each member country and assists in formulating strategies for achieving enhanced productivity and competitiveness.

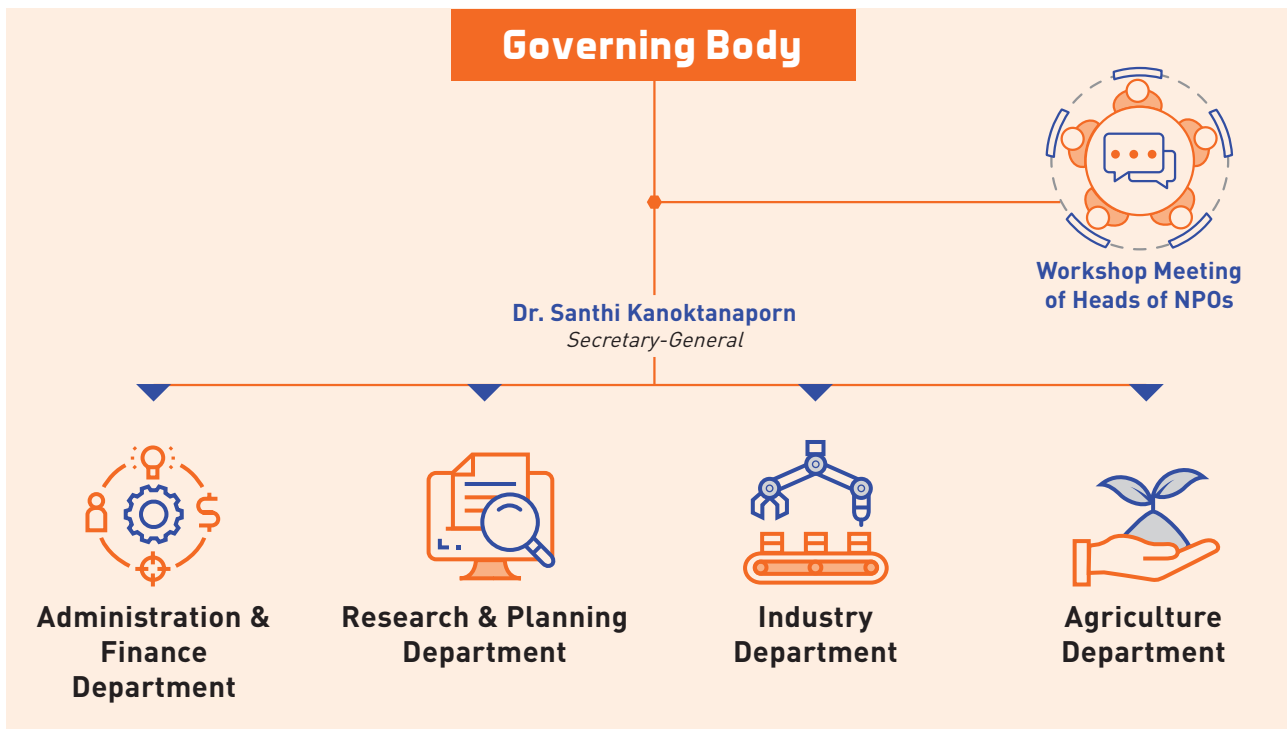


5
As a
CLEARINGHOUSE
FOR PRODUCTIVITY
INFORMATION,
 the APO facilitates the dissemination and exchange of information on productivity among its members.



4
As an
INSTITUTION BUILDER,
 the APO strengthens the capability of the national productivity organizations (NPOs) and other institutions to provide productivity promotion, training, and consultancy services to the public and private sectors.





APO activities target a diverse group of productivity stakeholders. The various types of approach or methodology employed in organizing them are:



Training courses

Impart information and practical skills based on an established body of knowledge following a structured curriculum to improve competency and performance.



Research

In-depth study requiring the collection and analysis of data to address specific productivity-related issues.



Conferences

Share or disseminate new knowledge, best practices, and research findings in a field, subject, or topic.



Forums

Share views and knowledge on current and emerging productivity-related issues, their implications, and potential solutions.



Observational Study Missions

Provide opportunities to learn based on direct observations of applications of best practices, innovations, and advanced technologies.



Workshops

Discuss, share knowledge on, and explore emerging topics related to productivity tools, techniques, methodologies, and issues for making relevant recommendations and/or developing action plans to energize the productivity community.



Technical Expert Services

Consultation services to member countries by assigning experts to cater to the specific needs of NPOs. Experts conduct training, consultancy, or national programs.



Development of Demonstration Companies/Organizations

A program to establish model projects to improve productivity in factories, companies, and organizations and then disseminate best practices to others.



Bilateral Cooperation Between NPOs

Provides opportunities for productivity professionals, high-level officials, or policymakers from NPOs or related organizations in one member country to visit one or more other NPOs, organizations, or enterprises for mutual learning and collaboration.



Institutional Strengthening of NPOs

Consists of two mutually dependent components: DON Strategy to determine the needs of member countries; and DON Implementation to translate the results of DON Strategy into training programs that meet those specific needs.



e-Learning Programs

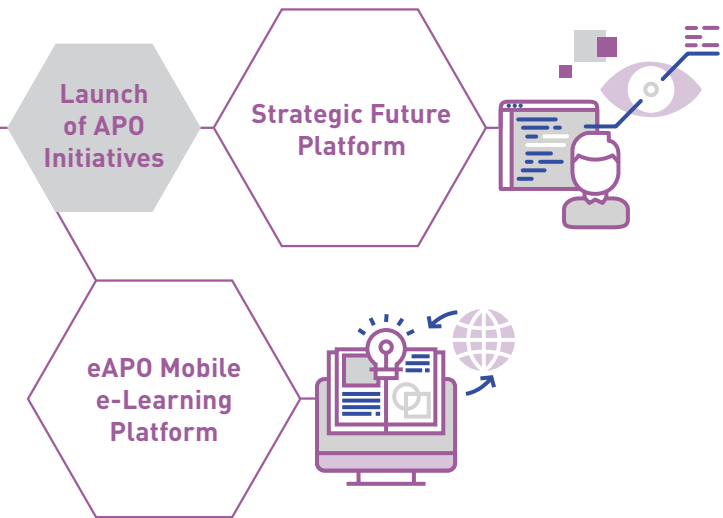
Courses carried out using web-based or videoconferencing facilities.



| 59TH GBM
| 58TH WSM

CH
— 01

59TH SESSION OF THE APO GOVERNING BODY



The 59th Governing Body Meeting (GBM) of the APO was held 10–12 April 2017 in Tehran, IR Iran, against the backdrop of an ongoing global digital transformation. The first GBM to be convened under Secretary-General Dr. Santhi Kanoktanaporn was attended by APO Directors, Alternate Directors, and Advisers from 19 member countries as well as by observers from two partner organizations, the UN Food and Agriculture Organization (FAO) and Pan African Productivity Association (PAPA) and representatives from the Ministry of Science, Industry and Technology of the Republic of Turkey. The three-day annual meeting also witnessed the launch of two key strategic APO initiatives: the eAPO mobile e-learning platform; and Strategic Future Platform.

APO Director for IR Iran Dr. Roya Tabatabaei Yazdi delivered the welcome remarks, and APO Chair Dr. Elba S. Cruz presented the opening address. Vice President and Head of the Administrative and Recruitment Organization Jamshid Ansari of the Government of IR Iran presided over the Inaugural Session as the guest of honor. The heads of delegations to the meeting were introduced by APO Secretary-General Dr. Santhi.

The APO Chair is assigned on rotational basis by member economy in alphabetical order as decided by the GBM in 2002 and practiced

since 2003, beginning with Bangladesh. Thus, under this system, the 59th GBM elected APO Director for Singapore Chew Mok Lee as APO Chair for 2017–2018, with APO Director for Sri Lanka Javigodage Jayadewa Rathnasiri and APO Director for Thailand Dr. Somchai Harnhirun assuming the position of First and Second Vice Chair, respectively.

Annual Report of the Secretary-General
Secretary-General Dr. Santhi welcomed APO Directors, Advisers, and observers to the 59th GBM and expressed appreciation to the Government of IR Iran for hosting it. He also extended his gratitude for the delegates' support and confidence in him as the APO's 11th Secretary-General.

Reporting on various initiatives and projects, the Secretary-General stated that the level of APO activities had increased significantly over the past three years, up from 170 projects in 2014 to around 200 in 2016. The number of participants had increased by 50% in the same period. The Secretary-General highlighted major initiatives and activities in 2016 such as the research on higher education, an outcome document produced by the International Asia Enviro Economics Conference that supported the UN Sustainable Development Goals and the Paris Agreement on climate change, and the workshop on MSME development policies in collaboration with UNESCAP. He also mentioned the study mission to Switzerland



on regional innovation strategies, the Eco-products International Fair 2016 in Bangkok focusing on “24-Hour Eco-Life,” and the launch of the Asian Economy and Productivity Map, an online open data initiative to share outcomes of the *APO Productivity Databook* research project. In addition, the APO had organized a training course in Medellín in collaboration with Colombia’s Centre of Science and Technology of Antioquia.

Secretary-General Dr. Santhi informed the GBM that in view of the enormous political and economic uncertainties, the Secretariat had adopted a much-needed new approach and outlined plans for a digital transformation of the APO so that it could quickly embrace global changes and transcend the expectations of member countries. He pointed out that digitization and advanced technologies, such as advanced automation, robotics, the Internet of Things, and unmanned services, would have significant impacts on the manufacturing, agriculture, and service sectors in the future. In a world dominated by advanced technologies such as deep learning and artificial intelligence (AI), the APO needed to focus on strategic opportunities and threats driven by technologies and help member countries to address issues of future jobs and continuous productivity growth.

The Secretary-General referred to the consensus reached at the 2016 Workshop Meeting of Heads of NPOs (WSM) that the APO should focus on developing inclusive, innovative, future-oriented smart initiatives

aligned with member countries’ national development plans. He reported that, in response, the Secretariat had undergone internal strategic planning exercises, revisited member countries’ national development plans, identified trends that were shaping the world, and focused on strategic areas that could contribute to the Roadmap to Achieve the APO Vision 2020. He stated that the Secretariat would repeat such exercises every year to be up to date and responsive to the needs of member countries and the changing environment.

Based on the results of such exercises, Secretary-General Dr. Santhi believed that sustainable productivity would be the way forward, to which the key lay in the ability to shape the environment to take advantage of shifting markets and risks created by them. He thanked the Governing Body for approving the APO Sustainable Productivity Summit, which would be a signature event held biannually to promote and reinforce the message of sustainable productivity. Through this event, the APO aimed to expose high-level policymakers in member countries to trends so that appropriate action agendas could be developed with joint forces.

Pointing out that the massive productivity growth gap between the most productive firms and the laggards had been created by different levels of access to technologies, the Secretary-General said that the APO needed to assist member countries by seeking out new knowledge and technological trends, learning

(Below L-R)

Vice President and Head of the Administrative Organization of IR Iran HE Jamshid Ansari giving the inaugural address.

Outgoing APO Chair Dr. Elba S. Cruz of the Philippines presenting the opening address.

APO Director for IR Iran Dr. Roya Tabatabaei Yazdi delivering welcome remarks.





59th GBM delegates.

from effective productivity-enhancing policies, and finding better approaches or business models to diffuse knowledge to SMEs.

To be able to provide such assistance, the Secretary-General noted that the APO would need to build up its strategic foresight capacity that could strengthen its roles as a regional adviser and think tank to help member countries address complex issues that cut across multiple domains. For both policymakers and enterprises, long-term planning and scenario-planning tools needed to be developed to detect opportunities and threats emerging in the future.

During the 59th GBM, Secretary-General Dr. Santhi announced a number of initiatives that could strengthen the capacities of individuals and NPOs in member countries, including the eAPO, co-creating training contents with member countries, and professional certification programs that could build up the skills and capacities of practitioners in the fields of productivity management, strategic foresight, and advanced strategic planning.

He also emphasized that the Secretariat would continue to discuss with member countries ways to improve its current work, such as finding more cost-effective approaches and adopting new business models for future projects. Those included converting basic training courses to mobile-learning courses, focusing on face-to-face training in advanced

productivity areas such as Industry 4.0 and digitization, and providing training in model factories to equip participants with deeper insights into digital methodologies.

Similar efforts would also be made in agriculture projects, where pilot technology-intensive agriculture and food projects, such as vertical farms, precision farming, and urban farming in smart cities, would be developed in collaboration with individual member countries. To ensure the effectiveness of those initiatives and projects, the Secretary-General urged NPOs to work with the Secretariat in follow-up activities after project implementation.

Secretary-General Dr. Santhi expressed sincere gratitude to the Governments of the ROC, Japan, and ROK for providing cash grants that had enabled the APO to implement additional projects, especially the generous grants from the Government of Japan that had increased the APO's operating budget for the next three years by some 25% annually.

Launch of the eAPO mobile platform

The APO Secretariat launched its new mobile learning platform, the eAPO, at the GBM in the presence of Secretary-General Dr. Santhi, APO Director Dr. Yazdi, and outgoing Chair Dr. Cruz. The eAPO is an updated version of the self-e-learning platform. With new features, enhancements, and more contemporary design, the eAPO was developed to train productivity professionals to reach the goals of the Roadmap to Achieve the APO Vision 2020.



A video demonstrating the features of the eAPO was shown to delegates and guests. It enables users to access the portal through multiple devices including smartphones, tablets, or computers from the APO homepage. Once users register, they can track their progress and results via the dashboard and communicate with other trainees and experts. After passing examinations, users can easily download certificates. The Secretariat was planning to launch webinar-type training modules through the platform soon.

APO Strategic Future Platform

With the aim of building up valuable foresight planning capability in member countries and NPOs, the APO Secretariat unveiled its Strategic Future Platform. Elaborating on the need for such a platform, the Secretary-General stated that the challenges faced by member countries in sustaining productivity growth in an uncertain global environment were very real and might also be very different depending on their context. He highlighted that the Secretariat would study the country papers, utilize the new Strategic Future Platform to understand the driving forces behind emerging trends, and discuss them with Liaison Officers and Planning Directors at the next Strategic Planning Workshop in Tokyo before presenting them at the WSM in Seoul. After the WSM, the Secretariat would revise the budget for 2018 by modifying current projects and introducing new efforts to address future needs in the context of each member country.

The Chair invited all delegates to give suggestions to the APO on working toward the implementation of sustainable productivity. The varied development stages and economic structures of member economies made a single roadmap for all member countries challenging. The active involvement of member countries through NPOs was deemed crucial in creating such a roadmap.

During the session, the APO Strategic Future Platform was launched by the APO Chair. The web-based platform aims to strengthen the capability for strategic planning including foresight and scenario planning by integrating AI and sound analytics in its systems. In initiating innovation adoption across different sectors and industries that were important and relevant to the socioeconomic and technological progress of member countries, the new platform would provide the APO with general information on the past and present. It would also help identify driving forces and enable the Secretariat to take informed decisions and views on long-term developments in the region.

The GBM approved the proposal by the NPC of India to establish the APO Center of Excellence (COE) on IT for Industry 4.0. The COE would focus on aspects relevant to SMEs. The Secretariat was requested by the GBM to monitor and review the performance of all COE and report on them annually.

APO Directors also shared their views on sustainable productivity. Delegates from





New Chair and Vice Chairs for 2017 to 2018: (L-R) APO Director for Thailand Dr. Somchai Harnhirun as Second Vice Chair, APO Director for Sri Lanka Javigodage Jayadewa Rathnasiri as First Vice Chair, APO Director for Singapore Chew Mok Lee as Chair, and APO Secretary-General Dr. Santhi Kanoktanaporn.

Bangladesh, Cambodia, the ROC, Fiji, India, Indonesia, IR Iran, Japan, ROK, Lao PDR, Malaysia, Mongolia, Nepal, Pakistan, Philippines, Sri Lanka, Singapore, Thailand, and Vietnam made presentations.

Summarizing the presentations by the delegates, the APO Chair listed the various challenges and opportunities that member countries should address in achieving sustainable productivity growth in terms of people, technology, and sustainability. First, in terms of the people aspect, member countries should enhance education and skill levels and tackle specific demographic and structural challenges of the workforce such as unemployment, aging workforces, falling birthrates, mismatch of skills, etc. Second, with regard to technologies, delegates shared their views that they would need to enable the industry, service, agriculture, and public sectors to become more productive so that they could provide higher value-adding services. For other aspects of technology, some members commented that they should improve productivity by enhancing the capabilities of SMEs through various forms of automation, digitization, and Industry 4.0. In terms of sustainability, delegates identified various

areas to be addressed such as strengthening of governance and productivity initiatives, building the right infrastructure, availability of suitable financing, and fostering inclusive growth as well as sustainable environmental resources development.

APO Chair Chew Mok Lee said that delegates had requested the Secretariat to: 1) initiate knowledge education and skill training; 2) provide consulting and advisory services; and 3) develop frameworks for measurement and benchmarking as well as for facilitating collaborative platforms and raising the profile of the APO as a leader in the field of productivity. The Chair suggested that the Secretariat should take into consideration the views and feedback of the delegates and develop specific initiatives and programs to tackle challenges faced by member countries.

In delivering the closing remarks, Secretary-General Dr. Santhi thanked the Directors and delegates for a highly successful GBM. After expressing appreciation to the representatives of the FAO, PAPA, and the Government of Turkey for attending the GBM as observers and for the statements of the latter two, the Secretary-General gave assurances that the Secretariat would follow up with them after the meeting.



58TH WORKSHOP MEETING OF HEADS OF NPOs



Delegates to the 58th WSM.

The 58th Workshop Meeting of Heads of NPOs (WSM) was held in Seoul, ROK, 24–26 October 2017. It was attended by 33 NPO and Agriculture delegates and 17 advisers representing APO members along with observers from the Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP) and Romanian Ministry of Business, Commerce and Entrepreneurship and Ministry of Regional Development. ROK Deputy Minister for Industrial Policy Dr. Gunsu Park, Ministry of Trade, Industry and Energy, delivered the inaugural address. KPC Chairman and CEO Dr. Soon Jick Hong presented the welcome remarks, while the

vote of thanks was made by APO Alternate Director for Indonesia Kunjung Masehat.

Statement by the APO Secretary-General
Secretary-General Dr. Santhi Kanoktanaporn stated that it was a great honor for him to attend the distinguished gathering of Heads of NPOs and Agriculture delegates. He expressed gratitude to the Government of the ROK for hosting the WSM and thanked the guest of honor, Deputy Minister Dr. Gunsu Park, for attending. The Secretary-General also thanked APO Director for the ROK Dr. Soon Jick Hong for hosting the meeting and the warm hospitality extended to delegates.

**(Above left)**

ROK Deputy Minister for Industrial Policy, Ministry of Trade, Industry and Energy Dr. Gunsu Park delivering the inaugural address.

Reiterating that the priority for the Secretariat was to ensure that the organization remained on track to achieve the goals of the Roadmap to Achieve the APO Vision 2020, the Secretary-General said that although it had done “a marvelous job” for more than half a century, with dramatic advances in technology shaping the economy of the future, there was a need to rethink how it could shape the national productivity agendas of member countries.

(Above right)

(L-R) APO Secretary-General Dr. Santhi Kanoktanaporn, ROK Deputy Minister for Industrial Policy, Ministry of Trade, Industry and Energy Dr. Gunsu Park, and KPC Chairman and APO Director for the ROK Dr. Soon Jick Hong at the inaugural session of the 58th WSM in Seoul, ROK, 24 October 2017.

He pointed out that the advantage of the two-year budget cycle was that it allowed member countries sufficient time to secure funds to host projects relevant to their own development plans. However, it should be noted that it could take between two to three years from the time a project was endorsed by the WSM until it was finally implemented. Therefore, the Secretariat had invited senior planners to the Strategic Planning Workshop (SPW) in July to exchange frank views. The SPW was intended to involve NPOs at an early stage of the planning process before the WSM so that each country’s inputs could be factored into the design of the program plan.

The Secretary-General stated that a new program development methodology had been presented at the SPW with the aim of developing projects jointly with NPOs. He explained that those projects must be aligned with the Roadmap 2020 and meet the current and future needs and expectations of member countries. Delegates at the SPW also strongly urged the APO to transform quickly within the next five years into a forward-looking, globally connected, smart organization of the future to lead member countries.

Dr. Santhi touched upon the challenges in the agriculture sector. Agriculture remained an important part of the economy for the majority of member countries. By 2030, the world population was projected to grow by another one billion, with about 40% of the growth in Asia alone. He mentioned that the APO would continue to play a key role in leveraging technology to boost agricultural productivity with new technologies such as future food development.

The Secretary-General noted that some APO members had requested the continuation of basic productivity programs. He explained that the eAPO had been developed to meet the demand for easy access to the APO’s online courses. Most of the basic productivity programs would be converted to online courses. He said that the Secretariat was aiming to implement 36 new courses by the end of 2020. The Secretariat had also taken initiatives to co-create programs aimed at addressing the specific developmental needs of member countries.

As other countries had requested the APO to do more to deepen the impact of its programs within member countries so that they could explain to their governments the benefits that APO membership brought to justify the resources contributed to its activities, the Secretary-General emphasized that the selection of participants was one of the most important factors determining the outcomes of projects. He requested NPOs to play their part by nominating the best candidates for each project.



Secretary-General Dr. Santhi reiterated the importance of follow-up actions and urged NPOs to provide resources for them. To deepen the impact of APO projects in individual countries, member governments should also allocate additional resources to follow through on projects to achieve the desired outcomes. He said that the Secretariat had also committed to developing new technical competencies to lead member countries in the fields that mattered most in the pursuit of productivity improvement. He announced that from 2018 the Secretariat would refrain from sending staff to member countries for the sole purpose of administering projects and sought understanding and cooperation from member countries on this.

Stressing the need for the APO to accelerate its adoption of digital technologies to overcome resource constraints, Dr. Santhi informed the WSM that the Secretariat had laid cloud foundations to connect the APO, NPOs, and other stakeholders through digital platforms. This would leverage networks to create pull strategies by attracting more participants through innovative new services and access to common resources. He reported that the Secretariat had launched the APO LinkedIn, Instagram, and SlideShare platforms to strengthen its social media presence through a content-based strategy. He also mentioned

that the website would be enhanced with publications in interactive digital formats.

The Secretary-General pledged that the APO would continue efforts to promote its activities among nonmember countries including the Republic of Turkey and Colombia. Colombia's 1st Eco Products and Eco Services Latin American Fair 2017 in Medellín in early October had been modeled on the Eco-products International Fairs of the APO.

Expressing appreciation to the Governments of the ROC and Japan for special cash grants, the Secretary-General noted that those had enabled the APO to organize projects benefiting several member countries as well as a mission to Japan for senior government officials and business leaders from Myanmar to network with APO member countries, a study mission to Japan on the importance of women in the workforce, and a study mission on Public-private-academia Partnerships.

Dr. Santhi touched on the uncertainties surrounding disruptions to member economies from new emerging technologies. In response to such concerns, the Secretariat had set up a Futures Team to strengthen its capability in using artificial intelligence to detect emerging global trends. The team



2017 SPW delegates.

was working to build the strategic foresight capacity of the Secretariat and member countries and had developed scenarios of how digital technologies would affect labor productivity by 2025. He pointed out that the destruction of old jobs and the creation of new ones had been a constant since the beginning of the Industrial Revolution and the birth of the modern economy. However, the key drivers of change had to be understood well before the trends developed.

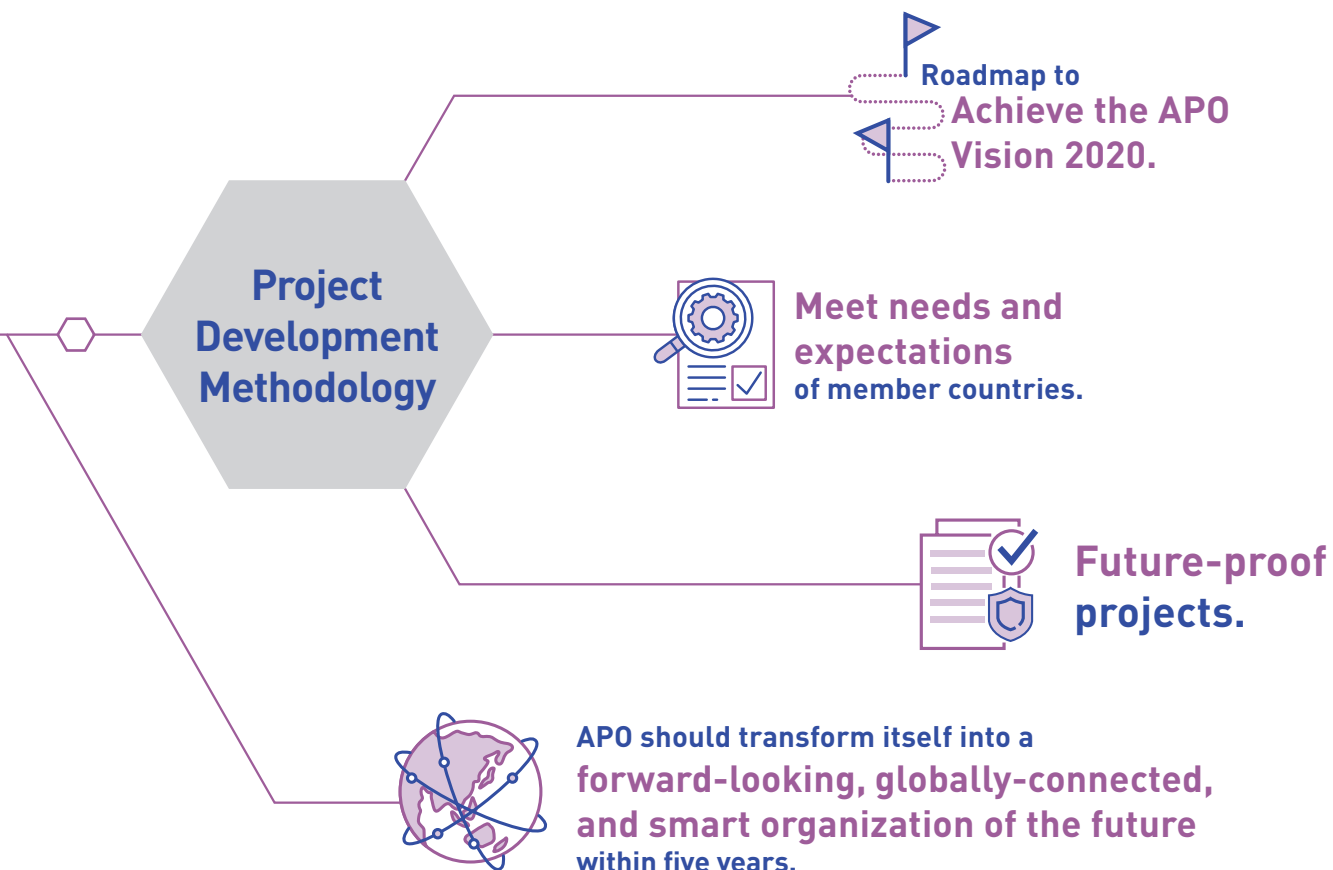
The Productivity Databook and Database project had been appreciated by stakeholders over the past 10 years, he continued. The project had steadily expanded in scope to cover total factor productivity and productivity at the city level. The APO would strengthen its capabilities by embarking on research on the Sustainable Productivity Index that would better reflect the actual outcomes of economic activities and productivity growth, he reported.

The 58th WSM was to reconfirm 2018 projects and discuss the proposed projects for 2019 and 2020, and the Secretary-General told delegates that the 2018 lineup featured 90

projects including 73 multicountry ones. For the new 2019–2020 biennium, 74 and 69 projects were proposed for 2019 and 2020, respectively, for member countries' endorsement. Finally, the Secretary-General thanked all NPO and Agriculture delegates for their continuous support. He again expressed appreciation to the Government of the ROK and KPC for their hospitality and generosity in hosting the WSM.

Global Conference

The 58th WSM was followed by a global conference on The 4th Industrial Revolution and the Future of Productivity, organized by the KPC to mark its 60th anniversary. It was attended by more than 400 participants, including WSM delegates and executives from corporations like Amazon, Microsoft, NVIDIA, Samsung, and Fifth Era who shared perspectives on how technology was driving change and innovation. The speakers also described business strategies and solutions that could be used by both large and smaller companies in the transition to the Industry 4.0 era to harness innovative trends and succeed in the economy of the future.

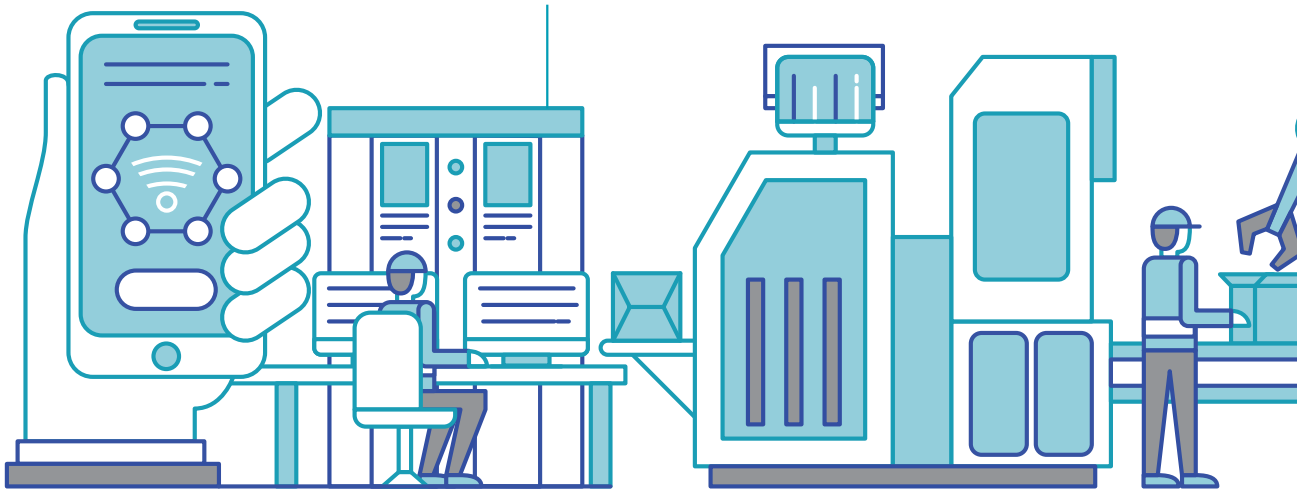


ACTIVITY REPORT

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— 02

SMART INDUSTRY

Making industries smarter, more innovative, and more competitive by equipping them with the latest knowledge and techniques of Industry 4.0.



The manufacturing sector has been a major driving force of socioeconomic development in APO member countries, providing employment, developing human resources, fostering SMEs, and supporting exports, industrialization, and innovation. It is now evolving at an unprecedentedly rapid pace because of technological advances, the Internet, and more integrated value chains in the era of Industry 4.0.

APO members, which play critical roles in global supply chains, thus face great opportunities for higher productivity growth but also significant challenges resulting from widening technology and knowledge gaps and rising inequalities. The APO is attempting to prepare them for Industry 4.0 so that they can develop awareness, resilience, capabilities, and excellence at this critical turning point.

During 2017, one of the key focus areas of the Secretariat was making industries smarter, more innovative, and more competitive by equipping them with the latest knowledge and techniques of Industry 4.0, characterized by digitization and the interconnection of humans, machines, products, services, and value chains. Initiatives by the Secretariat

during the year also involved upgrading technological capabilities and closing gaps while transforming the workforce. The ICT-led Fourth Industrial Revolution provides unique ways to level the playing field through leapfrogging to the front line of development with the benefits of increased productivity, reduced waste, and more sustainable patterns of production and consumption.

Driving Industry 4.0

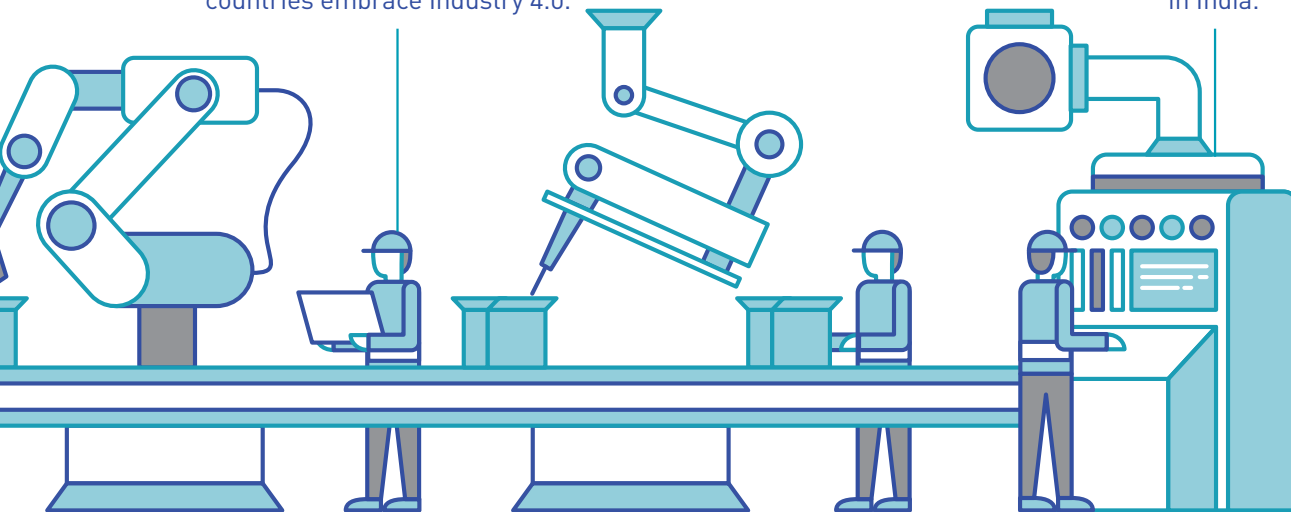
With APO technical assistance, conferences on Industry 4.0 and new technologies were held in the ROC and Cambodia; customized expert services were provided to IR Iran and Thailand; a study mission on Industry 4.0 applications was conducted in Japan; and bilateral collaborations on Industry 4.0 policy study and benchmarking were organized in the ROK and Malaysia. The Secretariat also initiated research projects and workshops to assist all APO members to embrace Industry 4.0 through a step-by-step approach, for example, by developing a roadmap for Industry 4.0, evaluating the level of readiness, and providing hands-on experience in applying Industry 4.0 concepts and practices.

During the year, the NPC, India was designated as the Center of Excellence (COE) on



Initiated research projects and workshops to assist APO member countries embrace Industry 4.0.

Launched the Center of Excellence on Information Technology for Industry 4.0 in India.



Information Technology for Industry 4.0, which was launched in New Delhi in June. Through this COE, member countries joined forces with the NPC to conduct a workshop to develop a roadmap to reach the stage of Industry 4.0; a multicountry research project on digitization strategies for SMEs also commenced involving national experts from the ROC, India, Indonesia, Malaysia, and Vietnam. India's strengths in manufacturing and IT will be leveraged to disseminate the knowledge, strategies, and good practices of digitization, innovation, and entrepreneurship to all APO members, enabling them to pursue transformation and excellence in this revolution.

Excellence in Manufacturing

The Secretariat also worked during the year to enhance the resilience of SMEs, promote sustainable, environment-friendly productivity growth, and thus achieve sustainable development through multiple projects. Following the workshop on Material Flow Cost Accounting (MFCA) held in Dhaka in March 2017, a participant from Bangladesh proposed applying the concept and techniques to the leather sector in his country, a strategically important but traditionally highly polluting sector, with the objective of enhancing the value and productivity of the industry by reducing

and making use of waste by-products. An MOU between the NPO of Bangladesh and SR Asia Bangladesh, an NGO dedicated to social responsibility and founded by APO alumni, was signed for collaboration on that project.

The NPO of Bangladesh also submitted a proposal for an APO demonstration company project, which was approved for implementation in ECM Footwear and Kushum Koli Footwear to localize the applications of MFCA. With the support of the APO expert, the NPO, and SR Asia, the two demonstration companies are expected to improve their manufacturing processes and waste management and disseminate their experience to other companies in Bangladesh to achieve sustainable leather production.

A participant from Trilogi Business Incubator, Indonesia, utilized the ideas and inspiration gained from the APO study mission on Innovation and Competitiveness in SMEs held in Seoul in June 2017 by initiating several activities to raise awareness of innovation and support Indonesian entrepreneurs, startups, and SMEs. His team published a book on incubation and innovation and promoted the importance of incubating potential startups in local media, including *Tech in*

Smart Industry



Driving the Fourth Industrial Revolution



Excellence in Manufacturing



Energy Management and Efficiency

Asia, TeknoJurnal, JawaPos, and EduNews. Incubation programs were offered for 20 new startups (up from nine from the previous year) targeting different phases of business development. In addition, he set up the creative hub Code Margonda in Depok, southern Jakarta, and collaborated with Hivos, a human development agency from the Netherlands, and the Bank of Indonesia to provide more incubation programs that support innovations in sustainable food, renewable energy, and financial technology.

With the assistance of the APO Technical Expert Service, the FTPI conducted a workshop on Industry 4.0 to familiarize Thai businesses and organizations with the essence of this new wave of industrialization. Following that workshop, Siriraj Hospital, the largest in Thailand, combined the learning with that from the APO study mission on Lean and Advanced Technology in Healthcare Services held in the USA in June 2017 and started its APO-sponsored demonstration company project on applying an integrated information system to healthcare services. This follow-up project is expected to improve healthcare information flows, hospital service quality, and the overall welfare of patients and medical service professionals.

Three Cambodian companies in food processing and chemical product manufacturing also started a quality improvement journey in 2017 with the assistance of the APO Development of Demonstration Companies Program. In close collaboration with the NPCC and an APO-assigned expert, they established quality management systems incorporating solutions for greater customer satisfaction, better product quality, and preparation for risks. After the year-long project, the three

companies made additional efforts to meet the requirements of ISO 9001:2015 and all were certified. Some also went the extra mile to obtain HACCP and GMP certifications. With this successful experience, the NPCC is ready to disseminate the know-how developed from this project to other Cambodian businesses to enhance manufacturing capacity and quality.

Promoting Energy Management and Efficiency

The APO has been working to increase understanding of advanced energy technologies and promote energy management and efficiency. Under the Special Cash Grant Program on Energy Conservation funded by the Ministry of Economy, Trade and Industry of Japan, the APO has organized Development of Demonstration Companies on Energy Conservation projects to build the capacity for increased energy efficiency and conservation in Bangladesh, Mongolia, Nepal, Pakistan, and Sri Lanka since August 2015. The establishment of demonstration companies not only disseminates techniques for energy conservation to individual companies but also encourages similar efforts by SMEs and public- and private-sector organizations throughout the country so that the benefits can be shared nationwide.

The demonstration companies in Mongolia and Sri Lanka concluded their projects in February and April 2017, respectively. As a result, the three companies in Mongolia achieved an approximately 10% energy conservation rate; the demonstration company in Sri Lanka achieved 18% energy savings, significantly over its initial target of 5%.

Multiplier effects were seen at the national level. The Mongolian government enacted the Energy Conservation Law in December 2016, which requires designated large energy consumers to conduct energy audits and take appropriate conservation measures. The trainers trained through this project were appointed as energy managers and have acquired sufficient technical knowledge to conduct further activities on their own. In addition, Pakistan's government prepared a legal framework and announced the new Energy Conservation Law in July 2016, which sets energy conservation guidelines and calls for ecolabeling; it will come into force later.

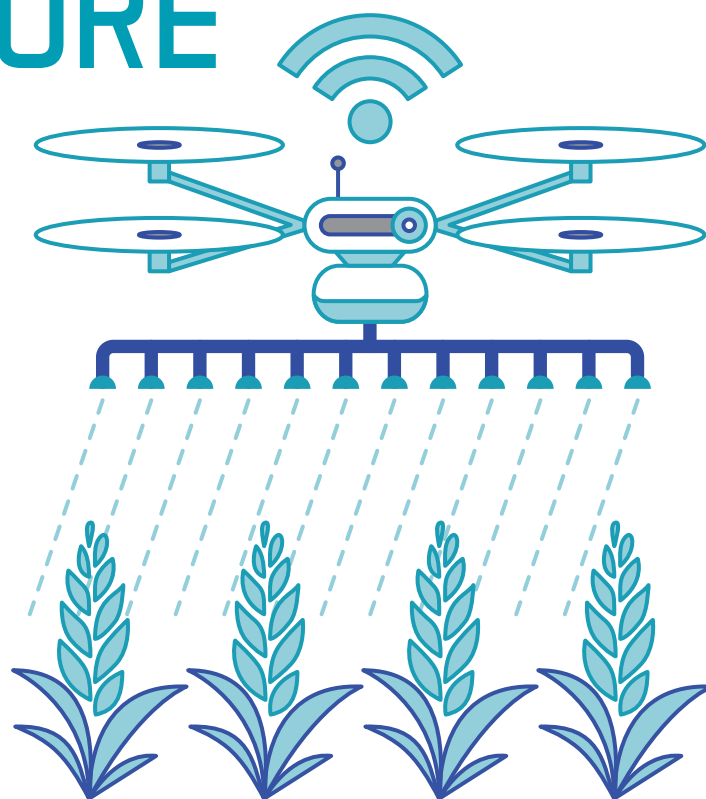


SMART AGRICULTURE

Although the share of agriculture in the GDP of Asian countries has steadily declined, it still plays important roles in overall economic growth and poverty reduction. Agriculture continues to provide employment in rural areas, especially for women; supply raw materials for agribusiness and the food industry; reduce hunger and poverty; and enhance national food security. It also provides social and environmental services. However, the sector faces multiple challenges in the 21st century.

By 2050, agriculture must feed about 10 billion people. It will also need to produce more feedstock for a huge bioenergy market. Enhancing national food security remains a top policy goal for most APO member governments. However, land and water for agriculture will become increasingly scarce. Labor shortages in rural areas, rapidly aging farming communities, and lack of interest of youth in farming as a profession threaten the sustainability of productive agriculture in many countries. The looming negative impacts of climate change will only aggravate the situation. How can agriculture still feed about 10 billion people in 2050 without overwhelming the planet?

There is an urgent need to transform current systems to promote sustainable productivity in agriculture. That transformation will require new multipronged strategies, innovative approaches, more efficient and sustainable production models, advanced technologies, and reductions in food losses and waste. Building climate change-resilient agriculture and exploring new sources of food will be critical.



During 2017, the APO continued to play a key role in leveraging technology to boost agricultural productivity and enhance the performance of agribusiness and food enterprises. Its Smart Agriculture Program focused on advanced farming technology, modern agribusiness models, advanced food-processing and -manufacturing technologies, and state-of-the-art food safety and quality management systems. The program also focused on successful rural community development strategies and future food. These will contribute to sustainable productivity in agriculture and food security; enhance farm, agribusiness, and food-industry SME competitiveness; and foster inclusive rural development in member countries.

The APO's Smart Agriculture Program projects are grouped under three subprograms: Future Food Systems; Advanced Agricultural Management; and Rural and Inclusive Development.

Future Food Systems

Demand for food will continue to increase in the foreseeable future due to expanding populations. Changes in dietary patterns will also be significant as economic development leads to more caloric and meat consumption. The provision of safe, high-quality food remains a major challenge in developing Asian countries, however. Traditional production methods and existing food products cannot meet the requirements of societies with increasing proportions of the elderly, changes to healthier lifestyles among the general population, and the need to feed more people with shrinking resources.

Promoting new multifaceted strategies to make existing food production systems and enterprises more sustainable while exploring future food sources is critical. The APO's Future Food System subprogram aims at enhancing the productivity and competitiveness of food-industry SMEs in member countries by disseminating smart management skills, modern food-processing and -manufacturing technologies, state-of-the-art quality and safety management systems, smart value chain models, and applications of digital technology in food-industry SMEs, as well as exploring potential future food.

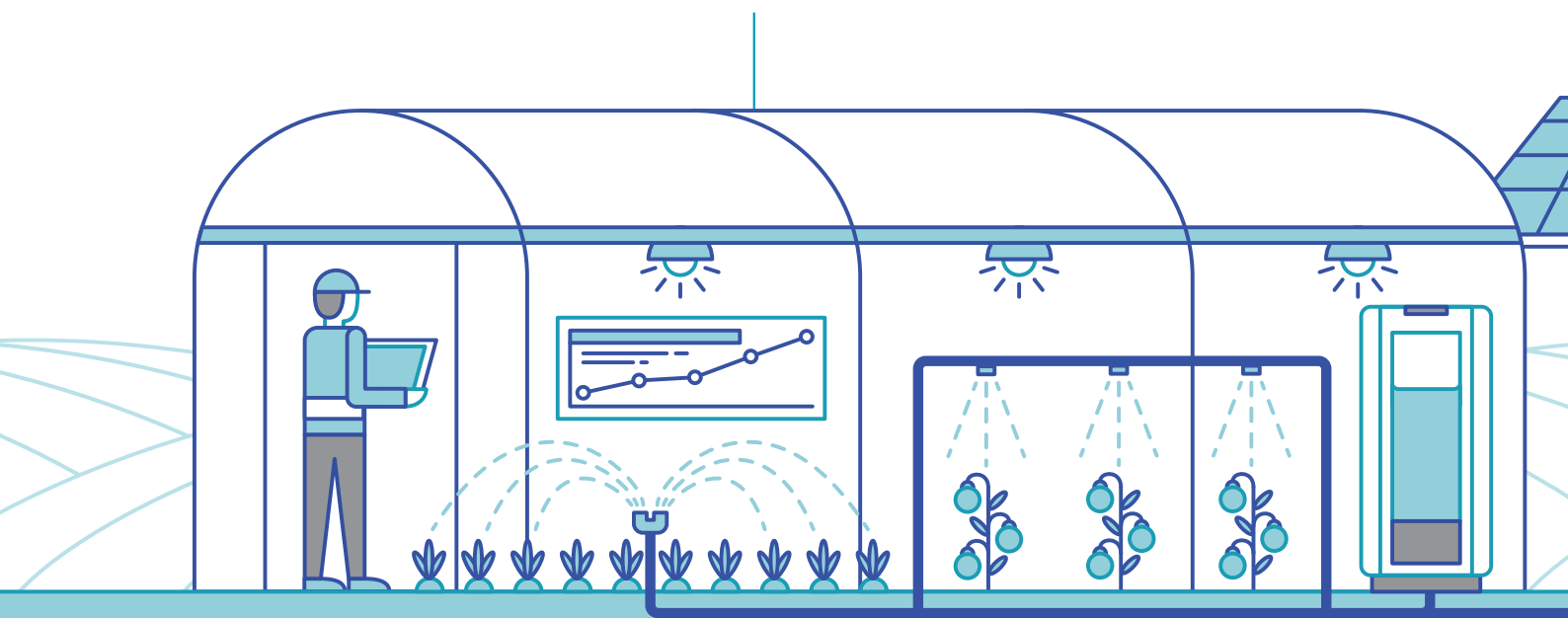
To meet those critical goals, the APO organized a variety of projects to encourage the adoption of advanced technologies in the food industry, increase labor productivity through digital technology applications in food value chains, and improve human health while lowering public healthcare expenditures as a result of enhanced food safety and quality.

Three projects implemented in Japan under the Future Food Systems subprogram were well received by participants: multicountry observational study mission on Modern Food Quality Production Process Management Systems; multicountry observational study mission on Food Value Chain Management; and observational study mission from Myanmar on the Innovative Rice Industry in Japan. Special cash grants from the Government of Japan for undertaking those projects are gratefully acknowledged.

Advanced Agricultural Management

Asian agriculture is experiencing common challenges of low productivity, poor performance of agribusiness SMEs, shrinking land and water resources, accelerated degradation of the resource base, huge postharvest losses, low value addition, high urbanization rates, poor environmental performance, and impacts of climate change. In

Leveraging technology to boost agricultural productivity and enhance the performance of agribusiness and food enterprises.



general, the profitability of small and medium-sized producers remains low. Agriculture must take advantage of current technology options to become more productive, sustainable, profitable, and convenient for farmers.

The objective of the Advanced Agricultural Management subprogram is promoting applications of advanced technologies in farming operations and agribusiness enterprises. Those applications can increase sustainable productivity in agriculture and agribusiness enterprises, promote better management of land and water resources, establish climate change-resilient models, and accelerate value addition. The APO organized numerous projects on sustainable, smart agriculture management-related topics in 2017. Expected outcomes include: the adoption of smart technologies in farming and agricultural supply chains; increased labor productivity, farmers' profitability, and agribusiness competitiveness; more youth engaged in farming; and improved food security in member countries.

Greater automation in farming can contribute to higher labor productivity and raise agribusiness competitiveness. Although the social structures and economies of APO member countries are diverse, advanced agricultural and agribusiness

management skills and technologies can meet the current and future needs of all. Time will be required to confirm that systems remain future proof, but the adoption of appropriate digital technologies can only enhance sustainable productivity in agriculture.

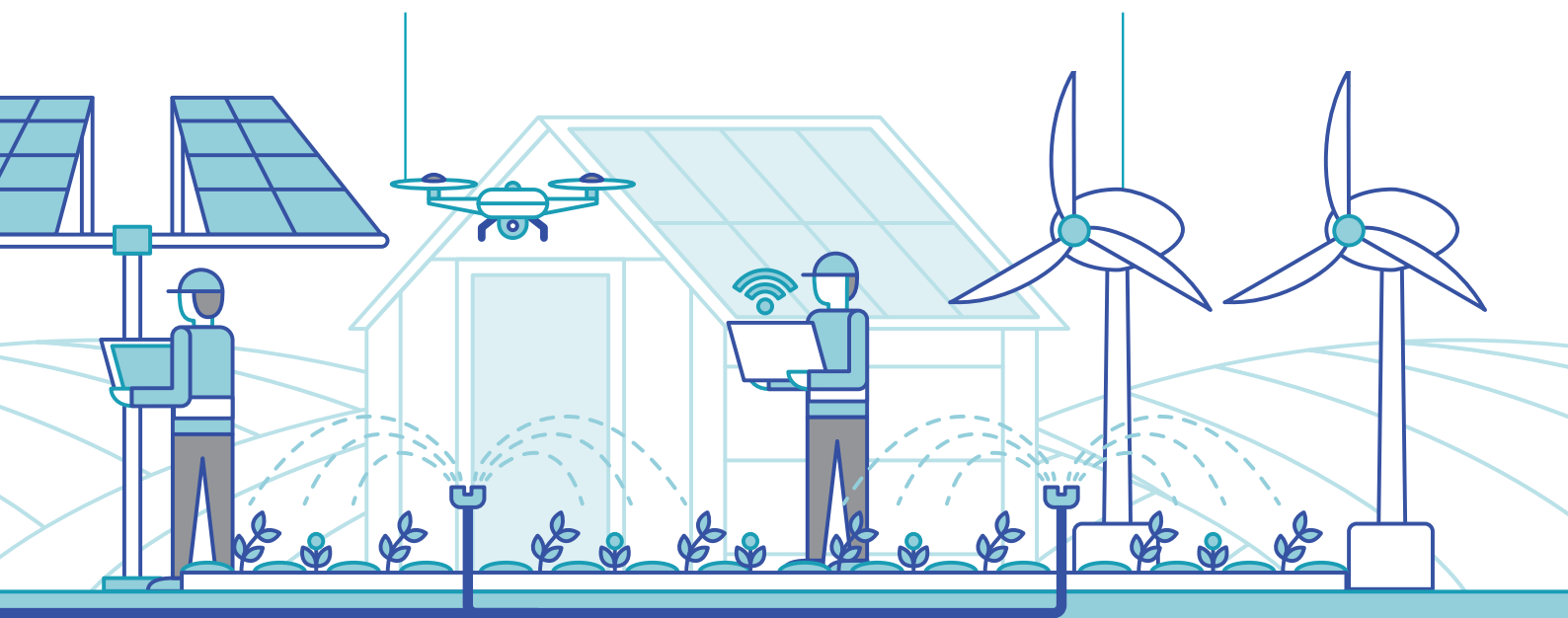
Two examples of 2017 projects relating to future-proof agricultural technologies were the: Conference on Smart Agriculture for Sustainable, Inclusive Productivity in Japan; and Asian Forum on Futuristic Technologies for Sustainable Farming in Thailand. Both entailed discussions on emerging concepts of smart agriculture, future food production systems, futuristic technologies for sustainable farming, smart water systems, hydromembrane technology, smart agricultural mechanization, precision agriculture technologies, IT applications, high-tech rice growing, Farming 4.0, and biomass utilization for energy and resources.

Rural and Inclusive Development

Most people in developing Asian countries live in rural areas and include the majority of the world's poor. They are constrained by a lack of productive employment opportunities, poor education and infrastructure, and limited access to markets and services. Those are exacerbated by the aging of rural populations

Focused on modern agribusiness models, rural community development, and state-of-the-art food safety and quality management systems.

Launched program to make food production systems sustainable and explore future food sources.



and migration of the young to urban areas. In many rural communities in the Asia-Pacific, the farming landscape is changing as women and the elderly come to dominate farm workforces. The rural-urban divide is widening, contributing to large-scale migration to cities. Rural communities must adopt new strategies, innovative technologies, and digital transformation for survival and growth.

Updated frameworks for rural development in APO member countries are needed to ensure sustainable socioeconomic development while promoting inclusive growth. The Rural and Inclusive Development subprogram addresses diverse aspects of rural socioeconomic development. Reading mega trends and applying future-scenario thinking, in 2017 the subprogram incorporated emerging global changes into APO efforts to meet specific member country needs.

To foster rural and inclusive development, 2017 projects under this subprogram covered areas such as: e-business modeling for women entrepreneurs; ICT-based services for agricultural extension; emerging roles of producers' associations and farmers' cooperatives; planning and management of community-based rural tourism enterprises; revitalization of rural communities through productivity improvement initiatives; and the Saemaul Undong model of the ROK for community development to ensure inclusive growth. All those projects covered new topics addressing the paradigm shift to digital agriculture and the specific inclusive rural community development needs of APO members.

The expected outcomes of these initiatives are increased labor productivity, competitiveness, and brand recognition through the enhanced role of women in managing e-agribusinesses, wider adoption of ICT-based services, greater role of producers' associations in capacity building for the adoption of new technologies and innovative management skills, and wider utilization of community-driven rural development models.

An exemplary project was the workshop on e-Business Modeling for Women Entrepreneurs held in the ROC. Today, the top

world-leading companies are online platform providers such as Google and Amazon. With their global scale, those platforms introduce individual customers to new goods and services through online website interfaces. As digital methods overcome physical limitations to resource access for women, the workshop was applauded by the mainly female participants. Of the 31 attending, nine were from the Asia-Pacific Association of Agricultural Research Institute (APAARI), including non-APO members such as Afghanistan, Bhutan, and Samoa. The workshop showcased the APO's role as a sustainable productivity leader with outreach well beyond its own membership.

In 2017, 47 projects were implemented under the Smart Agriculture Program, which consisted of 26 multicountry ones including face-to-face, videoconference-based and online self-learning activities, and 21 individual-country projects.

Of the 26 multicountry projects, 46% were intended to achieve all three targets of the APO Vision 2020, i.e., enhancing labor productivity, competitiveness, and APO brand recognition; 42% aimed at improving labor productivity and competitiveness; and the remaining 12% were in line with at least one of the three targets. Individual-country projects were designed to meet specific needs and expectations of members based on project proposals they submitted.

During the year, a new three-year (2018–2020) cash grant worth around USD697,000 was also secured from the Japanese Ministry of Agriculture, Forestry and Fisheries.

The Secretariat also implemented six projects in collaboration with four partner organizations, the Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP), Cornell University, Economic Research Institute for ASEAN and East Asia, and UN Food and Agriculture Organization. Five were under MOUs with CIRDAP and Cornell University. The year also saw APAARI participating in the workshop on e-Business Modeling for Women Entrepreneurs, demonstrating the APO's outreach beyond the Asia-Pacific as a sustainable productivity leader.



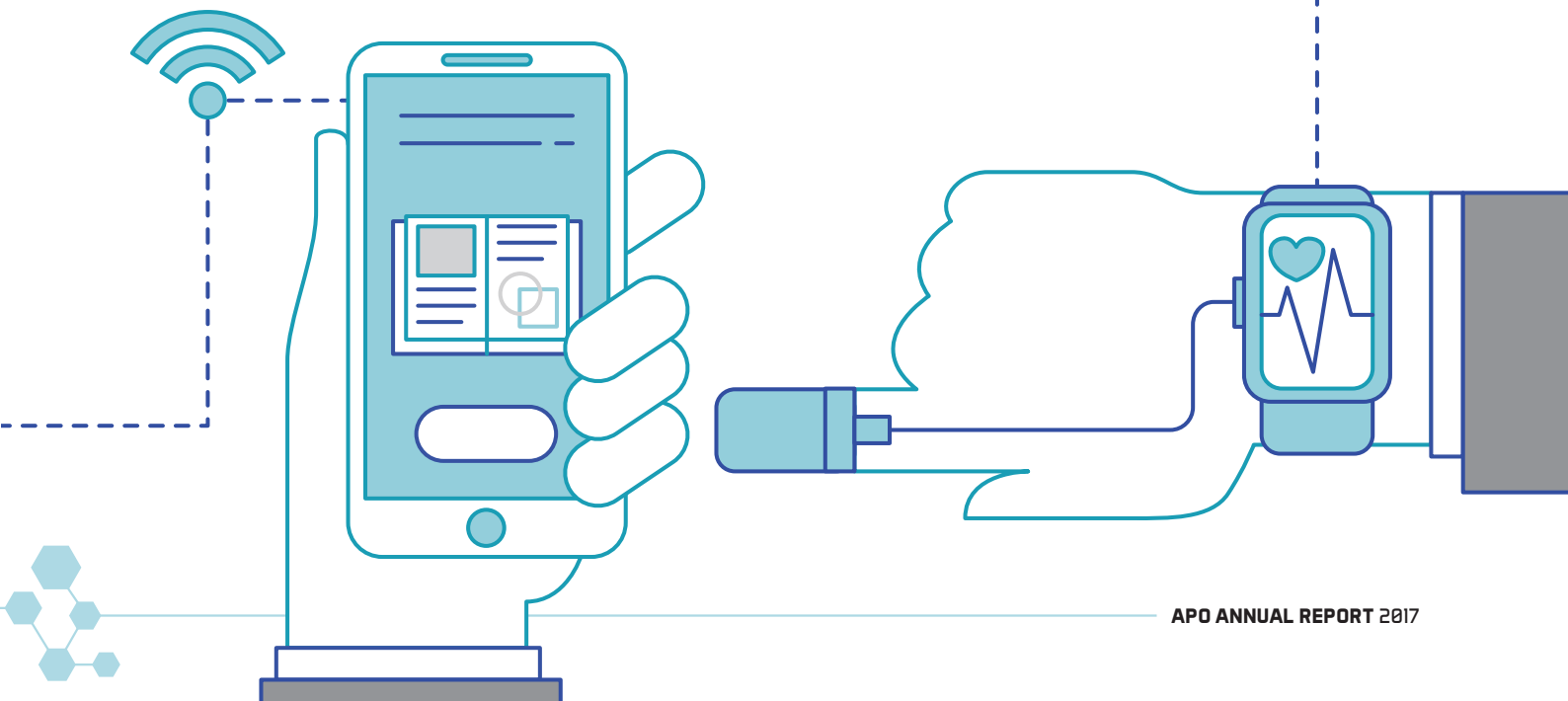
SMART SERVICE

The service sector is now the largest economic sector worldwide and the fastest growing, making it the backbone of socioeconomic development. It is broadly grouped into three segments, the public sector, private corporate sector, and household sector. The rise of the service sector is also affecting employment and labor markets. Services are surpassing the manufacturing industry in number of employees and producing a shift in the distribution of employment and patterns in the division of labor. Technology has played an important role in this rise of the service sector, contributing to improved national productivity.

One of the most dramatic characteristics of late industrialization is the speed and scope of structural transformation from a manufacturing-based to a service-based economy. Although Industry 4.0 originally was only intended to make manufacturing smarter, it is moving beyond the boundaries of factories to impact other sectors, including the way services are delivered to customers. Today, organizations and industry are rapidly adopting technologies to extend their products as services and even leveraging

their expertise and home-grown solutions and processes to develop and offer newer services in areas like transportation and logistics, smart building management, healthcare, and smart cities. e-Governance is another area in which ICT is having a profound impact on the way governments function and the manner in which services are made available to citizens.

The service sector has a pivotal role in the economic development of APO member countries. IT and IT-enabled services have created global changes. Issues related to service-sector productivity include linkages between/among sectors, measurement-related questions, and sector-specific productivity tools. To increase global competitiveness, the APO has organized multicountry projects on topics such as business excellence (BE), corporate social responsibility (CSR), ICT innovation, increasing global market access, and customer satisfaction management, as well as an e-learning course on Customer Satisfaction Management and self-e-learning course on Marketing and Product Branding for SMEs to meet the needs of its member countries in the era of Industry 4.0.



2017 Programs



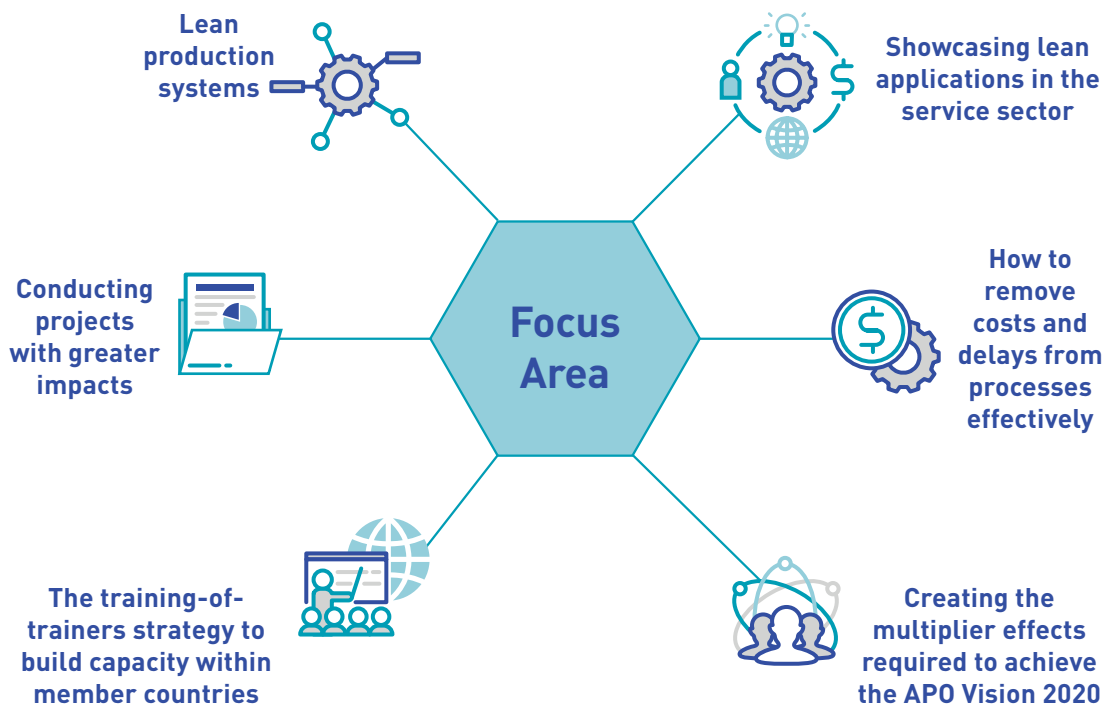
Participants have followed up those projects in various ways. Some of the results include proposals to apply service-sector productivity tools in government units, setting organizational and government policies on service-sector productivity improvement, the holding of sharing sessions on how to improve service-sector productivity for various stakeholders, training of trainers and consultants, initiating national BE award schemes, establishing BE assessor systems, developing CSR policies, and publishing labor-management relations guidance documents.

Service Programs

While the APO program on CSR in SMEs was aimed at enabling companies to meet the triple bottomline objectives of social,

environmental, and financial goals, the ICT innovation program was a capacity-building initiative to prepare member countries, particularly NPOs, to deal with the impact of Industry 4.0 on the service sector. However, technology alone cannot help meet objectives without the right policies and processes in place to encourage lean systems that eliminate all types of waste or nonvalue added in processes. In 2017, the Secretariat focused on lean production systems, examples of lean applications in the service sector, and how to remove costs and delays from processes effectively. Initiatives also included a study mission on Lean Healthcare to the USA.

The Secretariat also decided to conduct projects with greater impacts and adopted the training-of-trainers strategy to build





Increasing Global Market Access



e-Learning Course on Customer Satisfaction Management



Customer Satisfaction Management



Self-learning e-Course on Marketing and Product Branding

capacity within member countries and create the multiplier effects required to achieve the APO Vision 2020. Positive outcomes were seen. After attending the APO study mission on Lean Healthcare in the USA, a participant from the VNPI conducted a sharing session that was attended by 200. She also organized 10 series of training courses and undertook two consultancy projects at public hospitals in the Mekong Delta region in southern Vietnam.

Inspired by the Society for Healthcare Improvement Professionals established by Keck School of Medicine, University of Southern California, one of the hosts during the study mission to the USA, Associate Professor of Industrial Design Chun-Ju Tseng, Chang Gung University, the ROC, decided to set up the Association of Medical Design to forge links among hospitals, academics, and industry in his country. He reported that the association had recruited and signed up potential members and would soon be registered by the government.

Similarly, a consultant from the Directorate for Standards, Metrology and Quality, Vietnam, who attended the four-week DPP: Basic course in the Philippines, conducted training and provided consultancy to a company in Ho Chi Minh City on productivity improvement through systematic good housekeeping (5S) activities. To ensure that the company could sustain the activities, she provided a 5S audit checklist and sustainability policy, which were developed during the APO course. One participant from the NTPC who attended the DPP: Advanced course subsequently started a project to help a manufacturing company undertake the ISO Quality Management System (ISO 9001:2015) certification process.

The company designated him as a qualified trainer and consultant in recognition of his involvement from the beginning of the effort and ability to assist in overcoming difficulties and challenges in the journey toward certification.

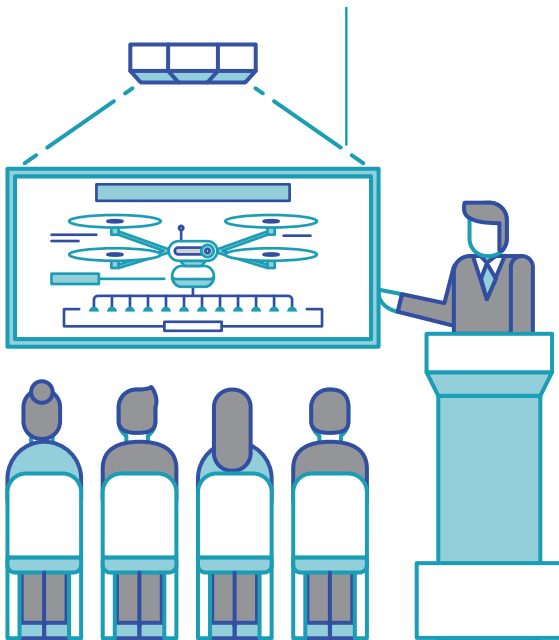
Green Productivity (GP)-related impacts were also evident. For example, an Indonesian participant in the Training of Trainers in Green Productivity subsequently conducted public training on GP, developed a community-based program, became involved in advising a local community on developing new products from banana tree waste, and set up a waste collection mechanism through a waste bank. Her ideas are creating awareness and contributing to better health through a cleaner environment, as well as changing behavior. Future plans include identifying ways in which the waste collected could be used to produce items such as handicrafts.

Certification Program

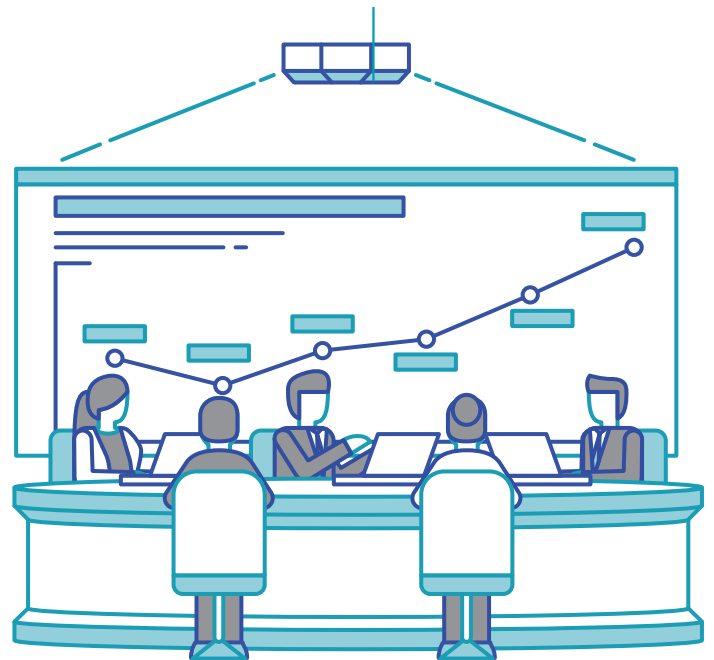
In response to requests by member countries and to validate the competency and skills of trained participants who attended APO courses, a certification program was launched in 2015, in line with the aim of gaining global recognition and raising the visibility of the APO as a leading international productivity organization by 2020. The core DPP: Basic and Advanced courses were selected as prerequisites for certification. Those hoping to be certified must submit project reports within six months after course completion for evaluation by a panel of experts. Successful candidates receive three-year certification from the APO. In 2017, another course on GP was included in the certification program.

SMART PUBLIC SECTOR

Introducing NPOs to new tools, techniques, and know-how to improve productivity



Strengthening policy frameworks in member countries



Technological advances have disrupted virtually every business and industry, increasing the complexity of economic planning and efforts to enhance productivity. Governments recognize the need to adopt a forward-thinking approach to ensure that economic and productivity gains as a result of policy interventions will be sustainable.

With a strategic foresight approach, government can anticipate likely threats and identify opportunities when formulating development agendas. Productivity enhancement should now focus on doing “the right things right” to meet citizens’ evolving expectations. The APO targets the public sector in many of its programs and activities in recognition of its central role in socioeconomic development and improvement in the quality of life. Under the Smart Public-sector Program, APO projects are grouped under four subprograms:

Development of NPOs; Leadership and Strategy; Productivity Measurement; and Performance Management.

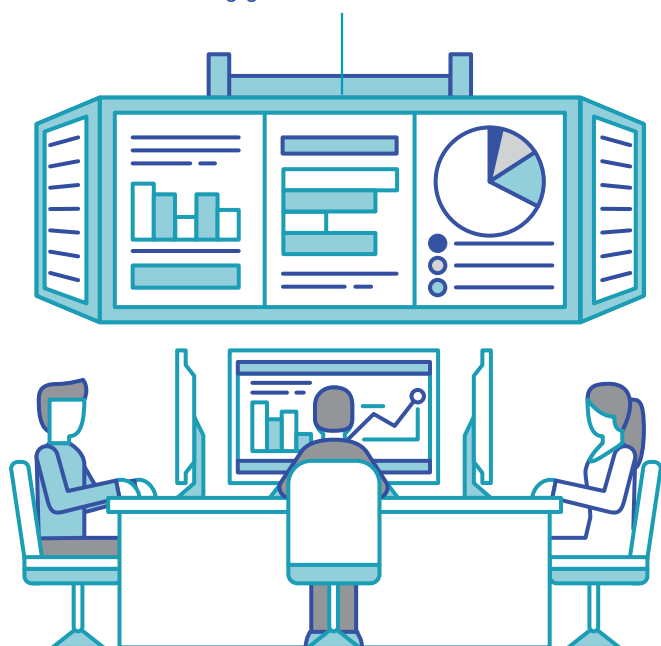
Development of NPOs

The APO consists of a network of NPOs, which serve as focal points in efforts to increase member countries’ productivity. Increasing the institutional capacity of NPOs to act as productivity frontrunners is a main objective of APO programs and projects. In addition, most NPOs are mandated by their governments to deliver public goods in the form of higher productivity and efficiency.

A key strategy during 2017 was introducing NPOs to new tools, techniques, and know-how to improve productivity, particularly through the adoption of advanced technology and new business models. The initiative included a conference on Industry 4.0 and the Future of Productivity to give updates on the emerging concept of mass customization through a mix



Constructing a new productivity index reflecting gains from the IT revolution



Providing a reference template for boosting public-sector productivity and efficiency by concentrating on leadership



of human and robotic inputs in a physical- and virtual-world environment.

Other efforts focused on strengthening policy frameworks in member countries. In early 2017, a productivity, quality, and innovation policy improvement project requested by Pakistan was started. The country is reinvigorating its productivity movement in alignment with the long-term national development agenda. The APO played an advisory role in the redesign of the policy framework in Pakistan, which resulted in the Pakistan Productivity, Quality, and Innovation Framework.

The Secretariat implemented 35 projects for the development of NPOs in 2017, the majority of which were multicountry and in-country projects along with two self-learning e-courses. Of the 32 multicountry projects, 60% were intended to achieve all the three targets of the APO Vision 2020, i.e., enhancing

labor productivity, competitiveness, and APO brand recognition; 24% aimed at improving labor productivity and competitiveness; and the remaining 16% were in line with at least one of the three targets.

Leadership and Strategy

Motivated mainly by decreasing resources, rising demand for better public services from citizens, and evolving expectations of public entities, governments have adopted more cost-oriented perspectives to reduce inefficiencies and increase productivity. Innovation is one approach to dealing with challenges in the sector, which has important links with leadership. The APO conducted two leadership projects for the public sector in 2017, both of which were assessed as “more than expected” by 82% of participants.

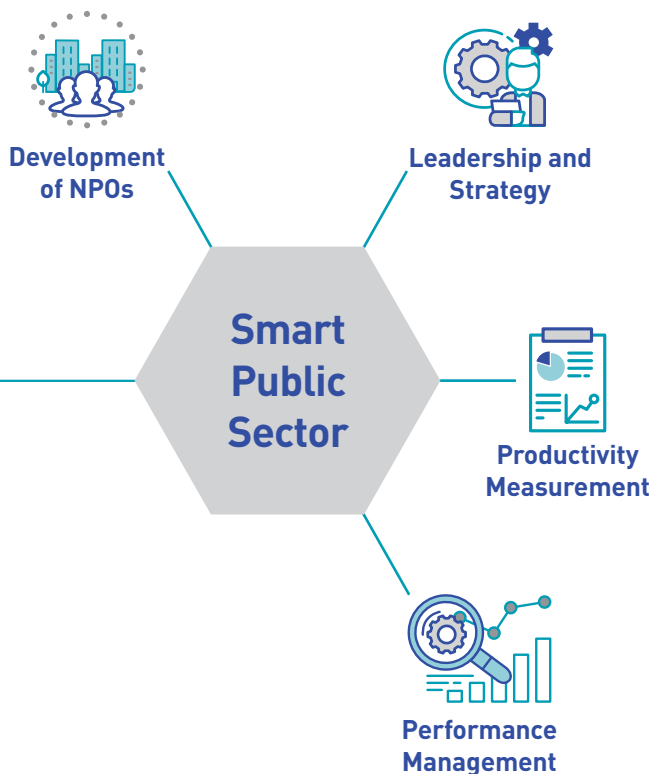
A leadership framework for productivity accommodating the diverse leadership styles and institutional designs in APO member

countries was under finalization during the year. It will provide a reference template for boosting public-sector productivity and efficiency by concentrating on leadership. Seven research activities were ongoing, focusing on human capital, innovation, and public-sector readiness for new challenges of the future.

Productivity Measurement

Measuring and defining productivity and efficiency are becoming more difficult because conventional methods do not include gains from digital products and services. The contributions of technological advances and new business models are not fully reflected in productivity statistics, which may be one reason for the recent “productivity slump.”

The APO launched an initiative in 2017 to construct a new productivity index reflecting gains from the IT revolution and, more importantly, economies’ ability to sustain those gains over the long term. Other projects on measuring productivity in the public sector and higher education were completed during the year and the results disseminated through publications. A follow-up in-country project on raising productivity in higher education was underway in India.



During the year, the Secretariat also completed the research on Agricultural Productivity Measurement and Monitoring. The project, which was initiated in 2016, aimed to:

- A▶** Monitor and report on agricultural productivity trends and performance in member economies by conducting a survey based on an internationally harmonized methodology;
- B▶** Provide analysis of the most up-to-date agricultural performance and productivity trends in member countries; and
- C▶** Strengthen national agricultural policy analysis by developing a database for measuring agricultural productivity to serve as a reference source for policymakers, development planners, economic analysts, NPOs, and other stakeholders within and beyond the APO membership.

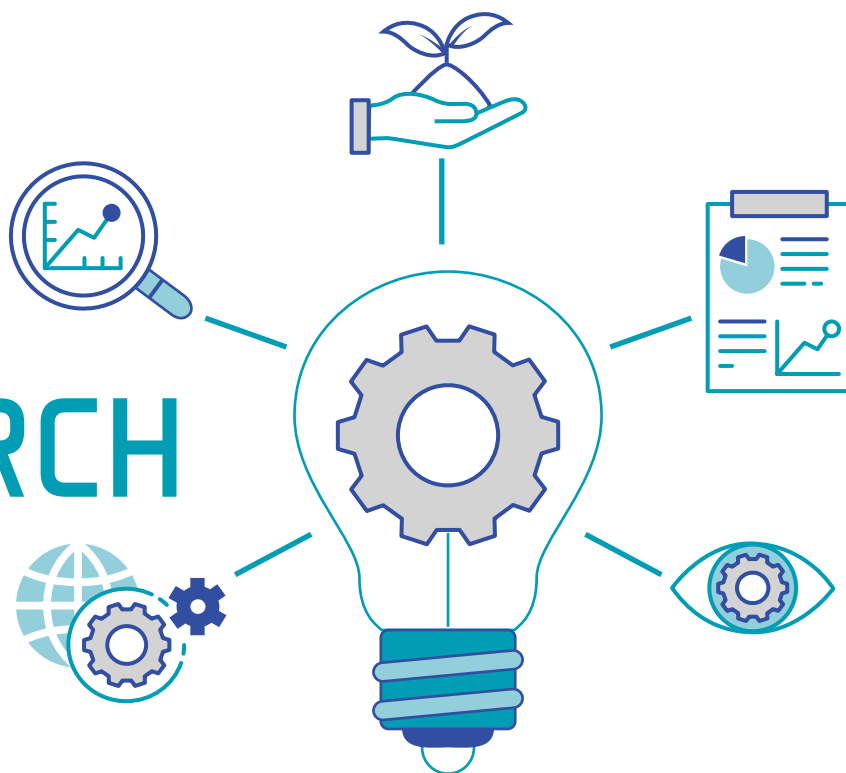
Performance Management

Connections among performance management and higher productivity, efficiency, and customer satisfaction are obvious. Within the context of public-sector organizations, performance management is based on clear organizational objectives and established methods to measure the extent to which those objectives are achieved. However, more refined approaches for current public-sector organizations are needed as they face unprecedented changes in their external environments. Instilling a longer-term perspective, particularly at the planning and design stage, can increase the durability of strategies and reduce uncertainty in the future.

APO projects on performance management for the public sector now seek to instill forward-thinking attitudes. One 2017 project on performance management was implemented by the DAP in its role as the APO Center of Excellence on Public-sector Productivity. That project led to the formulation of 14 action plans to improve the performance of public-sector organizations in member countries.



APO RESEARCH



Serving as a think tank on productivity for its member countries is a primary mandate of the APO. Due to the ever-increasing rate of change in the external environment due to technological advances, the research and planning functions of the APO must reflect and incorporate ongoing shifts, while adjusting organizational goals for the benefit of member economies. Predicting change is no longer sufficient; acting to shape an ideal future following sound strategies is now called for. Devising the best strategic approach is the aim of APO research and planning activities to fulfill its think tank role.

The concept of sustainable productivity is derived from future thinking. Productivity enhancement efforts should include dimensions that will contribute to continuous gains in the future to ensure sustainability. Sustainable productivity is the primary component of economic growth in the era where rapid change is the norm.

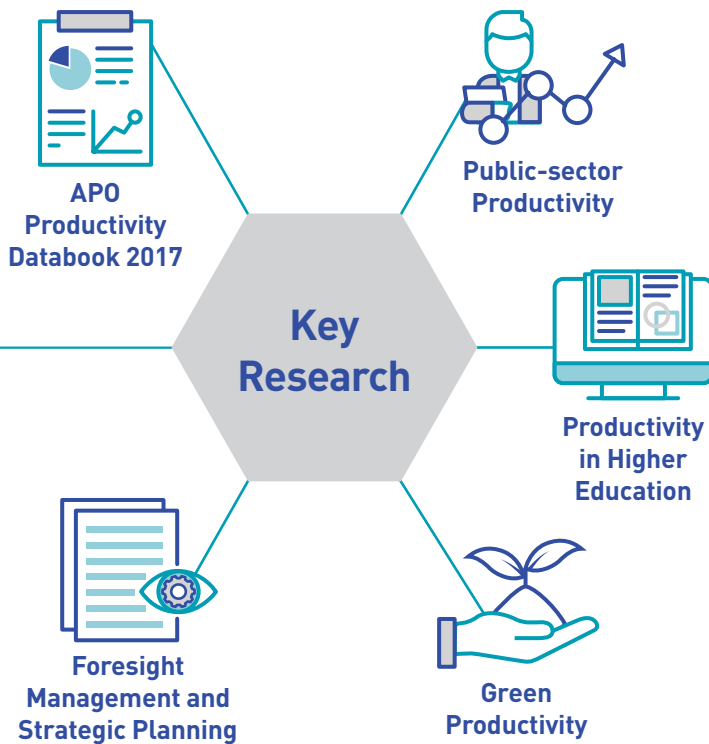
The new approach to productivity adopted by the APO represents a break from the past and is needed to halt the long-term downward trend in productivity, especially in developed economies. Human capital contributions to

overall productivity and economic growth have declined, but education levels are rising worldwide. Current educational models for skill development cannot catch up with technological progress, however, making it impossible for labor to create more with less. On the other hand, advances in technology at their current and expected paces have enormous potential to contribute to productivity and growth. Many believe that productivity increases now rely more heavily on technology than on the contributions of labor. Ensuring human capital accumulation through skill upgrading must therefore consider elements affecting labor demand on the future horizon.

Productivity in Member Countries

The APO's research and planning projects in 2017 were mainly grouped under the themes of "smart public sectors," "development of NPOs," and "productivity measurement," along with those under institutional programs related to organizational development. All projects were conducted with the aim of sustaining productivity improvement in the future.

Efforts to serve as a think tank on productivity are reflected in the *APO Productivity Databook 2017*. It presents analyses of recent and long-



term productivity and economic performance in the Asia-Pacific and reference economies. Productivity measurement and cross-country comparisons including analyses of national performance are crucial for the formulation of effective, evidence-based policies. In line with its new, future-oriented approach, in 2017 the APO started to examine how to revise productivity measurement methodology to capture the benefits of digitization and the ability of economies to sustain productivity gains.

Public-sector Productivity

The public sector is crucial in all economies, particularly in effecting socioeconomic change through policies. The APO conducted research on how to enhance its effectiveness, which resulted in the 2017 publication of *Knowledge Productivity in the Public Sector: Enhancing Knowledge Work to Improve Effectiveness*. The analyses presented in the volume clarify the enormous potential benefits of increasing the productivity of organizational knowledge work in the public sector, leading to a better quality of life for citizens.

Productivity in Higher Education

Because continuing improvements in human capital are responsible for maintaining productivity and economic growth, ensuring its quality is an integral element of national

policy. The APO organized a conference and conducted research on raising productivity in higher education to assist member countries in upgrading their human resources development and in 2017 published *Raising Productivity in Higher Education: Selected Papers on Global Best Practices*; the guidebook titled *Higher Education Productivity Metrics: An Essential Guide for Users and Developers*; and the research compilation *Productivity in Higher Education: Researching Insights for Universities and Governments in Asia*. The three publications were based on experience showing how the productivity and efficiency of higher education can be improved and offer diverse views on the topic as well as practical recommendations to create productive, innovative cultures in educational institutions.

Green Productivity

Achieving a more productive society necessitates a reexamination of business practices to confirm that they are environmentally sustainable, productive, and contribute to society. The APO research report on *Assessing Green Business in Asia: A Green Productivity Excellence Framework for Green Business Study across Six APO Member Countries* was intended to show how environmental and social sustainability can be incorporated in productivity enhancement efforts. The original research developed an evaluation framework for assessing the status of green businesses in several member countries, which is included in the volume for others to apply.

Strengthening the Development of NPOs

Strengthening the institutional capacity of NPOs to navigate changes and prepare for the future continues to be a core element of APO Research and Planning Department projects. The approach in 2017 involved foresight management to define and shape the future through scenario planning. At the Strategic Planning Workshop for NPO Heads and Planning Officers held at the Secretariat in July, it was agreed that foresight thinking should be incorporated into APO project development. An internal capacity-building exercise for APO Secretariat staff was conducted prior to that to increase their ability to offer better foresight and scenario development guidance to member countries.



CENTERS OF EXCELLENCE

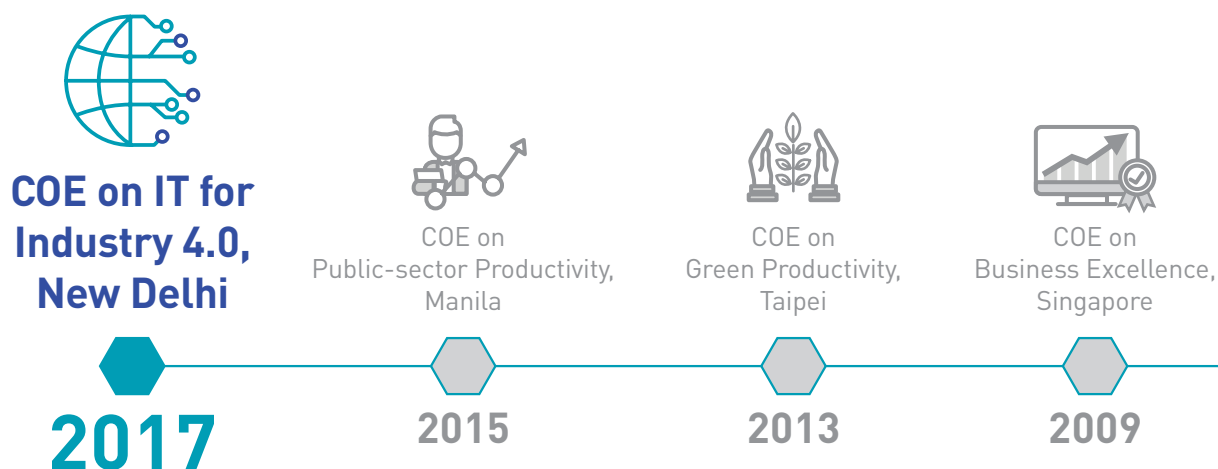
The APO Center of Excellence (COE) Program is an initiative that allows member economies to showcase their best practices in areas of specialization. The idea of establishing COE in areas where NPOs have unique strengths and expertise was brought up in the 50th Session of the GBM in Tehran, IR Iran, in April 2008. Since then, four COE have been designated: COE on Business Excellence (BE) in SPRING Singapore (2009); COE on Green Productivity (GP) in the CPC of the ROC (2013); COE on Public-sector Productivity (PSP) in the DAP (2015); and COE on IT for Industry 4.0 in the NPC of India (2017). In 2017, activities were conducted under the COE on PSP and COE on IT for Industry 4.0.

COE on PSP

The COE on PSP has helped member countries develop and strengthen their

programs to improve productivity in the public sector. It has been able to develop capabilities and competencies in using productivity methods, tools, and techniques as applied in the public sector for 114 local participants and 62 international participants from 23 countries involved in PSP programs, from both APO member and nonmember countries, since 2015. Overall, most activities set in the initial plan of the COE on PSP have been implemented, and some were in the final stages of completion during 2017. A key concern of the COE is the sustainability of its budgetary support from the national government so that it will be able to continue to extend more technical assistance to member countries.

A workshop on The Common Assessment Framework (CAF) for the Public Sector was held in Manila, with the DAP as host.



It introduced the CAF, examined how the tool could be applied to the public sector to improve its effectiveness and efficiency in the Asia-Pacific region, and explained best practices based on the EU experience.

The CAF is a total quality management (TQM) tool inspired by the major quality models in general and by the Excellence Model of the European Foundation for Quality Management in particular. It is especially designed for public-sector organizations, since it takes into account their characteristics. The CAF is an easy-to-use, free tool to assist public-sector organizations across Europe in using TQM techniques to improve their performance. It is based on the premise that excellent results in organizational performance, citizens/customers, people, and society are achieved through leadership driving strategy and planning, people, partnerships, resources, and processes. It looks at organizations from different angles to foster a culture of excellence. The main building blocks of excellent performance in the public sector in the context of the CAF are: defining the mission, values, and vision; determining strategy; measuring performance and perceptions; and impacts or outcomes.

A total of 28 participants, including 15 international and 13 local participants, from 11 member countries joined the workshop. They represented various public-sector organizations including NPOs. The resource persons were from the European Institute of Public Administration in charge of capacity building on the CAF among EU public-sector organizations.

For APO member countries, the CAF could serve as a new tool for analyzing and assessing any public organization's performance to improve its productivity. The CAF addresses important questions related to the planning, measurement, monitoring, assessment, and improvement of performance. The model will also help public organizations in APO member countries examine the key elements of performance management and the different steps through which a public organization carries out performance assessment.

COE on IT for Industry 4.0

During the 57th Workshop Meeting of Heads of NPOs held in Malaysia in October 2016, delegates endorsed the Secretariat's plan to convene a meeting of a panel of experts to assess proposals from NPOs on the establishment of the next COE. A proposal received from the NPC, India, was assessed by the online expert panel meeting in January 2017. The four panel members comprised selected NPO heads or their representatives along with subject matter experts. They assessed the proposals for the next COE in terms of the outstanding competencies and expertise available in the proposing member country/NPO, current and proposed programs on the topic, and the existing organizational structure that would support the sustainable implementation and operation of the COE. Recommendations were made to the APO Governing Body based on the experts' evaluation. The 59th Governing Body Meeting in Tehran in April 2017 approved the establishment of the APO COE on IT for Industry 4.0 under the auspices of the NPC. The COE functions as a knowledge center on IT and its applications in Industry 4.0 for all APO member countries. In 2017, a roadmap for the COE on IT for Industry 4.0 activities was developed and research on Industry 4.0 digitization strategies was conducted.

The NPC with the support of the APO organized a three-day national workshop, 6–8 June in New Delhi, to unveil the COE on IT for Industry 4.0. Department of Industrial Policy and Promotion Additional Secretary Sanjeev Gupta, Department of Micro, Small and Medium Enterprises Additional Secretary S.N. Tripathi, NPC Director General and APO Alternate Director for India Kalpana Awasthi, and National Small Industries Corporation Chairman and Managing Director Ravindra Nath attended the inaugural session.

Following the official launch of the APO COE on IT for Industry 4.0, 85 participants representing SMEs and government departments promoting Industry 4.0 attended the workshop to receive updates on the necessity for, trends in, and practical applications of IT in industry from APO-



assigned experts from Germany. The workshop also reached out to a wider public to enhance the visibility of the newly designated COE, thus gaining more support from other principal stakeholders in the Government of India and enhancing the formation of strategic partnerships with industry, associations, and experts in the area of IT for Industry 4.0.

Inputs were given by experts and participants for the NPC and APO to build up a roadmap for the COE on IT for Industry 4.0. A detailed five-year roadmap for the future activities of the COE was formulated so that it can assist other member countries in more effective adoption of Industry 4.0 concepts.

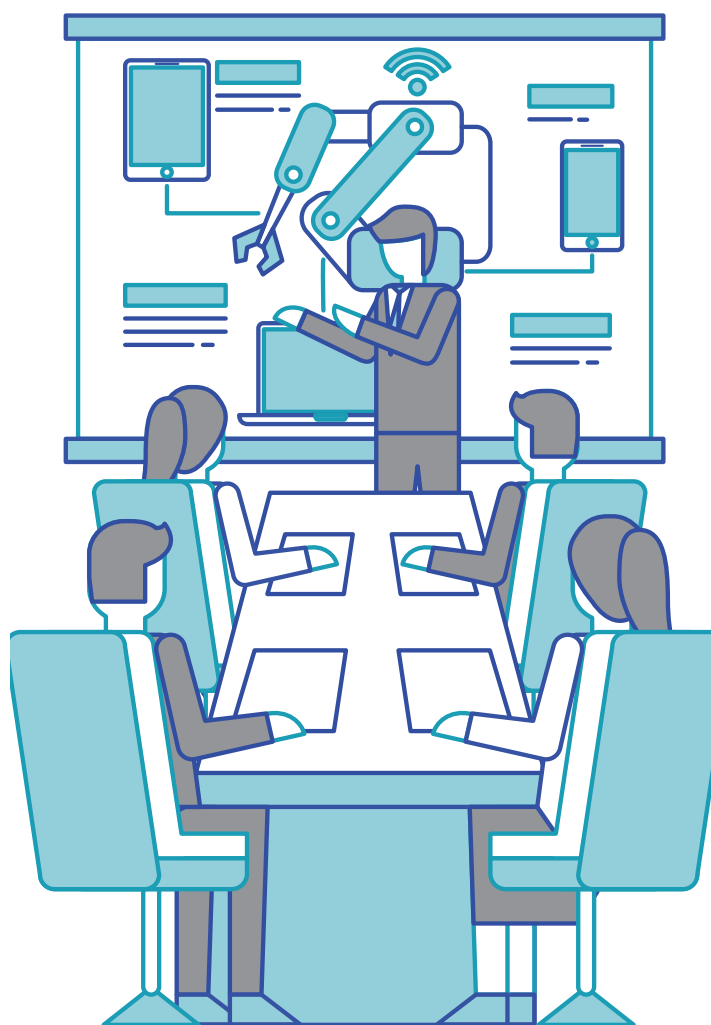
Industry 4.0 Digitization Strategies for SMEs

Industry 4.0 has fundamentally transformed the future of production systems. The integration of manufacturing with state-of-the-art ICT linked to logistics processes among different companies is the key concept behind Industry 4.0. In APO economies, SMEs are the growth engines and stimulators of productivity enhancement and industrial development. However, SMEs lack the knowledge to implement productivity initiatives to improve their performance. SMEs are on a fast-growth trajectory, but only a small fraction of them have access to the type of ICT that is commonplace in larger enterprises. SMEs might be willing to adopt new technologies to scale up their businesses and are aware that digitization is one of the prime game-changers, but there are plenty of barriers to overcome before they can fully embrace Industry 4.0. Such barriers include a lack of digitization knowledge, the high learning curve involved, difficulty in defining the starting point, etc.

Under the APO COE on IT for Industry 4.0, research on Industry 4.0 Digitization Strategies for SMEs was initiated to support SMEs in member countries in moving toward digitization and staying competitive in global value chains as the Fourth Industrial Revolution proceeds. A chief expert from Germany and five national experts from the ROC, India, Indonesia, Malaysia, and Vietnam

were selected to undertake this project. A coordination meeting among all experts, the NPC, and APO Secretariat took place 13–15 December in New Delhi to define the scope and methodology, including data collection, data analysis, and timeline. They also designed a set of questionnaires to assess the current level of digitization and the critical needs of SMEs to achieve it. A set of recommendations for SME digitization strategies at national level will be generated at the end of the research.

The research will contribute to strengthening the development of SMEs in the region so that they can embrace Industry 4.0 to survive global competition, while enhancing their sustainability and agility in the fast-changing business environment.



INDIVIDUAL-COUNTRY PROGRAMS



Study Missions



Bilateral Cooperation

Types of Program

Demonstration Projects



Technical Expert Services



Individual-country Observational Study Missions

Under the Individual-country Observational Study Mission (I-OSM) Program, a member country may send a mission(s) to one or more other member countries to study and observe recent developments and best practices in a particular area of interest relevant to its needs for productivity promotion. This program addresses individual member country needs in the pursuit of productivity enhancement.

In 2017, six I-OSMs benefiting 57 professionals from five member countries were carried out on: Sustainable Community Development and the Saemaul Undong and SK Group Social Enterprise from Thailand to the ROK; Halal Food Production and Monitoring from IR Iran to Malaysia; Biotechnology and Food Industries from the ROC to Thailand; High-value Service and Productivity Improvement of the Japanese Service Industry from the ROC to Japan; Best Practice Regulation for Trade Facilitation from Malaysia to the ROK; and Total Quality Management from the Philippines to Japan.

Development of Demonstration Companies

Demonstration projects are devised to deploy knowledge and practical applications of productivity tools and techniques in businesses and organizations to help them improve performance and efficiency. The demonstration companies convey success stories from the processes of transformation to inspire other organizations in their countries to make similar efforts and enhance their overall competitiveness. The



APO assigns technical experts to the selected organizations to perform diagnostic studies, provide advice, suggest improvement plans, and help to implement the plans. The results are documented for learning by others.

Three demonstration projects started in 2016 and continued in 2017, covering the strengthening of quality management systems following ISO 9001:2015 in Cambodia, applications of material flow cost accounting (MFCA)-linked lean manufacturing in the manufacturing sector in India, and implementation of performance management architecture in Indonesia. In 2017, four demonstration projects were newly initiated. The first involves applications of MFCA in Pakistan, in collaboration with Serena Hotel, Indus Home Limited, Grand Engineering Ltd., and Asian Food Industries Ltd. The second also involves MFCA in Bangladesh, with a specific focus on the leather sector, targeting ECM Footwear Ltd. and Kushum Kali Shoe Factory. The third is on applying smart technologies in Vibgyor Automotive Private Ltd. in India, and the fourth covers implementation of GLOBALGAP in Sun Feed Joint Stock Company in Vietnam. These four projects are scheduled to be concluded in 2018. Two other demonstration projects, one for applications of green energy in India, which commenced in 2015, and the other for knowledge management in the power sector in IR Iran, which started in 2016, also concluded in 2017.

Bilateral Cooperation Between NPOs

NPOs are the strategic partners of the APO in carrying out various programs in its mission to enhance the socioeconomic development of member countries. NPOs' contributions and involvement are the key success factors in allowing the APO to achieve its goals and vision by 2020. Therefore, the need to strengthen NPOs remains a top priority. The Bilateral Cooperation Between NPOs (BCBN) Program is one of the schemes offered by the APO to serve this purpose. It allows NPOs to learn the best practices from each other to address their specific needs and requirements. The program also facilitates the dispatch of those involved in the productivity movement from an NPO or similar organization in one member country

to another. In addition, the BCBN Program facilitates the visits of high-level officials, policymakers, and opinion leaders to observe and study firsthand proven or new productivity policies among the APO membership.

In 2017, four BCBN study missions were organized by the APO involving eight participating countries: Cambodia; the ROC; the ROK; Lao PDR; Malaysia; the Philippines; Thailand; and Vietnam. Eleven delegates benefited from this program, and the missions covered different areas and perspectives based on the needs of each NPO and to showcase the APO Centers of Excellence. Topics included the Productivity and Innovation Promotion Program, Agricultural Productivity and Green Energy Applications, Policy on SME Development Program, and Application of Advanced Technology Related to Industry 4.0.

Technical Expert Services

The main objectives of the Technical Expert Services (TES) Program are to develop trainers and consultants of NPOs as well as related organizations and provide them with consultancy services to solve productivity-related issues. TES achieves these two main objectives through the assignment of experts who work closely with NPOs and other productivity stakeholders on the ground. The Secretariat plans and coordinates TES activities in close cooperation with the recipient NPO. The duration of TES projects is normally up to 12 days.

In 2017, 42 TES experts were assigned, with five carried over from 2016. The most experts assigned from within the APO membership were from Singapore (eight) and Japan (seven), and the most from outside it were from the USA (seven). Other experts came from Australia, the ROC, Indonesia, the ROK, and Malaysia.

Overall, expert services received an average evaluation score of 91 out of 100 for the quality of service provided to members who utilized them. Based on information provided by NPOs, more than 4,000 participants, professionals, and employees benefited through lectures, presentations, consultations, and training conducted by the experts.

eAPO DIGITAL-LEARNING PLATFORM



Technology has significantly changed the face of education and training with massive open online courses (MOOCs) playing a prominent role in providing short-term professional training that helps millions enhance knowledge, improve existing skills, and reskill individually and as part of corporate human resources-upgrading programs. With increasing IT penetration and wider Internet access, self-learning MOOCs are now the fastest, easiest, most cost-effective ways of learning globally.

The APO has offered self-learning e-courses through its open-source Moodle-based

platform since 2009 as part of Secretariat outreach to complement face-to-face capacity-building projects and train practitioners unable attend multicountry projects. They will also contribute to the creation of 100,000 trained productivity practitioners called for under the Roadmap to Achieve the APO Vision 2020. The Secretariat upgraded its digital-learning platform in 2017, replacing the previous version with a more modern, intuitive, responsive portal with expanded mobile apps, which was launched formally at the 59th Governing Body Meeting in IR Iran in April.

Courses under the APO's e-learning program were made more engaging and easier



to understand in a new format including reality-based scenarios and interactive quizzes, following global educational trends to increase retention levels. The APO offered 15 e-learning courses in 2017, with four in the interactive format.

Agriculture Courses

Eight e-learning courses on food and agriculture and were held, four under the Advanced Agricultural Management subprogram and two each under Rural and Inclusive Development and Future Food Systems. Six were in the standard format, covering: Controlled Environment Agriculture; Agribusiness Management (Basic); Agribusiness Management (Advanced); Agritourism Business Development; Rural Entrepreneurship Development; and Food Safety Management Systems (Advanced). The other two courses in the interactive format were on Good Agricultural Practices and Food Safety Management (Basic). Over 1,500 participants enrolled, of whom 94% were from member countries, while the remainder resided in Aruba, Botswana, Cameroon, Kenya, Mauritius, Monaco, New Zealand, Nigeria, South Africa, the UK, and USA.

Industry Courses

Industry sector-specific self-learning e-courses in 2017 focused on introducing productivity concepts and techniques related to technological advances and innovations such as smart technologies, smart factories, and creating a pool of certified productivity professionals and practitioners with best-in-class knowledge of the most recent productivity trends and practices.

Seven industry-related e-learning courses were offered during the year: Marketing Strategy and Product Branding for SMEs; Occupational Health and Safety Management (OHSAS 18001); Applying Green Productivity through the ISO 4001 Standard; Material Flow Cost Accounting (ISO 14051); Basic Course on Climate Change Impacts and Adaptation; and Productivity Tools and Techniques: Basic; and Productivity Tools and Techniques: Advanced. While most of the 3,000 participants in the e-learning courses focusing on industry came from APO member countries, they also attracted

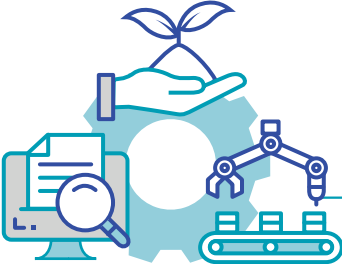
enrollees from nonmembers Afghanistan, Algeria, Armenia, Aruba, Australia, Bolivia, Botswana, Brunei, Cameroon, Canada, Iceland, Jamaica, Kenya, Latvia, Mauritius, Monaco, Namibia, New Zealand, Nigeria, South Africa, Spain, Suriname, Turkey, UAE, the UK, and USA.

8  e-learning courses were on food and agriculture

4 were under the Advanced Agricultural Management subprogram

2 were under the Rural and Inclusive Development program

2 were under the Future Food Systems program

7  industry-related e-learning courses were offered during the year

While most of the 3,000 participants

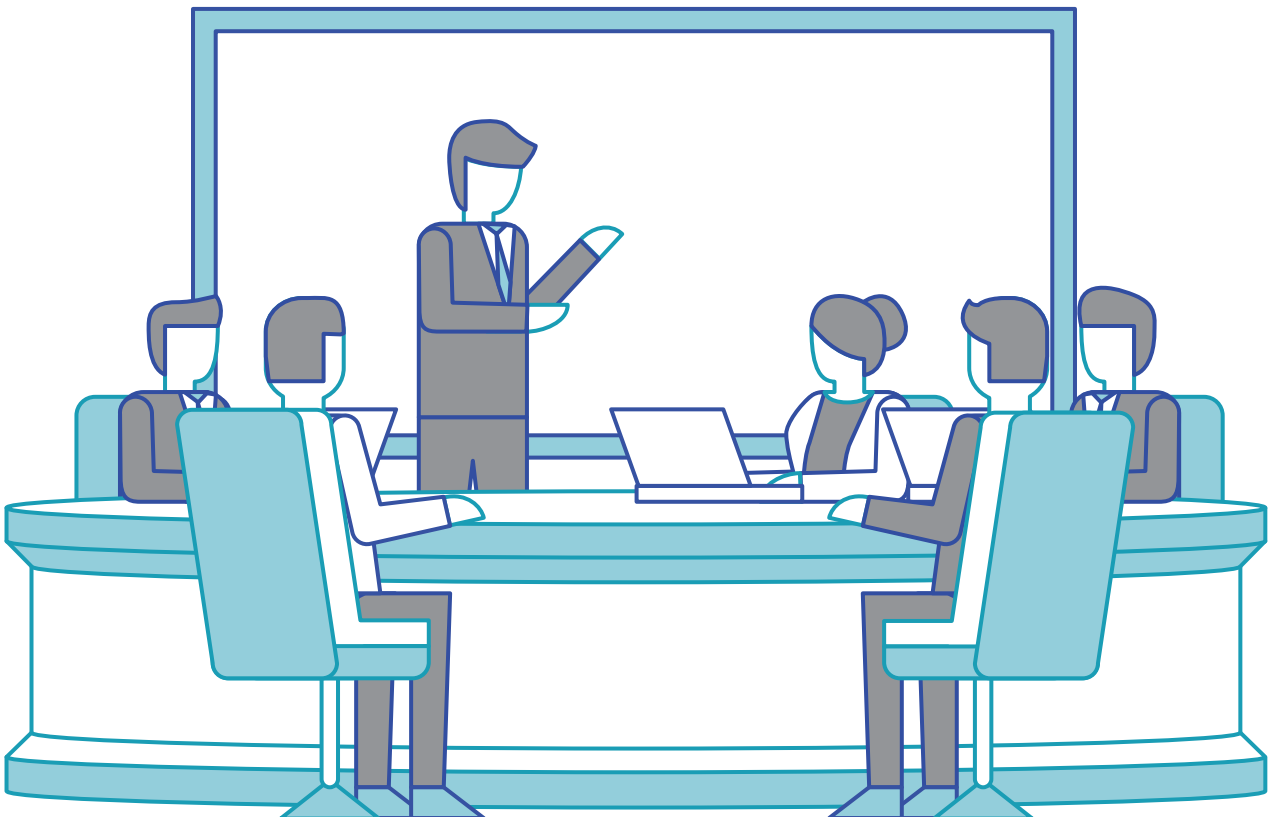
in the e-learning courses focusing on industry came from APO member countries, they also attracted enrollees from nonmembers



INTERNATIONAL COOPERATION

In an increasingly interconnected world, the APO recognizes the importance of expanding ties with other international organizations, national agencies, and relevant bodies within and outside the Asia-Pacific region. It therefore continues to strengthen cooperation and collaboration with existing and new partner organizations to promote sustainable productivity initiatives. In the current rapidly changing global business environment, expanding networks to develop a robust knowledge base has increasingly become crucial to all organizations, including the APO.

The International Cooperation Program contributes to expanding the pool of experts and resources for APO projects through partnerships and collaborations. It also provides member countries with opportunities to establish bilateral business ties and networks with counterparts in the region. The APO as a whole, its member countries, and its partners in cooperation all derive benefits from the synergies created.





Myanmar

The APO has been promoting productivity initiatives for Myanmar with voluntary contributions from the Government of Japan. For example, a study mission to demonstrate innovative practices of the rice industry in Japan was conducted in June 2017. The mission was attended by 14 participants, including senior government officials, business leaders, and academics engaged in agribusiness and the development of Myanmar's food industry. Government officials in the delegation also discussed potential future collaboration between Myanmar and the APO. The Secretary-General urged them to learn from the APO's recent initiatives such as the Productivity, Quality, and Innovation Framework and Centers of Excellence Program.



Republic of Turkey

The APO has remained in close communication with the Government of the Republic of Turkey since 2011. Turkey continues its interest in APO activities and stated that it wishes to become a full member. Two representatives from the Ministry of Science, Industry and Technology, Directorate General for Productivity, attended the 59th Session of the Governing Body held in Tehran, IR Iran, in April 2017 as observers and reaffirmed their country's interest in APO membership. In December 2017, the APO received a formal application for membership and it is hoped that Turkey will join the next Governing Body Meeting (GBM) as the 21st member of the organization. With its rich experience in the productivity movement since 1965 and its recent focus on the digital transformation and innovation of industries, which is aligned with various APO initiatives, the addition of the Republic of Turkey to the membership would create mutual benefit and synergy for all.



Science and Technology Centre of Antioquia, Colombia

In 2016, the APO and Science and Technology Centre of Antioquia (CTA), Medellín, Colombia, signed an agreement to train CTA professionals in applications of productivity and quality management techniques. The agreement followed the MOU signed by the APO and CTA in December 2015 to strengthen cooperation

and exchanges between the two institutions for the promotion of productivity and innovation.

The CTA held the First Eco Products and Eco Services Latin American Fair in Medellín in October 2017. It replicated many aspects of the APO's Eco-Products International Fairs, the largest environmental exhibitions in Asia showcasing the most advanced environmentally friendly products, technologies, and services that enhance sustainable development and competitiveness.



Cornell University

The APO and Cornell University first signed a Memorandum of Agreement in 2014 to develop and implement Advanced Agribusiness Executive Management Workshops and conduct research on successful agribusiness models. The collaboration with the university was renewed for another two-year term for 2017–2018 to develop and implement Advanced Agribusiness Executive Management Workshops and conduct research on successful agribusiness models addressing emerging challenges to agribusiness and food-industry SMEs and offering solutions to enhance sustainable productivity and competitiveness.



Economic and Social Commission for Asia and the Pacific

The APO Secretary-General attended the 73rd session of the Economic and Social Commission for Asia and the Pacific (ESCAP) in May 2017 and the 2nd Ministerial Conference on Regional Economic Cooperation and Integration in November 2017 as an observer. The main theme for the former conference addressed the UN Sustainable Development Goals, particularly Goal 7 (ensure access to affordable, reliable, sustainable, and modern energy for all). The sessions reviewed the current energy scene and emerging trends, current status, and challenges in the region. The APO Secretariat has benefited from exchanging views and policies related to sustainable energy, social development, and regional connectivity with ESCAP members.



Centre on Integrated Rural Development for Asia and the Pacific

The APO continues to strengthen its collaboration with the Centre on Integrated



Rural Development for Asia and the Pacific (CIRDAP). Under a three-year MOU signed in January 2016, the APO and CIRDAP agreed to co-organize and implement three agriculture- and food-related projects in 2017. Since CIRDAP has 13 member countries in common with the APO, this collaborative effort creates synergies in resource use and contributes to serving the dual memberships better in areas of mutual interest. Participants and experts for the workshops shared knowledge and experience on emerging issues such as how to revitalize rural communities through productivity improvement initiatives, cold chain management for agrifood products, and climate change adaptation and disaster risk management in agriculture.

Pan-African Productivity Association

With generous financial support from the Government of Japan and through close collaboration with the Pan-African Productivity Association (PAPA), a 2017 training course for advanced productivity practitioners in Mauritius was attended by 30 participants. Joint efforts with the APO have enabled PAPA to train practitioners who are valuable resources for national productivity movements on the African continent. Some participants have taken follow-up activities at national level, which received significant positive feedback. The APO, as the leading international organization on productivity enhancement, will continue such outreach activities in nonmember countries to disseminate sustainable productivity.

International Federation of Organic Agriculture Movements

The International Federation of Organic Agriculture Movements (IFOAM)-Organics International is the worldwide umbrella organization of the organic sector based in Bonn, Germany. The Secretariat has been engaged in organic agriculture-related R&D activities sponsored by IFOAM for the past several years. In November 2017, Dr. S. Tanveer Hossain from the APO Secretariat, who represented the APO in IFOAM activities, was appointed as IFOAM Organic Ambassador. The role involves promoting organic agriculture worldwide by volunteering his services for IFOAM organic advocacy programs and events.

Organisation for Economic Co-operation and Development

The APO continues to enhance its long-standing collaboration with the Organisation for Economic Co-operation and Development (OECD) in various areas. Agricultural policy is one relevant area where the APO can learn from the expertise of OECD members. Representatives of the Secretariat attended an OECD committee meeting in 2017, covering not only discussion topics but also more technical aspects. The meeting provided insight on how the APO could focus discussions among delegates at the WSM and GBM on technical issues, how information portals should be used before and during meetings, and how to use social networking tools more effectively to promote its activities.



INFORMATION TECHNOLOGY PROGRAM

IT plays a key strategic role in the digital initiatives undertaken by the APO. All functions of the Secretariat from project implementation to administrative support require a stable IT infrastructure. That ensures the business continuity of the Secretariat, building and maintaining systems and networks so that its critical functions of electronic communication, system oversight, and data access are not disrupted even in cases of unforeseen emergencies. Furthermore, protection of the valuable data and information resources of the organization is a necessity for the sustainability of APO activities.

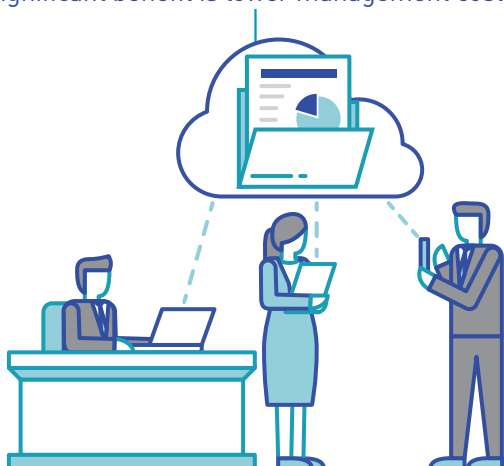
During 2017, the Secretariat migrated its IT infrastructure to a cloud-based option, rolled out a new mobile application for its digital-learning platform, launched the Strategic Future Platform, and kickstarted the process for implementing Secretariat-wide enterprise

resource planning (ERP). Videoconference (VC)-based e-learning courses continued with technical support from the Secretariat as well as in member countries where those courses were conducted. Digital initiatives undertaken in 2017 are summarized below.

Cloud Migration of Server-based Applications

The cloud represents a paradigm shift in computing. Moving workloads to the cloud reduces the demand on hardware resources, but a more significant benefit is lower management costs. The first phase of migration concentrated on e-mail, including mobile e-mail, and the latest version of Office package software and related training. The Secretariat expects to complete the migration by mid-2018. Support for legacy IT systems that are critical for day-to-day operations and business continuity will be maintained until they can be phased out.

Moving workloads to the cloud reduces the demand on hardware resources, but a more significant benefit is lower management costs.



The smartphone-based eAPO app that was successfully released during the 59th Governing Body Meeting in IR Iran reaches a wider target audience.



Mobile-learning Application

In December 2016, the Secretariat launched a new self-e-learning platform with improved features, enhancements, and design to support the target of training 100,000 professionals as called for in the Roadmap to Achieve the APO Vision 2020. With the rapid adoption of smartphones and tablets, organizations are reaping the benefits of creating mobile apps to offer more value, build stronger brands, and connect better with stakeholders. The smartphone-based eAPO app that was successfully released during the 59th Governing Body Meeting in IR Iran reaches a wider target audience.

Digital-learning Platform

With more professionals expected to participate in APO self-e-learning courses, it was important to redesign the platform to make it more user friendly, engaging, and interactive. The Secretariat provides essential backup for round-the-clock operation of the self-e-learning platform. In 2017, the Secretariat offered 15 self-e-learning courses through its new digital-learning platform, including four in a new interactive format that makes the course material more engaging and easier to understand. The new format contains reality-based scenarios and interactive quizzes. Its impact was evident, with the interactive courses registering average enrollment of 420 per course, or 60% higher than for the traditional format.

Coordination and Technical Support for VC-based e-Learning

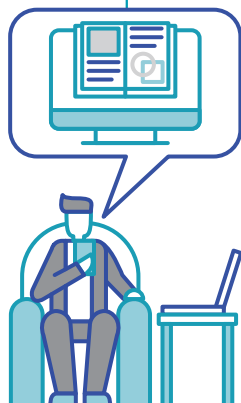
The Secretariat developed its own platform to offer VC-based e-learning courses in 2015. Five VC-based e-learning courses comprising 10 sessions were conducted in 2017 on: Customer Satisfaction Management for the Service Sector; ICT-based Services for Agricultural Extension; Green Productivity; Management Innovation in SMEs; and Food Safety Risk Management in Food Supply Chains. The courses attracted more than 1,211 participants from 14 APO member countries. The Secretariat conducted surveys and coordinated with vendors including centers in member countries to schedule over 200 hours of VC-based courses, ensuring that the sessions proceeded smoothly.

ERP Development

A major ERP initiative to migrate all key administrative and operational functions to a single database-driven process environment was started by the Secretariat in 2017. This initiative will be implemented in phases, with completion expected by 2020. The first phase of reviewing existing internal and external processes was completed. By the end of 2017, the Secretariat had refined internal work processes and streamlined workflows. The next phase will focus on design and development work with the ERP vendor and consultants.

In 2017, the Secretariat offered 15 self-e-learning courses through its new digital-learning platform, including four in a new interactive format that makes the course material more engaging and easier to understand.

A major ERP initiative to migrate all key administrative and operational functions to a single database-driven process environment was started by the Secretariat in 2017.



INFORMATION AND PUBLIC RELATIONS PROGRAM

Public Relations

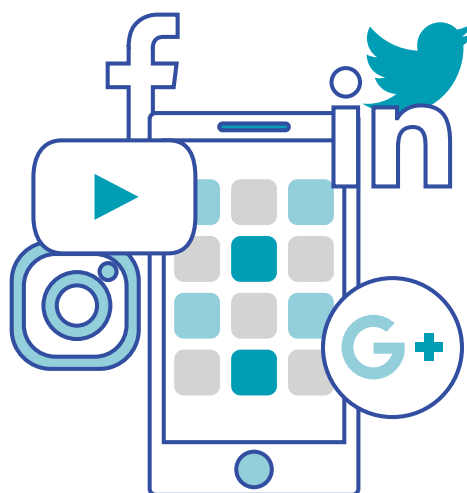
To strengthen its organizational brand and increase visibility among stakeholders, the APO adopted an “inbound-marketing” approach utilizing a multimodal strategy for delivering key messages. All components, technologies, and platforms for design, user interface, and navigation, as well as content development across various media, are knitted together seamlessly on the APO website and social media pages. This allows the Secretariat to go paperless and optimize resources by making the APO web portal, social media presence, and e-mail marketing the cornerstones of communication efforts.

The 2017 initiatives followed the “attract, connect, and engage” principle of inbound marketing by sharing interesting content from internal and external sources. The key objective was to provide information on productivity and related topics, global trends that could impact APO member economies, and developments driving or expected to drive productivity in the industry, agriculture, service, and public sectors.

The social media strategy was aimed at digitally amplifying APO initiatives and events, promoting member country-specific activities, and giving updates on workshops, training, and e-learning sessions. The integrated platform makes it easy to access APO-related news, reports, and publications. Repurposing existing content and generating regular new coverage on the website ensures better connection and engagement. Overall, 2017 saw a 142% increase in the volume of

content on the website, which included blog posts by the Secretary-General. Publication and design guidelines were also standardized.

Different channels create awareness of the APO, its vision and strategic goals, and history and milestones. Updates are provided on programs, publications, and reports as well as major projects like the Eco-products International Fair (EPIF), Workshop Meeting of Heads of NPOs (WSM), Governing Body Meeting (GBM), *APO Productivity Databook*, and Asian Economic Productivity Map. During 2017, the Secretariat also undertook content-driven campaigns to reach potential participants for the eAPO digital learning website and expand its LinkedIn, Instagram, and SlideShare presence. Online wire services and social media were utilized to disseminate press releases, publicize a study mission for the mass media, and broadcast major events through webcasting and Facebook Live.



Social Media

In 2017, digital media took center stage as the key tool to connect with target audiences. The APO leveraged the power of social media to share information on initiatives, industry best practices, and success stories with member countries. More followers were acquired on social media sites, inspiring them to achieve higher productivity at organizational and national levels. This was driven by a two-pronged strategy: generating and curating relevant content; and expanding the APO footprint across different social media platforms.

The APO LinkedIn channel was launched in 2017 to create networking opportunities focusing on recent APO-related news, major programs, and job postings. The channel now has more than 600 followers. The Instagram platform continued pilot operations, and the Secretariat launched SlideShare to make PowerPoint presentations and PDF documents accessible to a larger community of productivity practitioners.

The APO improved its Facebook and Twitter presence. Relevant news and research

articles were curated to engage individuals throughout the region and beyond. Social media channels generated interest in APO programs, projects, publications, and online initiatives, including the eAPO digital learning platform, and engaged influencers. An APO Media Alumni group was created on Facebook to continue interactions with media representatives.

The content-led strategy helped the number of APO Facebook page followers to cross the 10,000 mark, while those on Twitter reached 3,600. Overall, 2017 closed with an 80% increase in likes on the APO Facebook page and an upswing in the Twitter follower base since its launch at the end of December 2016. The content volume on APO social media platforms and overall engagement levels doubled to about 2,000 and 50,000, respectively, in 2017 compared with 2016.

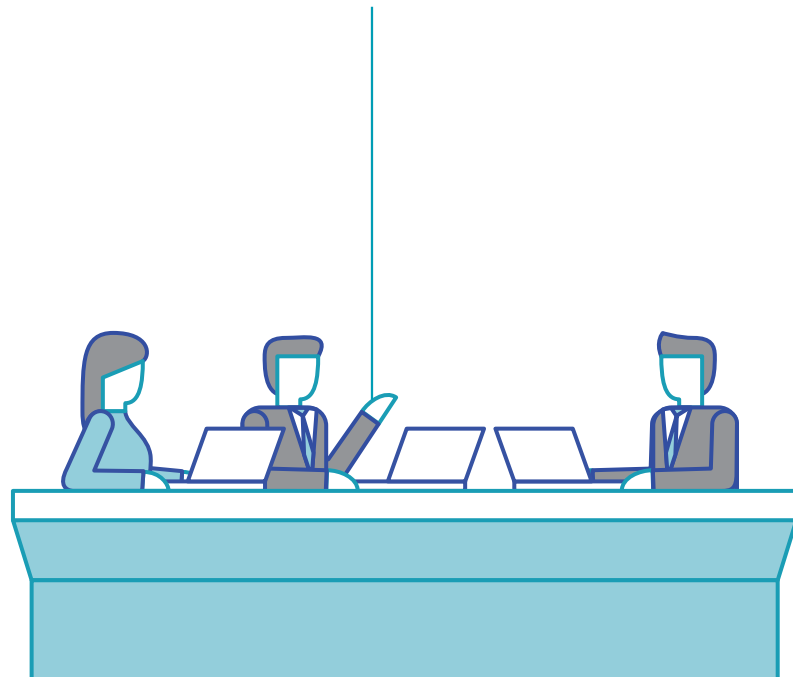
eAPO Social Campaign

An eight-week campaign launched on Facebook and Twitter in member countries promoted the eAPO digital-learning platform and courses, created awareness of e-learning courses offered, and boosted enrollment. It

Leveraged the power of social media to share APO initiatives, best practices, project notifications, and success stories.



The 2017 initiatives followed the “attract, connect, and engage” principle of inbound marketing.



also attracted more followers to APO social media channels. The campaign was partially successful; although page hits doubled during the eight-week period, there was only a marginal increase in course enrollment. The Secretariat will learn from this experience to fine-tune its social media outreach.

PR and Media Relations

Online wire services were used for two major campaigns revolving around the EPIF 2017 in Ho Chi Minh City, Vietnam, and the 58th WSM in Seoul, ROK. Press releases were circulated via the APO social media platforms to a global audience. The impact was a significant 50% rise in overall media coverage to about 1,200 in 2017. The visibility created in member countries, Africa, Australia, Canada, Europe, Latin America, and the USA generated an estimated media value of USD300,000.

The Secretariat engaged with the mass media in member countries in 2017, particularly with local media in Vietnam during the EPIF and journalists in IR Iran and the ROK during the GBM and WSM, respectively. The five-day multicountry observational study mission

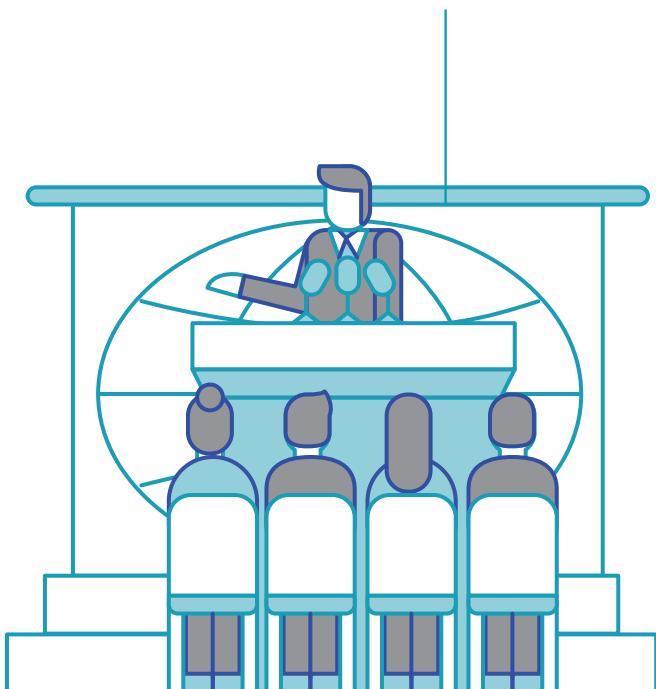
(OSM) on Innovation and Productivity Promotion in SMEs hosted by the APO in Tokyo was attended by 18 journalists and showcased innovations and best practices of Japanese SMEs. That OSM developed a framework for cooperation to strengthen links between the APO and in the media in member economies to promote the latest productivity trends and techniques throughout the region.

Branding and Logo

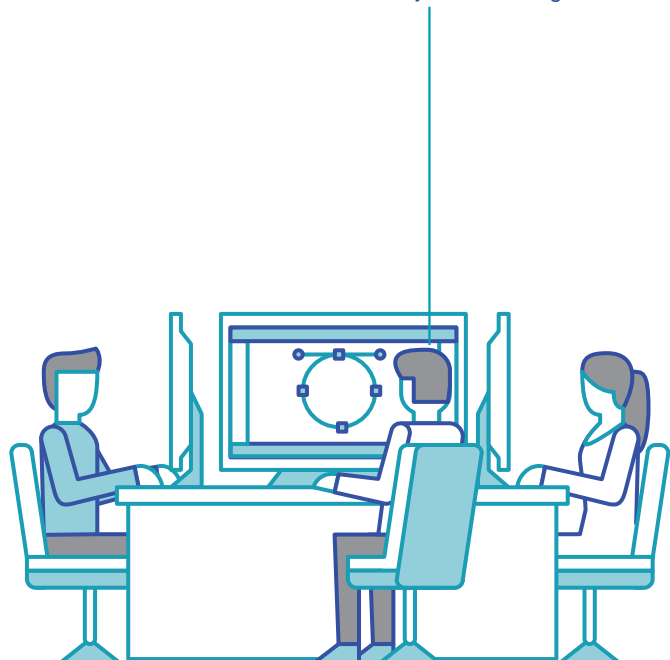
Consistency in the brand image and logo is important for organizational identity and recall. During 2017, the Secretariat made efforts to maintain uniformity in design and content in all documents. New logos were created for the WSM, GBM, APO Strategic Future Platform, and APO Sustainable Productivity Summit.

The Secretariat reviewed the publication template and standardized it to meet digital printing requirements and improve overall presentation and readability. The new template caters to different media and devices including laptops, tablets, and smartphones.

Engaged mass media practitioners through interactions and alumni programs.



Standardized publication template to meet digital printing requirements and bring consistency in branding.



Number of APO Facebook page followers jumped



80%
while engagement levels doubled to **50,000**



Press releases were circulated via the APO social media platforms to a **global audience**



A significant **50%** rise was seen in overall media coverage in 2017

EPIF 2017

The Secretariat worked closely with the VNPI, Vietnam Environment Administration, and Vietnam Chamber of Commerce and Industry to raise the media profile of the 11th EPIF at the Saigon Exhibition & Convention Center, 11–13 May. The EPIF 2017 received coverage by more than 300 websites, newspapers, magazines, and TV and radio channels in Vietnam and in media outlets in 12 other APO members as well as in nonmembers like Australia, Canada, PR China, Germany, Poland, the UK, and USA.

APO Honorary Fellows

Since 1978, the title of APO Honorary Fellow has been conferred by the APO Governing Body on former APO Directors, Alternate Directors, NPO Heads, Secretaries-General, or APO Liaison Officers in recognition of their outstanding contributions to the organization. Based on guidelines set by the APO Governing Body at its 19th Session held in 1977, seven individuals were approved by the APO Chair, First Vice Chair, and Second Vice Chair for conferment of the title of APO Honorary Fellow in 2017:

- ▶ Former APO Secretary-General Mari Amano
- ▶ Former APO Director for the Philippines and National Economic and Development Authority Deputy Director-General Margarita R. Songco
- ▶ Former APO Alternate Director for the Philippines, NPO Head, and DAP President Antonio D. Kalaw, Jr.
- ▶ Former APO Alternate Director for the ROC and Small and Medium Enterprise Administration Director General, Ministry of Economic Affairs, Dr. Ming-Ji Wu
- ▶ Former NPO Head for Indonesia and Liaison Officer Estiarty Haryani
- ▶ Former NPO Head for Japan and JPC President Masayoshi Matsukawa
- ▶ Former Liaison Officer and Deputy Director, International Cooperation Department, JPC, Sayaka Harada



Productivity Promotional Materials

To popularize the productivity concept, the APO produces promotional materials distributed to NPOs and others. One key tool for branding and information dissemination is the APO desktop calendar. The Secretariat decided to use the 2018 calendar, produced in 2017, to communicate changes being adopted by the organization and focus areas.

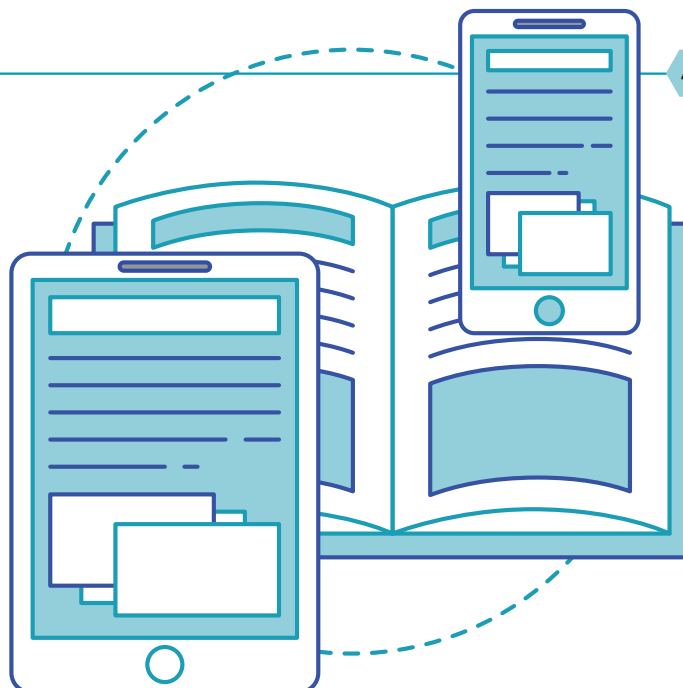
Reflecting the spirit of innovation and transformation in the digital era, the 12 monthly themes for the 2018 calendar were Strategic Planning, Foresight, Smart Industry, MOOCs, Sustainable Productivity, Smart Agriculture, Digital Transformation, Innovation, Smart Services, Global Partnerships, Inclusive Development, and Smart Public Sector. The calendar featured national holidays in APO members with color coding for easy identification.

Publications

Eight publications came out in 2017, including two books, research and resource papers, project reports, outcome documents, and the *APO Productivity Databook 2017*. In future, the APO will cooperate with other international organizations and consulting firms to create high-value publications, white papers, periodicals, and journals. The production of information materials, publications, and training aids in digital formats allows faster dissemination of information and wider outreach, with greater cost-efficiency.

The *APO News* was relaunched in 2017 as a monthly digital newsletter distributed as an electronic digital mailer. That achieved two objectives: reducing the use of paper to help meet the UN Sustainable Development Goals; and allowing readers to access it on any device as well as through social media channels. This enabled the APO to reach all stakeholders, including project experts and participants, directly through their inboxes, while sharing video and PDF files through the newsletter.

The responsive design format of the digital *APO News* offers easy viewing on different screen sizes, including tablets and smartphones. Since the contents page leads readers to specific APO website pages, it



helps the Secretariat determine the types of content stakeholders are interested in, enabling it to meet the specific information needs of member countries. *APO News* production and dissemination costs were reduced by 90% compared with 2016.

Six Report Format Titles resulting from specific APO projects were published in 2017:

- ▶ Knowledge Productivity in the Public Sector: Enhancing the Knowledge Work to Improve Effectiveness
- ▶ Assessing Green Business in Asia
- ▶ Productivity in Higher Education: Research Insights for Universities and Governments in Asia
- ▶ Colombo Declaration (International Conference on Policies for Productivity Growth)
- ▶ Raising Productivity in Higher Education: Selected Papers on Global Best Practices from Experts
- ▶ Higher Education Productivity Metrics: An Essential Guide for Users and Developers

Special Publications assist NPOs and consultants in their training efforts or commemorate special occasions and events organized by the APO. The *APO Productivity Databook 2017* was published under this category.

ONSITE EVALUATION OF 2016 PROJECTS

Scope of Work



64 multicountry projects implemented in 2016

- 17 training courses
- 19 workshops
- 10 observational study missions
- Four study missions to nonmember countries
- One technical information and advisory services meeting
- Two forums
- 11 conferences



1,553 participants

In 2017, the APO conducted evaluations of 64 multicountry projects implemented in 2016 with 1,553 participants. The 64 multicountry projects comprised 17 training courses, 19 workshops, 10 observational study missions, four study missions to nonmember countries, one technical information and advisory services meeting, two forums, and 11 conferences. Feedback from participants, resource persons, and implementing organizations was obtained through end-of-project questionnaires. Participants' feedback on project implementation indicated a 95% rate of overall satisfaction, broken down into: Program Content, 98%; Program Schedule, 90%; Time Allocation, 87%; Time Management, 85%; Methodology Used, 94%; Physical Arrangements, 94%; Resource Speakers/Persons, 100%; and Field/Observational/Company Visit(s), 87%. The feedback showed that the top three common high points cited by participants in APO multicountry projects were competent, experienced, internationally known resource persons with good knowledge of the subjects; relevant site visits; and good program management. Resource persons cited the generally positive attitudes and enthusiasm of participants, who represented a good mixture of backgrounds and knowledge of project topics. The same assessments were shared by the implementing organizations.

The most frequent suggestion was that programs should include more site visits to showcase practical examples in areas covered by projects. The Secretariat will attempt to resolve the tight program schedules, which remained an issue over a three-year period as continuously pointed out by participants, by carefully structuring and narrowing the focus





of project scope and contents. The quality of participants in future multicountry face-to-face projects will improve with the establishment of the interdepartmental selection committee in the Secretariat.

Similar to face-to-face projects, three videoconferencing (VC)-based e-learning courses implemented in 2016 were evaluated through end-of-project questionnaires. This was the second year the APO Secretariat had used in-house facilities to conduct e-learning courses. In 2016, 556 participants from 11 member countries completed e-learning courses. They generally appreciated the course contents, including the quality of materials presented by resource persons, as well as opportunities for exchanging ideas during group work and site visits. Resource persons found that participants were enthusiastic and positive. Implementing organizations mentioned that the programs were very cooperative and effective.

Major concerns expressed by e-learning participants were the limited time for Q&A sessions, lack of direct communication with participants from other countries, and too few practical case studies involving developing countries. There were comments that the APO should take the initiative in publicizing its e-learning courses widely through the media and that technical issues, such as video quality or weak connectivity, should be improved. Resource persons suggested that more time should be allocated for Q&A and that coordinators could perform continuous

monitoring of participants' progress during and after the program, leveraging the suggested networks.

In addition to VC-based e-learning courses, the APO also offers the self-learning e-course format. In 2016, eight self-learning e-courses were implemented, an increase of one in comparison with 2015. Despite the increase in courses offered in 2016, the 1) number of participants registered, 2) number of participants who took the final exams, and 3) number of participants who passed the final exams decreased. The average per course of 1)–3) also dropped in comparison with 2015. One explanation for this alarming decrease is that even though the topics of courses offered in 2015 and 2016 were not repeated, they might not have been sufficiently attractive to potential enrollees.

More efforts are required for the planning of self-learning e-courses to ensure that the topics and quality are attractive and address global trends. NPOs should be encouraged to expand their participant databases and improve the marketing of the courses. Proactive networking with APO stakeholders should be attempted. To increase the visibility of the APO, NPOs and the Secretariat should explore new methods to increase the demand for self-learning e-courses. Meanwhile, it should be noted that the Secretariat launched the eAPO platform from December 2016, and this interactive platform will allow self-learning e-courses to reach more potential participants.

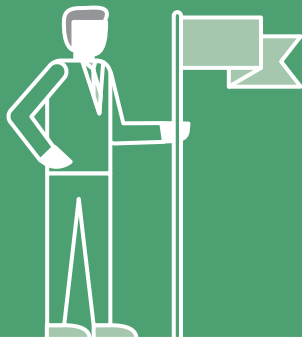
APO 2017 PROJECTS AT A GLANCE



193 projects
in 2017



9,357 participants
attended APO projects



557 experts
were assigned to APO projects



42 national coordinators
assisted in e-learning projects



36,102 visitors
to APO events open to the public





LIST OF
PROJECTS

APPENDIX 01

LIST OF PROJECTS

In 2017, the APO conducted various projects covering a multitude of topics. Projects totaled 193 (147 projects had been completed and 46 were in progress at the time of writing), with 9,357 participants. A total of 557 experts facilitated these projects, assisted by 42 national coordinators who focused on e-learning courses. The APO also extended its outreach to 36,102 visitors/observers through projects/events open to the public.

APO PROJECTS IN 2017

TYPE OF PROJECTS	COMPLETED	IN PROGRESS
Multicountry projects	70	32
Individual-country projects	76	14
Nonmember country projects	1	0
Subtotal	147	46
Total		193

STRENGTHENING OF NPOs

Project	Venue	Date/status as of 31 December 2017	Participants
Institutional Strengthening of National Productivity Organizations by the Development of Productivity Practitioners	Pakistan	27 March–8 April	20
Training Course on Customer-oriented Business Excellence Management	ROC	30 June–4 July	28
Training Course on Management Consultancy on Productivity Tools at National Level	Vietnam	11–23 September	25
Training of Trainers on the Environmental Management System Based on ISO 14000	Cambodia	9–13 October	40
Training Course on Total Factor Productivity and Productivity Measurement	Fiji	6–17 November	25
Training Course on Certified Productivity Champions	Malaysia	27 November–14 December	22
National Training Course on Lean Production Systems in Agribusiness to Improve the Productivity and Sustainability of SME Agribusiness	IR Iran	31 December 2016–4 January 2017	50
Conference on Results-based Monitoring and Evaluation of Public-sector Programs	APO Secretariat	14–17 February	100



Project	Venue	Date/status as of 31 December 2017	Participants
National Conference on Innovations and Applications of New Technologies to Improve Productivity for Cambodian SMEs	Cambodia	13–15 February	87
National Conference on Development of Rural Tourism for Enhancing Livelihoods of Rural Communities in Sri Lanka	Sri Lanka	23–24 February	125
Bringing SMEs to the Future: An Advanced Agribusiness Management Workshop for Business Owners and Managers	Philippines	19–21 June	60
National Follow-up Workshop on MSME Development Policies	Nepal	5–7 July	116
National Workshop on Enhancing Innovation, Productivity, and Quality in Agriculture and Agrifood Business in Cambodia	Cambodia	27–29 September	87
Workshop on the Development of Rural Tourism Networks and Clusters for Enhancing the Competitiveness of Small Enterprises	IR Iran	11–15 November	74
National Conference-cum-Workshop on Certification of Organic Products	Mongolia	28–30 November	161
National Conference on Biofertilizers and Biopesticides — from Development to Promotion	Sri Lanka	29–30 November	112
Research on the APO Productivity Databook and Database (2017 edition)	APO Secretariat	Completed	-
Research on the APO Productivity Databook and Database (2018 edition)	APO Secretariat	In progress	-
Demonstration Company Project on Advanced Food Safety Management Systems for SMEs	Cambodia	4–13 January	31
		27 April–9 May	31
National Training Course on Good Agricultural Practices (GAP) for Greater Market Access in Myanmar	Myanmar	6–10 February	40
Development of the Centers of Excellence: Expert Panel Meeting on the APO Center of Excellence Designation	Japan	24 January	-
Review and Updating of the KM Facilitators' Guide and KM Tools and Techniques Manual under the Program Development Fund	Cambodia	16–17 February	-



Project	Venue	Date/status as of 31 December 2017	Participants
Study Mission to a Nonmember Country on Development of Knowledge-based Business	UK	3–8 April	18
Workshop on Management Consultancy in Total Quality Management (TQM)	Fiji	24–28 April	23
Training Course on Development of Productivity Practitioners: Basic Program (DPP: Basic)	Philippines	8 May–2 June	21
International Conference on Industry 4.0 and the Future of Productivity	ROC	23–25 May	44
Training Course on Business Excellence for Senior Assessors	Fiji	29 May–2 June	22
National Workshop on Industry 4.0 and Development of the Roadmap for the Center of Excellence (COE) on IT for Industry 4.0	India	6–8 June	85
Training Course on Development of Productivity Practitioners: Advanced Program (DPP: Advanced)	Malaysia	17–28 July	23
Strategic Planning Workshop for Senior Planning Officers of NPOs and APO Liaison Officers	Japan	19–21 July	35
International Conference on Policies for Productivity Growth	Sri Lanka	9–11 August	50
Workshop on the Common Assessment Framework (CAF) for the Public Sector	Philippines	21–25 August	28
Workshop on Total Productive Maintenance Applications in SMEs	ROC	30 October–3 November	15
Workshop on Results-oriented Monitoring and Evaluation of Capacity Development Programs and Projects under the Program Development Fund	APO Secretariat	13–15 November	18
Self-learning e-Course on Agribusiness Management (Basic)	-	15 September 2016–17 February 2017	378
Self-learning e-Course on Controlled-environment Agriculture	-	1 December 2016–30 April 2017	181
Self-learning e-Course on Good Agricultural Practices (GAP)	-	In progress	248



Project	Venue	Date/status as of 31 December 2017	Participants
Self-learning e-Course on Agrotourism Business Development	-	In progress	198
Self-learning e-Course on Food Safety Management (Basic)	-	In progress	396
Self-learning e-Course on Rural Entrepreneurship Development	-	In progress	204
Self-learning e-Course on Agribusiness Management (Advanced)	-	In progress	43
Self-learning e-Course on Food Safety Management (Advanced)	-	In progress	68
Program Development Fund: Establishment of the APO Future of Intelligence Center	APO Secretariat	Year-long	-
Research on Industry 4.0 Digitization Strategies for SMEs	India	In progress	-
Research on Productivity Analysis for NPOs	APO Secretariat	In progress	-
Research on Institutions Offering Productivity Courses	APO Secretariat	In progress	-
Research on GP for the Base of the Pyramid for Sustainable Development in APO Member Countries (Development of the Center of Excellence)	APO Secretariat	In progress	-
Research on Youth Employment Issues and Human Capital Development for APO Economies	APO Secretariat	In progress	-
Training Program on Productivity Improvement for the Supporting Industry	APO Secretariat	In progress	-
Development of the APO Certification System	APO Secretariat	In progress	-



PROMOTING THE DEVELOPMENT OF SMEs AND COMMUNITIES

Project	Venue	Date/status as of 31 December 2017	Participants
Workshop on the Development of Productive Rural Communities through Social Enterprises	Cambodia	6–10 February	23
Multicountry Observational Study Mission for Mass Media Practitioners on Innovation and Productivity Promotion in SMEs	Japan	20–24 February	18
Advanced Agribusiness Management Course for Executives and Managers	Indonesia	27 February–3 March	25
Workshop on Emerging Roles of Producers' Associations and Farmers' Cooperatives	Bangladesh	23–27 April	23
Multicountry Observational Study Mission on Community Development for Achieving Inclusive Growth: Saemaul Undong Model of Community-driven Development	ROK	15–19 May	19
Workshop on e-Business Modeling for Women Entrepreneurs	ROC	19–23 June	31
Multicountry Observational Study Mission on Modern Food Quality Management Systems	Japan	24–29 July	17
Workshop on Revitalization of Rural Communities through Productivity Improvement Initiatives	Indonesia	21–25 August	21
Training Course on Basic Productivity Tools for SMEs	Fiji	21–25 August	24
Training of Trainers in Total Quality Management for SMEs	Mongolia	4–8 September	22
Conference on Smart Agriculture for Sustainable, Inclusive Productivity	Japan	5–7 September	29
Asian Food and Agribusiness Conference: Enhancing Exports of Organic Products	Philippines	13–15 September	67
Workshop on Advanced Farm Mechanization: Crop Sector	India	25–29 September	15
Training Course on Sustainability Assessment of Agribusiness Enterprises	Lao PDR	25–29 September	20



Project	Venue	Date/status as of 31 December 2017	Participants
e-Learning Course on ICT-based Services for Agricultural Extension (Session 1)	Bangladesh, Cambodia, Thailand, Vietnam	3–6 October	81
e-Learning Course on ICT-based Services for Agricultural Extension (Session 2)	India, IR Iran, Malaysia, Sri Lanka, Pakistan	27–30 November	125
Multicountry Observational Study Mission on SME Development	IR Iran	7–11 October	23
Study Mission to a Nonmember Country on Enhancing Access to Agrifood Products	Germany	9–14 October	17
Training Course on Planning and Management of Community-based Rural Tourism Projects	IR Iran	28 October–1 November	24
Training Course on Food Safety Management Systems: Basic Course for SMEs in the Food Industry	Fiji	20–24 November	23
Self-learning e-Course on Marketing Strategy and Product Branding for SMEs	-	In progress	324
Self-learning e-Course on the Occupational Health and Safety Management System (OHSAS 18001)	-	In progress	735
Self-learning e-Course on Productivity Tools and Techniques (Basic)	-	In progress	718
Self-learning e-Course on Productivity Tools and Techniques (Advanced)	-	In progress	460
Self-learning e-Course on Applying Green Productivity Based on ISO 14001 Standards	-	In progress	352
Self-learning e-Course on Material Flow Cost Accounting (ISO 14051)	-	In progress	329
Self-learning e-Course on Climate Change Impacts and Adaptation (Basic)	-	In progress	220



CATALYZING INNOVATION-LED PRODUCTIVITY GROWTH

Project	Venue	Date/status as of 31 December 2017	Participants
Industrial Human Resources Development for Africa: Training Course on Development of Advanced Productivity Practitioners	Mauritius	6–17 February	30
Training Course on Business Excellence for SMEs	Singapore	28 February–3 March	19
Top Management Forum on Knowledge Management for SMEs	ROK	14–16 March	19
APO Alumni Forum on Innovations and Best Practices in Productivity Promotion	Japan	14–17 March	31
Multicountry Observational Study Mission on Public–private–academia Partnerships for Industrial Human Resources Development	Japan	27 March–1 April	17
Multicountry Observational Study Mission on Industrial Human Resources Development for Women	APO Secretariat	3–7 April	16
Workshop on Public-sector Leadership	Philippines	15–19 May	22
Multicountry Observational Study Mission on Innovations in Food Value Chain Management	Japan	15–20 May	18
Multicountry Observational Study Mission on Public-sector Productivity for High-level Officials	ROC	22–26 May	17
Study Mission to a Nonmember Country on Lean and Advanced Technology in Healthcare Services	USA	5–9 June	13
Observational Study Mission from Myanmar on the Innovative Rice Industry in Japan	Japan	12–16 June	14
Multicountry Observational Study Mission on Innovation and Competitiveness in SMEs	ROK	19–23 June	16
Workshop on Innovative Water Resource Management	IR Iran	22–26 July	25
e-Learning Course on Customer Satisfaction Management for the Service Sector (Session 1)	Cambodia, Fiji, Japan, Malaysia, Mongolia, Philippines, Vietnam	25–28 July	140



Project	Venue	Date/status as of 31 December 2017	Participants
e-Learning Course on Customer Satisfaction Management for the Service Sector (Session 2)	Bangladesh, India, IR Iran, Nepal, Pakistan, Sri Lanka	21–24 August	141
Workshop on Productivity Measurement in the Higher Education Sector	Indonesia	7–10 August	24
Training Course on Knowledge Management and Innovation for Local Government Authorities	IR Iran	26–30 August	20
International Forum on Productivity	Malaysia	12–14 September	34
Workshop on Corporate Sustainability Management for SMEs	ROC	25–29 September	20
Workshop on Innovative Leadership and Talent Management for Public-sector Productivity	Sri Lanka	2–6 October	28
International Conference on Public-sector Productivity	Philippines	10–12 October	24
Multicountry Observational Study Mission on Innovations in Value-added Agriculture in Japan	Japan	10–14 October	18
Workshop on Performance Management for the Public Sector	Philippines	6–10 November	21
Workshop on Corporate Social Responsibility in SMEs	Sri Lanka	6–10 November	28
Workshop on Global Market Access Focusing on the Retail Industry	Cambodia	13–17 November	22
Training Course on Labor-Management Relations in SMEs	IR Iran	25–29 November	23
e-Learning Course on Food Safety Risk Management in Food Supply Chains (Session 1)	Bangladesh, India, IR Iran, Pakistan, Vietnam	20–23 November	148
e-Learning Course on Food Safety Risk Management in Food Supply Chains (Session 2)	Cambodia, Fiji, Malaysia, Mongolia, Philippines	5–8 December	116



Project	Venue	Date/status as of 31 December 2017	Participants
Research on Public Policy Innovation for Human Capital Development	Sri Lanka	11–13 December	-
e-Learning Course on Management Innovation in SMEs	Bangladesh, India, IR, Iran, Nepal, Pakistan, Vietnam	11–14 December	105
Workshop on Cold Chain and Logistics Management for Agrifood Products	Fiji	11–15 December	22
Research on Agricultural Productivity Measurement and Monitoring	APO Secretariat	In progress	-
Research on Science, Technology, and Innovation Policies in Member Countries and Implications for Productivity Enhancement	APO Secretariat	In progress	-
Research on Aging Societies and Gender Mainstreaming in Human Capital Development	APO Secretariat	In progress	-
Research on Measurement of Productivity in the Public Sector	APO Secretariat	In progress	-
Research on Case Studies of Diversity Management and Human Capital Strategy	APO Secretariat	In progress	-
Research on Change Management in the Public Sector	APO Secretariat	In progress	-
Research on Measuring Productivity in Higher Education	APO Secretariat	Completed	-
Research on Knowledge Management Models in the Public Sector	APO Secretariat	Completed	-



GREEN PRODUCTIVITY

Project	Venue	Date/status as of 31 December 2017	Participants
Research on the State of Green Business in the Region	APO Secretariat	Completed	-
Research on Green Productivity and Productivity Measurement Program for Myanmar	APO Secretariat	Completed	-
15th Annual Meeting of the Green Productivity Advisory Committee (GPAC)	Japan	10 February	-
Development of Demonstration Companies on Energy Efficiency and Conservation	Mongolia	14–16 February	75
Development of Demonstration Companies: Energy Efficiency Program, Sri Lanka	Sri Lanka	24–26 April	150
Development of Demonstration Companies: Energy Efficiency Program, Nepal	Nepal	18–23 June	39
Development of Demonstration Companies: Energy Efficiency Program, Nepal	Nepal	13–17 October	15
Development of Demonstration Companies: Energy Efficiency Program, Pakistan	Pakistan	17–28 July	39
Development of Demonstration Companies: Energy Efficiency Program, Pakistan	Pakistan	17–27 October	13
Workshop on Material Flow Cost Accounting	Bangladesh	27–30 March	22
Workshop on Successful Models of Integrated Farming	Bangladesh	7–11 May	25
International Environmental and Economic Forum: Action for the Future and Moving Toward a Virtuous Circle for Sustainable Development	Vietnam	11–13 May	43
Eco-products International Fair	Vietnam	11–13 May	-
Multicountry Observational Study Mission on Energy Efficiency and Energy Management Practices for SMEs	ROC	24–28 July	19
2nd International Conference on Biofertilizers and Biopesticides	ROC	8–11 August	41
Training of Trainers and Consultants in Green Productivity (APO-certified GP Specialists)	ROC	14 August–1 September	19



Project	Venue	Date/status as of 31 December 2017	Participants
Workshop on Climate Change Adaptation and Disaster Risk Management in Agriculture	Sri Lanka	11–15 September	28
Training Course on Management Consultancy on Green Productivity Focusing on SMEs	ROC	11–22 September	18
International Conference on Material Flow Cost Accounting	IR Iran	19–21 September	38
Asian Forum on Smart Agriculture: Futuristic Technologies for Sustainable Farming	Thailand	6–9 November	31
e-Learning Course on Green Productivity (Session 1)	Cambodia, Fiji, Vietnam	7–10 November	45
e-Learning Course on Green Productivity (Session 2)	Bangladesh, India, IR Iran, Mongolia, Nepal, Pakistan, Sri Lanka	13–16 November	177



PROJECTS FUNDED BY SPECIAL CASH GRANTS

Project	Venue
Demonstration Company Project on Advanced Food Safety Management Systems for SMEs: Cambodia	Cambodia
Development of Demonstration Companies: Energy Efficiency Program, Mongolia	Mongolia
Development of Demonstration Companies: Energy Efficiency Program, Nepal	Nepal
Development of Demonstration Companies: Energy Efficiency Program, Sri Lanka	Sri Lanka
Development of Demonstration Companies: Energy Efficiency Program, Pakistan	Pakistan
Industrial Human Resources Development for Africa: Training Course on Development of Advanced Productivity Practitioners	Mauritius
Multicountry Observational Study Mission on Industrial Human Resources Development for Women	Japan
Multicountry Observational Study Mission on Innovations in Food Value Chain Management	Japan
Multicountry Observational Study Mission on Modern Food Quality Management Systems	Japan
Multicountry Observational Study Mission on Public-private-academia Partnerships for Industrial Human Resources Development	Japan
National Training Course on Good Agricultural Practices (GAP) for Greater Market Access in Myanmar	Myanmar
Observational Study Mission from Myanmar on the Innovative Rice Industry in Japan	Japan
Research on Green Productivity and Productivity Measurement Program for Myanmar	-
Training Program on Productivity Improvement for the Supporting Industry	APO Secretariat



INDIVIDUAL-COUNTRY PROGRAM

INDIVIDUAL-COUNTRY OBSERVATIONAL STUDY MISSIONS

Project	Venue	Date/status	Participants
Individual-country Observational Study Mission on Sustainable Community Development and the Saemaul Undong and SK Group Social Enterprise	ROK	27–31 March	8
Individual-country Observational Study Mission on Halal Food Production and Monitoring	Malaysia	10–14 July	6
Individual-country Observational Study Mission on Biotechnology and Food Industries	Thailand	31 July–4 August	12
Individual-country Observational Study Mission on the High Value Service and Productivity Improvement of Japanese Service Industries	Japan	5–8 September	16
Individual-country Observational Study Mission on Best Practice Regulation for Trade Facilitation	ROK	27 November–1 December	9
Individual-country Observational Study Mission on Total Quality Management	Japan	11–15 December	11

DEVELOPMENT OF DEMONSTRATION COMPANIES

Project	Venue	Date/status
Development of Demonstration Companies: Knowledge Management for Quality and Productivity Enhancement in Electricity and Power Industry	IR Iran	Completed
Development of Demonstration Companies: Implementation of Performance Management Architecture	Indonesia	Completed
Development of Demonstration Companies: Quality Management System (ISO 9001:2015) for SMEs	Cambodia	Completed
Development of Demonstration Companies: Application of Resilient, Resource-efficient, Vibrant Energy Sources for the Development of a Green Economy	India	Completed
Development of Demonstration Companies: MFCA-linked Lean Manufacturing for SMEs in the Manufacturing Sector	India	In progress



Project	Venue	Date/status
Development of Demonstration Companies: Material Flow Cost Accounting	Pakistan	In progress
Development of Demonstration Companies: Application of Smart Technologies	India	In progress
Development of Demonstration Companies: Implementation of GLOBALGAP in Sun Feed Joint Stock Company (S.J.S.)	Vietnam	In progress

PARTICIPATION UNDER BCBN PROJECTS

Subject	Deputing country	Venue	Duration	Participants
Benchmarking on Management of NPO–APO Liaison Operations and NPO Productivity and Innovation Promotion Programs	Philippines	ROK, Thailand	16–21 February	5
Study of Agricultural Productivity and Green Energy Applications	Lao PDR	ROC	20–22 June	2
Study on Benchmarking and Industry 4.0	Vietnam	Malaysia, ROC	13–17 November	3
Policy and SME Development through Industry 4.0 and Productivity Enhancement	Cambodia	ROK	12–15 December	3



TECHNICAL EXPERT SERVICES

Subject	Venue	Duration
Training Program on Developing Eco-industrial Clusters	India	3–6 January
Deployment of Key Performance Indicators Framework to Improve Quality and Productivity for Vietnamese Enterprises	Vietnam	9–13 January
Training Course on Implementation of ISO 9001:2015 for NPO and Public-sector Organizations	Pakistan	9–20 January
Development of the Pakistan Productivity, Quality, and Innovation Framework	Pakistan	9–21 January
National Conference on Innovations and Applications of New Technologies to Improve Productivity	Cambodia	12–14 February
Industry 4.0	Thailand	1–7 March
Training-cum-workshop on Smart Manufacturing	India	6–9 March
MFCA Workshop on Increasing Green Productivity	Indonesia	4–7 April
Newly Established Center for Clean Technologies & Sustainable Development	India	28 April–12 May
Benchmarking Training	Fiji	19–23 June
Labor Market Information System Implementation	Fiji	26–30 June
Strengthening of National Productivity Movements	Sri Lanka	26 June–7 July
National Workshop on MSME Development Policies	Nepal	5–7 July
Karuizawa Top Management Seminar — Innovation and Algorithmic Disruption from Silicon Valley: The Underlying Drivers of AI, IoT, Fintech	Japan	5–7 July
Implementing Productivity Improvement Cycles in Selected Manufacturing Companies	IR Iran	8–13 July
Digital Lean: The Next Operations in Transforming to Industry 4.0	Thailand	24–27 July
Training Course on Productivity Measurement	Indonesia	7–10 August
Training Course on Regulatory Impact Analysis	Philippines	28 August–1 September
Judging Panel Members of the National Productivity Awards Competition	Sri Lanka	11–17 September



Subject	Venue	Duration
Advanced Research on Methodologies of Labor Productivity and Total Factor Productivity (TFP) Measurement at a National and Industrial Level and Decomposition of Factor Inputs Contributing to Labor Productivity and Economic Growth	Vietnam	18–21 September
Training Course on Business Process Reengineering	Fiji	2–6 October
Industry 4.0	Thailand	9–12 October
Green Energy Systems for Rural Applications: Technology Training Course	Indonesia	17–19 October
International Forum and Workshop on New Kirkpatrick Model and Best Practices to Promote Productivity Again	ROC	25–27 October
KPC Global Conference: The 4th Industrial Revolution and the Future of Productivity	ROK	26 October
International Forum on High-growth Trends	ROC	1–3 November
International Conference on Smart Agriculture/ Intelligent Agriculture	ROC	6–8 November
Enhancing Productivity in the Public Sector	Thailand	6–10 November
International Forum on Intellectualized Management: From the Farm to Table	ROC	7–9 November
Capacitating Small Farmers Toward a Climate Change-resilient and Profitable Calamansi Industry	Philippines	12–18 November
Workshop on Green Technologies on Waste Management and Renewable Energy	India	19–23 November
Training on Productivity Measurement and Monitoring Systems for the NPO	Bangladesh	27–29 November
National Convention on Productivity and Quality 2017	Indonesia	27–30 November
Smart Manufacturing: Necessary Preparations for Vietnamese SMEs	Vietnam	27 November–1 December
Green Productivity: Energy Efficiency and Green Energy Technologies	Bangladesh	4–8 December
Industry 4.0: Opportunities and Challenges	IR Iran	16–20 December
Training of Trainers on Total Quality Management	Cambodia	18–22 December
Innovation Excellence Framework	Thailand	18–22 December



INTERNATIONAL COOPERATION

JOINT PROJECTS

Project	Collaborating organization
Advanced Agribusiness Management Course for Executives and Managers	Cornell University

SERVICES OF EXPERTS RECEIVED

Project	Collaborating organization
Workshop on Innovative Water Resource Management	UN FAO
Workshop on Climate Change Adaptation and Disaster Risk Management in Agriculture	ERIA and CIRDAP
Research on Agricultural Policies in Asia	OECD

GUEST OBSERVERS RECEIVED

Project	Organization/number of observers
59th Session of the APO Governing Body	UN FAO/1
	PAPA/1
	Government of Turkey/2
58th Workshop Meeting of Heads of NPOs	CIRDAP/1
	Government of Romania/2

PARTICIPANTS FROM NONMEMBER COUNTRIES

Project	Participating country/number of participants
Industrial Human Resources Development for Africa: Training Course on Development of Advanced Productivity Practitioners	Botswana/3, Burkina Faso/2, Mauritius/10, Namibia/4, Nigeria/4, South Africa/2, Tanzania/1, Zambia/2, Zimbabwe/2
Multicountry Observational Study Mission on Industrial Human Resources Development for Women	Myanmar/1
Observational Study Mission from Myanmar on the Innovative Rice Industry in Japan	Myanmar/14





SUMMARIES OF PROJECTS

APPENDIX 02

SUMMARIES OF PROJECTS

STRENGTHENING OF NPOs

Institutional Strengthening of National Productivity Organizations by Development of Productivity Practitioners

The Institutional Strengthening of National Productivity Organizations by Development of Productivity Practitioners Program, also known as DON in-country projects, is designed to fulfill the ongoing need for the capacity building of NPOs. It aims to strengthen the institutional capacity of NPOs in enhancing productivity in each member economy through maintaining the availability, quantity, and quality of productivity practitioners. These productivity facilitators and practitioners are then expected to apply their acquired skills and knowledge in advisory and training services for multiplier effects. The focus of this program is on both NPOs and SMEs in line with the APO's strategic direction of strengthening NPOs and promoting the development of SMEs and communities.

Six DON in-country projects were implemented in 2017. Cambodia hosted a five-day training-of-trainers course on the Environmental Management System based on ISO 14000 in Phnom Penh, which was attended by 40 productivity practitioners. The CPC offered a training course on Customer-oriented Business Excellence Management in Taipei, 30 June–4 July, with 28 participants representing the CPC and SMEs. Fiji held a project on Total Factor Productivity and Productivity Measurement in Suva, 6–17 November, attended by 25 individuals from the NTPC and SMEs. A 14-day training course for Certified Productivity Champions was organized by the MPC in Selangor, 27 November–14 December, attended by 22 from the MPC, public sector, and SMEs. Pakistan held a training course on Development of Productivity Practitioners

in Islamabad, 27 March–8 April, attended by 20 individuals from the NPO Pakistan, government, and private sector. In Ho Chi Minh City, the STAMEQ conducted a national training course on Management Consultancy on Productivity Tools at National Level benefiting 25 participants from the Small & Medium Enterprises Development Support Center and SMEs from 11–23 September.

I National Follow-up Program

Despite implementing various types of multicountry and individual-country projects, several NPOs raised concerns about the limited opportunities their countries had to participate in multicountry projects. Thus, the National Follow-up Program (NFP) was launched in 2015. The NFP is designed to provide equal opportunities for all countries to have better access to and benefit from APO projects dealing with subjects that are most relevant to their needs. Through the NFP, it was expected that each country would have better access to APO technical and financial support and that the reach of APO projects would be expanded to wider groups of stakeholders.

The objectives of the NFP are to: 1) provide technical and financial assistance to NPOs or partner organizations in conducting national follow-up projects following specific multicountry projects; 2) support member countries in intensifying the dissemination of knowledge and information on productivity topics covered in multicountry projects; and 3) provide opportunities for more individuals from member countries to participate in national conferences, forums, workshops, and training courses on the themes and topics covered in multicountry projects. The



aim is to strengthen the capacity of more stakeholders in member countries in a cost-effective way to increase their productivity and competitiveness, while enhancing the visibility of the APO.

In 2017, 12 NFP projects were implemented in seven APO member countries. Based on information provided by NPOs, 1,225 participants, professionals, and employees benefited. Twelve resource persons from Canada, India, Italy, the ROK, Malaysia, Singapore, Thailand, UK, and USA conducted the national projects, supported by local experts/coordinators. Overall, the feedback from participants and implementing organizations was positive. The window for 2017 NFP projects was 1 June 2017–31 May 2018. At the time of writing, three additional proposals from Cambodia, IR Iran, and the Philippines had been received. Those projects will be implemented before/by May 2018. The main challenge was that only a limited number of member countries benefited from the NFP. There is a need to promote the NFP in more effective ways so that more member countries can benefit from APO support for intensifying the dissemination of knowledge and information on productivity topics covered in multicountry projects.

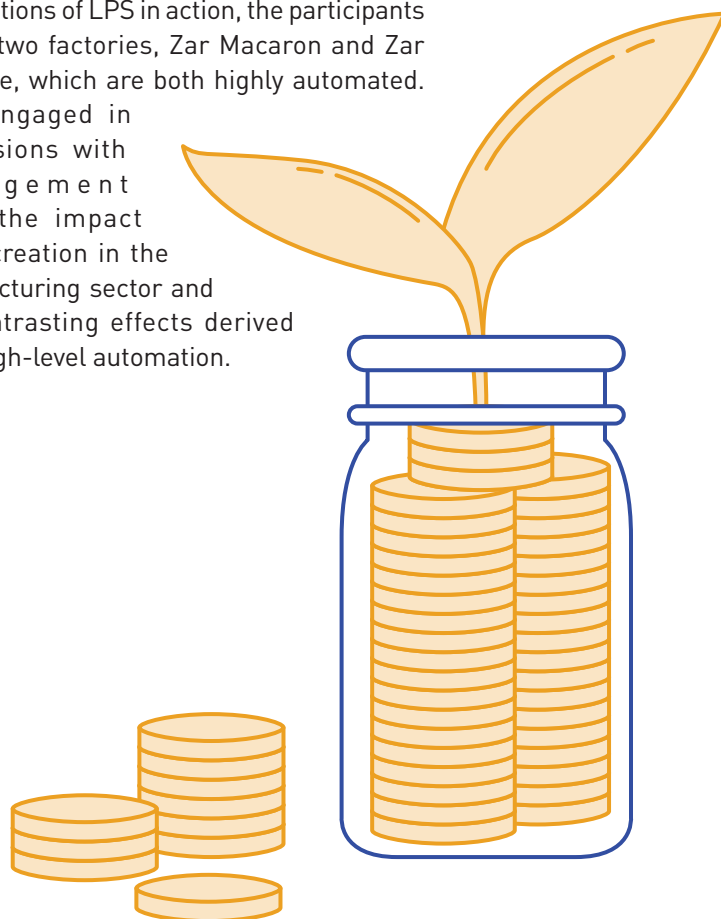
National Training Course on Lean Production Systems in Agribusiness to Improve the Productivity and Sustainability of SME Agribusinesses

Lean production systems (LPS) are derived from the mass production system of Toyota called the Toyota Production System (TPS) that eliminates actions that do not create value. LPS tools evolved from the TPS remove unnecessary inventories of raw materials and finished products in supply chains to maximize the use of resources. LPS can be potentially applied to every step of value chains in agriculture and the food industry. As its products are perishable, it is important to maintain freshness to increase commercial value, which requires the highest level of just-in-time (JIT) production. LPS not only provide technical solutions but also benefit the organizational culture and leadership

to make people active members of the production system.

A training course was designed to inspire and share ideas for LPS applications in agriculture and food manufacturing to cope with challenges in that specialized environment. The course was held in Tehran, IR Iran, implemented by NIPO and the Institute of Technical & Vocational Higher Education of the Ministry of Agriculture Jihad, 31 December 2016–4 January 2017. Fifty participants from universities, training centers, and the agrifood industry attended to study the concepts of LPS and their applications for enhancing labor productivity. One APO resource person from SMART Methodology Pte Ltd, Singapore and one local resource person from Iran University of Science & Technology facilitated the training.

Program coverage: Concepts and principles of lean and the TPS; Lean thinking and lean culture; Lean techniques and tools and their applications in the agribusiness environment such as the seven tools of quality; and Lean Six Sigma, kaizen, and waste elimination. For field observations of LPS in action, the participants visited two factories, Zar Macaron and Zar Fructose, which are both highly automated. They engaged in discussions with management about the impact of job creation in the manufacturing sector and the contrasting effects derived from high-level automation.



Conference on Results-based Monitoring and Evaluation of Public-sector Programs

Results-based management (RBM) is a management strategy in which all actors contribute to achieving the desired results. By focusing on results rather than activities, RBM helps organizations to achieve greater efficiency, effectiveness, and accountability. In the public sector, increased expenditures as well as the emergence of a new range of models for various services (such as public-private partnerships) have resulted in growing demand for the monitoring and evaluation (M&E) of programs and projects undertaken by governments, international donors, and civil society at large. The process of M&E leads to the identification and introduction of appropriate, timely interventions to result in more productive outputs and outcomes. It is imperative to put in place results-based monitoring and evaluation systems for public programs and projects.

As a national follow-up project to the APO multicountry workshop on Results-based Management for Public-sector Organizations held in June 2015 in Hanoi, the APO supported the NPC of India in organizing a conference on Results-based Monitoring and Evaluation of Public-sector Programs under the NFP to enable knowledge transfer on results-based M&E to local stakeholders. This three-day conference held from 14–17 February in New Delhi brought together more than 100

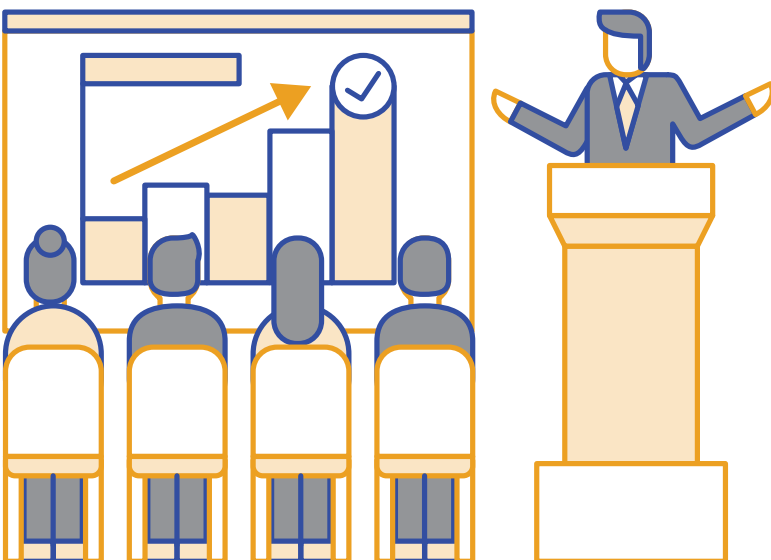
representatives of different government ministries/agencies at national, state, and local levels in India. They discussed RBM in the context of productivity-integrated M&E frameworks that can be utilized by governments and public-sector organizations for effective, efficient implementation of programs, projects, and schemes.

Program coverage: Productivity-integrated M&E frameworks; Public-sector productivity and framework of RBM; Results-oriented M&E; M&E of government schemes/programs/projects; The performance management and accountability toolkit; and Result framework document.

National Conference on Innovations and Applications of New Technologies to Improve Productivity for Cambodian SMEs

Innovation is indispensable to improve productivity and remain competitive. At the organizational level, innovation is linked to positive changes in efficiency, productivity, quality of services, and competitiveness. But innovation is not only about designing new products or services to sell; it can also focus on finding new customers and cutting waste to increase profits. Internal drivers include goals for improved quality and processes, creation of new markets, extension of product ranges, reduced labor costs, lower environmental impact, decreased energy consumption, etc. External drivers are changes in industry and market structure, local and global demographics, competition, etc.

To enhance understanding of best practices to improve organizational productivity, profitability, and sustainability, learn from successful models of promoting innovation, and share the experience and insights of local participants who attended the previous international APO conference on the topic, the APO and NPCC organized a National Conference on Innovations and Applications of New Technologies to Improve Productivity for Cambodian SMEs, 13–15 February in Phnom Penh. Eighty-seven participants from academia and the public and private sectors attended.



Program coverage: Industry 4.0 and the 4th Industrial Revolution; Innovations and new technologies for the One Village, One Product Movement in Cambodia; The role of innovation centers in enhancing productivity and sustainability of SMEs: Case of the UK; The role of incubation centers and accelerators in supporting startups: Case of the Korean Global Clean Energy Inc.; Innovation in the food and agribusiness sector: Case of plant factories in Japan; and Knowledge management and innovation in SMEs: Selected approaches and case studies.

National Conference on Development of Rural Tourism for Enhancing Livelihoods of Rural Communities in Sri Lanka

Sri Lanka has all the requirements to be one of the most popular tourist destinations, with its different ecological zones within a few hours' drive and striking scenery including waterfalls, rivers, tea estates, UNESCO World Heritage Sites, and thousands of archaeological sites. With its unique features, Sri Lanka offers myriad opportunities for promoting and upgrading its traditional tourism industry. Currently, different subsectors of rural tourism such as agritourism, ecotourism, and nature tourism in Sri Lanka are in the emerging stage. Some farming communities have the potential for developing tourism facilities but lack the necessary knowledge and skills to start successful operations. They need outside support and guidance to initiate rural tourism business activities in their regions.

A national conference on Development of Rural Tourism for Enhancing Livelihoods of Rural Communities in Sri Lanka was held 23–24 February in Colombo, organized and implemented by the NPS in collaboration with the Department of Agribusiness Management of Sabaragamuwa University. One APO international resource person from the UK and two local ones were invited to share successful models, best practices, and requirements of rural tourism and review practical ways to create alternative income opportunities for rural communities. Ninety-two and 84 participants from the tourism industry and academia

attended on days 1 and 2, respectively, to identify and discuss appropriate strategies for the promotion and development of rural tourism in the country.

Program coverage: Concept of rural tourism development and types of rural tourism; Roles of various stakeholders in developing and promoting rural tourism in Sri Lanka; Successful models of rural tourism enterprises in Asia and elsewhere; Practical tools and techniques in planning and developing rural tourism businesses in Sri Lanka; and Methods and strategies to promote rural tourism businesses in the country.

Bringing SMEs to the Future: An Advanced Agribusiness Management Workshop for Business Owners and Managers

The APO in cooperation with Cornell University and FTPI organized an Advanced Agribusiness Management Course for Executives and Managers, in Bangkok, 25–29 July 2016. Three participants from the Philippines attended and found the topics discussed relevant to the needs of SMEs in the Philippines.

Therefore, to strengthen the capabilities of Philippine SMEs in strategic planning, marketing, and innovation, and enhance the knowledge of more stakeholders of recent developments in agribusiness at the global and regional levels so that they remain competitive in the quickly changing business environment, the Philippine Calamansi Association and DAP in collaboration with the APO organized Bringing SMEs to the Future: An Advanced Agribusiness Management Workshop for Business Owners and Managers in Quezon City, 19–20 June. Fifty-seven participants and eight resource persons, including one APO-assigned overseas resource person, attended.

Program coverage: Integration of SMEs in the global value chain; Bring your business to the next level; Technology entrepreneurship: Jumpstart SMEs through incubation and

acceleration; Emerging markets and trends in agribusiness; Dynamics of the marketing system; Entrepreneurship in 12 days—perspective of a millennial; Strategy and its relevance to organizations; SME readiness to meet global trends; A peek into strategic threads of various businesses; From corporate strategy to strategic marketing: The strategy execution pathways; and Monitoring results and targets through the balanced scorecard. To observe successful agribusinesses and learn from their experience, participants visited Gourmet Café Farm and Nurture Wellness Village in Tagaytay City.

National Follow-up Workshop on MSME Development Policies

The APO workshop on MSME Development Policies was conducted from 12 to 15 November 2016 in Tehran, IR Iran, which served as a forum for experts, policymakers, implementers, and leaders of business organizations from the Asia-Pacific to share experiences and best practices on micro, small and medium enterprise (MSME) development, especially among APO member countries.

A national follow-up project was then implemented in 2017 from 5 to 7 July by the NPEDC in Kathmandu. A total of 116 participants joined the workshop, for which the objectives were to: review and recommend public policies and interventions that promote the development of MSMEs; examine the current situation of MSMEs in Nepal, including their socioeconomic contributions and challenges that hinder their growth; and share best practices in terms of public policies and programs in promoting MSME development among agencies.

Program coverage: Setting the policy framework context for SME development in the Asia-Pacific region; Entrepreneurship development and sustaining an enterprise; What makes financial assistance to small businesses successful?; Market access and integrating the global value chains; Innovation and technology for MSME development; Cluster development for the MSME sector; General policy overview of the MSME context

and development in Nepal; Innovation and technology transfer in reference to MSMEs in Nepal; and Financial policy instruments in the MSME context in Nepal. The participants also had an opportunity to visit local MSMEs to examine and learn from their actual operations.

National Workshop on Enhancing Innovation, Productivity, and Quality in Agriculture and Agrifood Business in Cambodia

Agriculture is of critical importance to the Cambodian economy. However, it is generally at a subsistence level, characterized by low productivity, high postharvest losses, inconsistent quality and safety of agrifood products, and preponderance of small farms and agribusiness SMEs. Inappropriate use of agrochemicals is another important concern. There is a need to transform current subsistence farming into a productive, sustainable, competitive agriculture and agribusiness sector.

To enhance participants' knowledge and understanding of innovation, productivity, and quality in agriculture and the agrifood business and to share innovative technologies and best practices for increasing the productivity, quality, and profitability of agrifood SMEs, the NPCC in cooperation with the APO organized a National Workshop on Enhancing Innovation, Productivity, and Quality in Agriculture and Agrifood Business in Cambodia, 27–29 September in Phnom Penh. Eighty-seven participants and five resource persons from Singapore and Cambodia attended. The project was a follow-up to the APO study mission to a nonmember country on Innovations in Agriculture to Increase Productivity and Profitability held 7–12 November 2016 in Adelaide, Australia.

Program coverage: Models and examples of actual cases viewed during the APO study mission to Adelaide in 2016 and from other countries on innovative technologies and best practices of sustainable, profitable farming, agribusiness, and food industry SMEs with elements applicable in the context of Cambodia. To observe innovative methodologies and



automation in agribusiness, the participants visited APSARA Rice (Cambodia) Co. Ltd., a rice-processing factory.

National Workshop on the Development of Rural Tourism Networks and Clusters for Enhancing the Competitiveness of Small Enterprises

Tourism has been recognized as one of the key sectors for national development in many countries as it contributes to creating jobs and raising incomes. Rural tourism in IR Iran has become a particularly important concern for policymakers and tourism experts who seek to make the country more competitive in the global market. IR Iran has great potential for sustainable tourism development with its numerous attractions and areas of natural and historical importance. The Iranian plateau is home to one of the world's oldest civilizations, with well-conserved archaeological sites. With its advantages and rich history and culture, IR Iran's rural tourism sector is viewed as a critical priority area for economic development.

NIPO and the Institute of Technical & Vocational Higher Education of the Ministry of Agriculture Jihad cooperatively organized a national workshop on the Development of Rural Tourism Networks and Clusters for Enhancing the Competitiveness of Small Enterprises, 11–15 November in Tehran. The APO assigned a resource person from Thailand to enhance participants' understanding of the key concepts, strategies, and techniques for sustainable rural tourism planning and development. Seventy-four participants shared and discussed successful case studies and models of rural tourism networks and clusters to enhance the sustainable productivity and competitiveness of SMEs involved in the tourism sector in the country.

Program coverage: Trends in sustainable rural and agritourism; Successful tourism models (rural tourism, agritourism, ecotourism, etc.); Best practices of developing rural tourism products and services; Strategies for developing tourism networks and clusters in rural areas; Tools and techniques in planning rural tourism projects; and Stakeholder

identification and responsibility for management in tourism project development.

National Conference-cum-Workshop on Certification of Organic Products

Mongolia has enormous potential to produce and export organic products in accordance with international organic food standards, especially since demand is expected to continue growing robustly in major markets like the EU, USA, and neighboring countries. The introduction of organic production with certification acceptable in world markets could also enhance the domestic consumption of organic items.

The APO in partnership with the MPO and Ministry of Food and Agriculture and Light Industry of Mongolia organized a National Conference-cum-Workshop on Certification of Organic Products in Ulaanbaatar, 28–30 November. The objective was to enhance participants' knowledge of the latest international organic standards, certification rules and regulations, and inspection procedures; provide training, consulting, and promotional services to build the capacity of numerous stakeholders; and define the national organic certification framework with the aim of promoting organic farming through the development of markets. The 161 participants represented organic trainers; member farmers, officers, and managers of food-processing companies of the Mongolian National Chamber of Commerce and Industry; officers of local government units or the National Agency for Standardization and Metrology; and other stakeholders involved in organic agriculture. Resource persons who gave presentations included representatives of the Mongolian Ministry of Food, Agriculture and Light Industry, Ulaanbaatar Development Corporation, Adventist Development and Relief Agency Mongolia, and Astvision LLC, as well as a consultant from Italy to the Fair, Local, Organic Agriculture Movement. The project was a follow-up to the APO multicountry Advanced Training Course on Certification of Organic Products held 20–24 August in Tehran, IR Iran.

Program coverage: Organic standards and regulations; Requirements of regional and

international organic standards; Organic guarantee systems; Third-party organic certification: Key concepts and considerations; Organic certification processes and organic inspection; and Organic marketing and trade.

National Conference on Biofertilizers and Biopesticides—from Development to Promotion

Much of the soil in Sri Lanka has low organic matter content. This is an increasing challenge, especially in areas where drought is common. Most of the agricultural land in the country has a high drought exposure index due to climate change impact. Sri Lanka also has one of the highest rates of chemical fertilizer and pesticide use worldwide. Prolonged overuse of chemical fertilizers leads to direct impacts such as soil quality diminution, environmental pollution, changes in soil properties, and contamination/pollution of soil and water bodies.

To provide a platform for local scientists and stakeholders to engage in networking while sharing the latest technical and scientific advances at the global level, as well as to enhance the awareness of national policymakers and planners of the socioeconomic importance of R&D on and regulation of biofertilizers and biopesticides, the NPS in cooperation with Wayamba University of Sri Lanka, Sabaragamuwa University of Sri Lanka, the International Water Management Institute, and APO organized a National Conference on Biofertilizers and Biopesticides — from Development to Promotion, 29–30 November in Colombo. One hundred and twelve participants attended. The project was a follow-up to the APO multicountry 1st International Conference on Biofertilizers and Biopesticides, 23–26 August 2016, in Taichung, the ROC.

Program coverage: Biofertilizer and biopesticide research findings and projects in Sri Lanka; Global trends and advances in related development, commercialization, legislation, and field-level applications; and Examples of successful commercialization and the future outlook of biofertilizers and biopesticides in Sri Lanka.

Research on the APO Productivity Databook and Database (2017 edition)

Policymakers, business planners, and economic analysts rely on economic statistics including productivity data to analyze socioeconomic growth and set policies and goals for the future. To continue supporting the needs of such stakeholders in member economies, in line with the Roadmap to Achieve the APO Vision 2020 initiatives to strengthen the evidence-based policy advisory role of the Secretariat, expanded research is being conducted to measure productivity and generate a set of socioeconomic and productivity data under an internationally harmonized measurement framework.

The research has been conducted in a partnership between the APO and Keio University in Tokyo, together with national experts who collect basic primary data following the harmonized methodology. The project monitors productivity trends and has now expanded the research coverage to the productivity of cities, which examines the impacts of smart cities as well as energy productivity. A new chapter summarizing national development plans was added. The project publishes the *APO Productivity Databook 2017* as well as the APO Productivity Database on the APO website. Another database output, the Asian Economy and Productivity Map (AEPM), was fine-tuned and upgraded for user-friendliness with updated information and analysis.

Program coverage: Comparative analyses of labor productivity and sources of economic growth; Total factor productivity analysis; Energy productivity, city productivity, and sustainable development; Analytical reports for publication in the *APO Productivity Databook 2017*; APO Productivity Database; and AEPM database.

Research on the APO Productivity Databook and Database (2018 edition)

A major challenge to sustaining growth continues to be raising productivity. As the sole organization devoted to productivity in



the Asia-Pacific, the APO has endeavored to offer innovative solutions and assistance to its member economies for enhancing productivity. Measuring productivity is an important part of the APO project portfolio, as it is tasked with monitoring productivity gaps, analyzing socioeconomic growth, and setting future productivity targets for member countries. To support various stakeholders in member economies and to strengthen the evidence-based policy advisory role of the APO Secretariat, the Productivity Databook project continues to conduct research to measure productivity and generate a set of socioeconomic and productivity data under an internationally harmonized measurement framework.

The project is carried out under a research partnership between the APO and Keio University in Tokyo, together with national experts who collect basic primary data following the internationally harmonized methodology. The project not only monitors productivity trends but also provides analysis of the most up-to-date socioeconomic performance indicators for assessing potential economic growth, the productivity of cities, and energy productivity. The project will publish the *APO Productivity Databook 2018* as well as the APO Productivity Database on the APO website. The AEPM will be also fine-tuned for greater user-friendliness with updated data releases.

Program coverage: Comparative analyses of labor productivity and sources of economic growth; Total factor productivity analysis; Energy productivity; City productivity; Analytical reports for publication in the *APO Productivity Databook 2018*; APO Productivity Database; and AEPM database.

Special Program for Capacity Building in the Food Industry in ASEAN Least Developed Countries

The APO Special Program for Capacity Building in the Food Industry in ASEAN Least Developed Countries (ASEAN-LDCs) is being undertaken from 2015 to 2018, consisting of national capacity-building projects on productivity enhancement in agriculture and the food industry for ASEAN LDCs, in

particular Cambodia, Lao PDR, and Myanmar, under a special grant from the Government of Japan. Two projects were conducted under this special program in 2017.

1 ▶ National Training Course on Good Agricultural Practices (GAP) for Greater Market Access in Myanmar

In cooperation with the Ministry of Agriculture and Irrigation of Myanmar, a national training course on GAP for Greater Market Access was organized in Yangon, 6–10 February, to enhance participants' understanding of the benefits and importance of GAP for increasing the access of agricultural and food products to international markets and familiarize them with GAP system requirements, adoption process, and certification methodology. Forty individuals from relevant government agencies attended the training course, which was facilitated by two international resource persons and three local experts.

2 ▶ Demonstration Company Project on Advanced Food Safety Management Systems for SMEs

In October 2016, a demonstration company project was initiated on Advanced Food Safety Management Systems (FSMS) for SMEs in Cambodia. It was completed in May 2017. The objective was to establish advanced FSMS in three food-processing demonstration companies, ultimately allowing them to obtain ISO 22000:2005 certification. The project provided practical examples of advanced FSMS in Cambodia for other food-processing companies to emulate and established a pool of practitioners and experts on advanced FSMS who can offer consultancy to the Cambodian food industry. An APO-assigned food safety expert visited Cambodia three times under this demonstration project, in October 2016, January 2017, and April–May 2017.

Development of the Centers of Excellence: Expert Panel Meeting on the APO Center of Excellence Designation

During the 57th Workshop Meeting of Heads of NPOs (WSM) held in Malaysia in October 2016,

delegates endorsed the Secretariat's plan to convene a meeting of a panel of experts to assess proposals from NPOs on the establishment of the next center of excellence (COE).

One proposal was received from the NPC, India, and on 24 January 2017 the Secretariat convened the expert panel meeting via Skype. The four panel members comprised selected NPO heads or their representatives along with subject matter experts. The objectives of the meeting were to: assess the proposals for the next COE, including assessment of the outstanding competencies and expertise available in the proposing member country/ NPO, current and proposed programs on the topic, and the existing organizational structure that would support the sustainable implementation and operation of the COE; and make recommendations to the APO Governing Body Meeting (GBM) based on its evaluation.

Program coverage: What is an APO COE?; COE criteria and evaluation procedures; Review of the NPC proposal for the COE on IT for Industry 4.0 and Lean Manufacturing; Experts' review of and recommendations on the proposal; and GBM report preparation and approval by experts via circulation.

Review and Updating of the KM Facilitators Guide and KM Tools and Techniques Manual

The APO published the *KM Facilitators Guide* and *KM Tools and Techniques Manual* in 2009 and 2010, respectively. Those publications were used by NPOs and other knowledge management (KM) practitioners as references and guides in providing training and consultancy services in APO member countries. The APO KM Framework used in those publications was developed to provide a common understanding among NPOs and KM practitioners in APO members. The framework was designed based on practical experience in KM from several countries in Asia, along with best practices from Australia, Europe, and the USA. The two publications have proven so useful to NPOs and KM practitioners that the Secretariat no longer had a stock of

printed copies. However, since they were developed almost a decade ago, and given the recent trends and developments particularly in various applications of ICT in various aspects of KM, there was a need to update them.

To make the publications more relevant to the times and useful to NPOs and KM practitioners, the APO convened an expert meeting, 16–17 February in Phnom Penh, Cambodia, with the cooperation of the NPCC to review the contents of the two manuals as well as the APO KM Framework, taking into account user feedback during recent projects, and identify sections and topics of the manuals and framework which required updating from the viewpoint of recent developments in ICT. Four experts from India, Malaysia, Singapore, and the UK attended.

Program coverage: APO KM Framework; Applications of ICT in KM; and Areas for enhancement in the two publications.

Study Mission to a Nonmember Country on Development of Knowledge-based Business

The Fourth Industrial Revolution is unfolding in Europe and advancing to industrialized countries on other continents. It is characterized by a fusion of technologies blurring the lines between the physical,



digital, and biological spheres. Knowledge-based industries will be at the forefront of those transformations, and knowledge-based economic hubs will sprout in many countries. London is already recognized as a global hub for knowledge-based industries, with several other areas in the UK emerging as vibrant centers. Various initiatives, including the Sussex Innovation Centre, have been providing opportunities for young people to hone valuable workplace skills through internships and work experience opportunities with startups.

To enhance participants' understanding of knowledge-based business and Industry 4.0, assess the programs and roles of accelerators and incubation and innovation centers in the development of knowledge-based startup businesses, and identify appropriate measures for APO member countries to benefit from them, the APO organized a study mission on Development of Knowledge-based Business, 3–8 April, in London, Cambridge, Manchester, and Sussex, UK. Eighteen participants from 14 APO members attended. Knowledge Associates Cambridge hosted the mission.

Program coverage: Transforming knowledge value to profitable and sustainable business — knowledge-based businesses; Knowledge flow as the heart of Industry 4.0; Knowledge asset management accreditation and partnerships with businesses; Startup challenges and opportunities in the UK; Cognitive manufacturing and Industry 4.0; Advanced manufacturing in practice in the SME sector; and How technology can enable the Fourth Industrial Revolution. The participants attended the Industry 4.0 Summit in Manchester. In addition, site visits were hosted by Eon Reality Company in Manchester, The Technology Partnership in Melbourne Science Park in Cambridge, the Sussex Innovation Centre at the University of Sussex, and Science Park Square in Brighton.

Workshop on Management Consultancy on Total Quality Management

Total quality management (TQM) is a management strategy based on the participation of all involved in operations

and aimed at long-term success through customer satisfaction and benefits to all levels of the organization and society. However, successful TQM implementation requires involvement at all levels. Factors such as a lack of commitment from top management, inadequate resources, poor planning, and resistance to change by employees are among the obstacles leading to the failure of TQM adoption. In addition, a new revolution in industry is taking place, in which cyberphysical systems monitor processes in factories and make decentralized decisions with little input from human operators. Therefore, the roles of consultants and trainers are becoming more challenging yet vital in providing the appropriate advice to enterprises embarking on TQM initiatives.

With the emphasis on the importance of adopting TQM in member countries, especially by SMEs, as well as to enhance the competency of consultants of NPOs or similar institutions in the area of management consultancy on TQM applications, the APO with the cooperation of Fiji National University (FNU) organized a workshop on Management Consultancy on Total Quality Management from 24 to 28 April 2017. A total of 23 participants and two observers from 15 member countries attended, with resource persons from Japan, Malaysia, and New Zealand providing expertise and sharing case studies of TQM implementation.

Program coverage: Consulting skills in business management, production management, and quality management; Issues, challenges, and best practices in implementing consultancy on TQM; Integrating TQM with international standards and business excellence (BE) frameworks; Impact of the 4th Industrial Revolution on quality management; Case studies of successful TQM implementation; and Development of individual action plans for TQM consultancy. Participants visited Fiji Electricity Authority (FEA) to observe its quality management practices and initiatives. FEA employs almost 800 staff and won the Fiji President's Quality Award in 2012.

Training Course on Development of Productivity Practitioners: Basic Program (DPP: Basic)

Over the years, various capacity-building programs have been organized to assist the development of NPOs in line with the APO strategic direction of strengthening NPOs and enabling them to increase the productivity and competitiveness of member countries. The DPP: Basic and Advanced courses are core projects to achieve this primary goal. These two courses that have been organized for almost two decades aim to develop future experts and specialists in productivity improvement at the organizational and national levels.

The 22nd in the series of the DPP: Basic course was implemented in Manila and Tagaytay City from 8 May–2 June in collaboration with the DAP. A total of 21 participants attended, among whom 17 were from NPOs, while others represented NPO affiliate organizations such as universities, chambers of commerce, and SME development agencies. The APO assigned resource persons from the ROC, Singapore, and Sri Lanka, while the DAP engaged several in-house and external experts. This training course is one of the components under the Certification Program for Productivity Practitioners, whereby participants complete three stages covering self-e-learning, face-to-face course, and follow-up project implementation. Participants are given six months after course completion to submit reports on follow-up activities to qualify as APO-certified productivity practitioners.

Program coverage: Module 1, Productivity concepts and implementation strategies; Module 2, Productivity tools and techniques; Module 3, Competencies as a productivity practitioner; and Module 4, Individual productivity and quality action plans. Three organizations were selected as venues for practical study: Municipal Office of Silang; Municipal Office of Amadeo; and Delfa's Food Products.

International Conference on Industry 4.0 and the Future of Productivity

Industry 4.0 integrates manufacturing with state-of-the-art ICT linked to logistics

processes among different companies to optimize material flows and respond flexibly to changing customer needs and market conditions. This smart approach makes it possible to deliver tailored products to meet customer requirements in terms of quality and cost. The vision of Industry 4.0 is a production system where smart machines coordinate manufacturing processes by themselves, smart service robots cooperate with people in assembling products, and smart transport vehicles cover the logistics side on their own.

To provide a platform for discussing and sharing views on Industry 4.0 and its implications for the future productivity of industries in member economies; and enhance understanding among various stakeholders of the challenges, opportunities, and required actions for industries to benefit from Industry 4.0, the APO with support from the Government of the ROC organized an International Conference on Industry 4.0 and the Future of Productivity, 23–25 May in Taipei. The conference theme was Applying Intelligent Machines to Gear up Productivity Again.

Program coverage: The state of the Fourth Industrial Revolution in Germany; Industry 4.0: The state of the Fourth Industrial Revolution in the UK; Paving the way to smart factories; Industry 4.0: Perspectives from private companies in Japan; Implementation of Industry 4.0 in the Republic of Korea; The role of incubators and accelerators in the Fourth Industrial Revolution; What drives Industry 4.0?: Insights from the analyses of Japanese companies; Data mining, intelligent manufacturing, and big data analytics to empower Industry 4.0; The Internet of Things (IoT) for SMEs; and Expanding the Fourth Industrial Revolution in Asia: How should companies and governments prepare? Participants visited Cimforce International Limited to observe demonstrations of applications and practices of a business in the ROC which is developing the IoT in Industry 4.0.

Training Course on Business Excellence for Senior Assessors

Applications of the business excellence (BE) framework can help organizations



improve competitiveness and productivity. The BE framework identifies strengths and opportunities and then aligns management systems and processes to create an environment for sustainable, continuous improvement. However, a pool of senior BE assessors is required to assist in the adoption of BE frameworks in organizations. They must have technical expertise, good interpersonal skills, commitment to professional performance, and be able to lead teams in conducting assessments. One of the key objectives of the APO COE on BE is to strengthen the competencies of BE assessors, and it developed a manual on the topic in 2010.

As a part of continuing efforts to disseminate BE concepts and practices while building up the necessary critical mass of qualified senior assessors, the APO in collaboration with the NTPC organized a training course on Business Excellence for Senior Assessors, 29 May–2 June in Nadi, Fiji. It attracted 22 participants from 14 APO member countries. Three APO-assigned resource persons from New Zealand and Singapore shared information on the latest technological developments and market trends in the era of Industry 4.0 affecting BE applications, new methods for developing senior BE assessors, how to enhance the BE assessment process, and the importance of adding value to organizations by providing quality feedback for improvement.

Program coverage: Adopting and sustaining BE for competitiveness and productivity; Performing a successful evaluation for BE; Introduction of the BE framework; BE assessor competencies; and BE best practices. An observational visit was hosted by Future Farms Limited, a recipient of the Fiji BE Award.

National Workshop on Industry 4.0 and Development of the Roadmap for the Center of Excellence on IT for Industry 4.0

The APO COE Program is an initiative that allows member economies to showcase their best practices in areas of specialization. The 59th session of the APO GBM in Tehran, IR

Iran, in April 2017 approved the establishment of the APO COE on IT for Industry 4.0 under the auspices of the NPC, India. The COE functions as a knowledge center on IT and its applications in Industry 4.0 for all APO member countries.

The NPC with the support of the APO organized a three-day national workshop, 6–8 June in New Delhi, to unveil the COE on IT for Industry 4.0. Department of Industrial Policy and Promotion Additional Secretary Sanjeev Gupta, Department of Micro, Small and Medium Enterprises Additional Secretary S.N. Tripathi, NPC Director General and APO Alternate Director for India Kalpana Awasthi, and National Small Industries Corporation Chairman and Managing Director Ravindra Nath attended the inaugural session. Following the official launch of the APO COE on IT for Industry 4.0, 85 participants representing SMEs and government departments promoting Industry 4.0 gathered in the workshop to get updates on the necessity for, trends in, and practical applications of IT in Industry 4.0 from APO-assigned experts from Germany. The workshop also aimed to reach out to a wider public to enhance the visibility of the newly designated APO COE, thus gaining more support from other principal stakeholders of the Government of India and enhancing the formation of strategic partnerships with industry, associations, and experts in the area of IT for Industry 4.0. Inputs were given by experts and participants for the NPC and APO to build up a detailed roadmap for the future activities of the COE on IT for Industry 4.0.

Program coverage: APO COE; Industry 4.0; Machine to machine; Data-driven smart manufacturing; Digitization; Additive manufacturing; Open sources and the Internet of Things; and Skilling and reskilling for Industry 4.0. A site visit was hosted by the National Small Industries Corporation.

Training Course on Development of Productivity Practitioners: Advanced (DPP: Advanced)

The DPP: Basic and Advanced courses have become mainstays of the APO in building the

capacity of NPOs and other stakeholders. In recent years, the program has been expanded to nonmembers such as Colombia and several African countries. In order to enhance the capabilities of productivity practitioners, a certification program was introduced in 2015. Each participant is encouraged to undertake an individual project on enhancing productivity after the completing the course. Projects that meet the evaluation criteria are certified by the APO.

In 2017, the APO continued to organize DPP: Advanced, holding the course from 17 to 28 July in Penang, Malaysia, in collaboration with the MPC. A total of 23 participants from 16 member countries attended the course, with 17 of them representing NPOs. The APO assigned resource persons from Japan, Singapore, and the UK, while the MPC invited several local experts. This training course is one of the components under the Certification Program for Productivity Practitioners, in which participants undergo three stages, including a self-e-learning course, face-to-face course, and individual project implementation. Participants are given six months after face-to-face course completion to submit their project reports in order to qualify as APO-certified productivity practitioners.

Program coverage: Module I, Productivity and business competitiveness; Module II, Corporate strategies and implementation; and Module III, Productivity tools and techniques. Participants visited four organizations to observe productivity improvement initiatives related to each course module: 1) Penang Skills Development Centre; 2) Jeruk Pak Ali Food Industries Sdn. Bhd.; 3) KPJ Penang Specialist Hospital; and 4) Hewlett Packard Malaysia Manufacturing Sdn. Bhd.

Strategic Planning Workshop for Senior Planning Officers of NPOs and APO Liaison Officers

By undertaking strategic planning, organizations can establish agreements on intended outcomes/results and assess and adjust their directions and priorities in response to a changing environment.

With a clearly defined, articulated strategy, organizations can share priority initiatives and identify which lead to the highest success rates. Since planning involves forecasting the future and deciding how to prepare for it, planners should also be familiar with the techniques of scenario planning and future analysis.

The 2017 Strategic Planning Workshop for Senior Planning Officers of NPOs and APO Liaison Officers (SPW2017) was held 19–21 July in Tokyo, gathering 14 senior planning officers and 15 liaison officers, four officers engaged in APO activities at NPOs, and two observers from 18 member countries. The SPW2017 introduced the new APO Strategy Development Approach and discussed the Proposed Revised Program Plan for 2018 and Proposed Program Plan for 2019–2020. The workshop also provided a venue for the participants to give presentations on the NPOs' priority areas of needs and expectations, with a view to connecting them with their national project proposals to be made after the SPW2017.

Program coverage: Strategic planning; Future scenarios; and Project planning, national needs, and expectations.

International Conference on Policies for Productivity Growth

Government policies and programs play a pivotal role in driving national productivity growth. Over time, the concept of productivity has become more comprehensive, focusing on achieving sustainable development including economic, social, and environmental parameters. Accordingly, government policies and programs must be well formulated and appropriately implemented to ensure that the efforts ultimately contribute to productivity increases and function as a long-term lever to achieve the UN Sustainable Development Goals (SDGs). Various APO member governments are in the process of reviewing and reforming their policies, mainstreaming the 17 goals and 169 targets of the SDGs into various policies with the hope of accelerating national productivity performance while achieving them.



Given this context, a three-day international conference on Policies for Productivity Growth was organized by the APO in partnership with the NPS, 9–11 August in Colombo, to address the role of policy in enhancing national productivity. NPS Director General Thilaka Jayasundara delivered welcome remarks on behalf of the host country. Fifty participants representing 15 APO member countries attended the conference. Eleven resource persons were assigned to share their expertise on sustainable development and productivity enhancement; green economies and aligning green growth agendas with productivity-based economic policies; spurring national productivity performance through science, technology, and innovation policies; ICT-based smart governance policies; and future-oriented technology for productivity enhancement. Based on their presentations and discussions, the conference concluded by producing the Colombo Declaration: Conference Outcome Document, in which 18 recommendations were made to create a conducive environment for productivity enhancement and achieving the SDGs. Ministry of Public Administration and Management Secretary and APO Director for Sri Lanka Javigodage Jayadewa Rathnasiri released the outcome document at the end of the conference while encouraging other governments to adopt and implement the recommendations in a timely manner.

Program coverage: Sustainable development; National development program; Science, technology, and innovation policies; Green economies; The circular economy; Resource efficiency; Sustainable production and consumption; Productivity policy; ICT-based smart governance; Government 3.0; Industry 4.0; Society 5.0; Future-oriented technology analysis; Technology foresight; and 5+2 innovative industry initiatives.

Workshop on the Common Assessment Framework for the Public Sector

The Common Assessment Framework (CAF) is a TQM tool inspired by the major quality models in general and by the Excellence Model of the European Foundation for Quality Management

in particular. It is especially designed for public-sector organizations, since it takes into account their characteristics. The CAF is an easy-to-use, free tool to assist public-sector organizations across Europe in using TQM techniques to improve their performance. It is based on the premise that excellent results in organizational performance, citizens/customers, people, and society are achieved through leadership driving strategy and planning, people, partnerships, resources, and processes. It looks at organizations from different angles to foster a culture of excellence. The main building blocks of excellent performance in the public sector in the context of the CAF are: defining the mission, values, and vision; determining strategy; measuring performance and perceptions; and impacts or outcomes. For APO member countries, the CAF could serve as a new tool for analyzing and assessing any public organization's performance to improve its productivity.

A workshop on The Common Assessment Framework for the Public Sector was held from 21 to 25 August in Manila, the Philippines, with the DAP as host. It was an initiative under the COE on Public-sector Productivity to introduce the CAF, examine how this tool could be applied to the public sector to improve its effectiveness and efficiency in the Asia-Pacific region, and learn the best practices based on the EU experience. A total of 28 participants (15 international and 13 local participants) joined from 11 member countries, who represented various public-sector organizations including NPOs. The resource persons were from the European Institute of Public Administration in charge of capacity building on the CAF among EU public-sector organizations.

Program coverage: CAF enablers: Leadership, people, strategy and planning, partnerships and resources, and processes; and CAF results: People results, citizen/customer-centered results, social responsibility results, and key performance results covering all aspects of organizational excellence. A visit was also made to a recipient of the Philippine Quality Award for the Public Sector to learn more about the meaning of excellence in the public-sector context.

Workshop on Total Productive Maintenance Applications in SMEs

Total productive maintenance (TPM) is one of the most prevalent management techniques in the manufacturing sector, aimed at increasing efficiency through comprehensive, continuous optimization of production and maintenance with the direct participation and support of the entire workforce. While the concept originated in Japan during the early 1950s as a daily maintenance routine to ensure that plant machinery and equipment were in good condition, it was later expanded to overall business management, incorporating education, training, and management of health, safety, and the environment. It has since been widely adopted in countries with strong manufacturing bases, especially in the Asia-Pacific region.

In response to member countries' needs for expanding the applications of fundamental productivity enhancement techniques and understanding their implications in the Fourth Industrial Revolution, the APO, in collaboration with the CPC, organized a workshop on Total Productive Maintenance Applications in SMEs, 30 October–3 November in Taipei. A total of 15 participants from 13 member countries attended, with resource persons from the ROC, Japan, and Malaysia sharing their experiences and trends in TPM implementation.

Program coverage: Concept and development of TPM; Relationship between TPM and other productivity tools; 12 steps of TPM implementation; Overall equipment effectiveness; Pillars of TPM; TPM practices in the ROC, Japan, and Malaysia; TPM and Industry 4.0; Malaysia's approach for SMEs to step into Industry 4.0; and Taiwanese SMEs' smart and digital transformation. Participants visited an intelligent factory of TECO Electric and Machinery, one of the biggest industrial motor and home appliance makers in the ROC, to observe how performance and efficiency could be raised by combining productivity concepts and digitized automation.

Workshop on Results-oriented Monitoring and Evaluation of Capacity Development Programs and Project Under the Program Development Fund

RBM is a life cycle approach to management that integrates strategy, people, resources, processes, and measurements to improve accountability. It focuses on achieving outcomes, implementing performance measurement, learning, and adapting, as well as reporting performance. Many international development organizations have adopted RBM as a way of measuring and enhancing their effectiveness in the delivery of services and programs to their member governments.

Under the Roadmap to Achieve the APO Vision 2020, the RBM approach has been adopted to align programs and projects to achieve three key goals: improve the productivity of member countries; raise the competitiveness of member countries; and achieve recognition as the leading international organization on productivity enhancement. To introduce RBM to appropriate NPO staff responsible for monitoring and evaluation of APO and NPO programs and projects, a three-day workshop on Results-oriented Monitoring and Evaluation of Capacity Development Programs and Projects was organized in Tokyo, 13–15 November. The workshop brought together 18 participants from 14 NPOs. At the end of the workshop, participants collectively agreed on the set of results, including expected outputs and outcomes, to be monitored and evaluated by the APO Secretariat and NPOs with a role delineated for each.

Program coverage: Public-sector productivity and framework of RBM; Results-oriented monitoring and evaluation of programs and projects; Logical framework analysis; Ten steps to monitoring and evaluation; and RBM systems in the public sector.



Self-learning e-Course on Agribusiness Management (Basic)

Agriculture plays a vital role in economic growth, including contributions to industrialization. Agribusinesses include farms and off-farm enterprises that produce and distribute farm inputs and those that assemble, store, process, and distribute fresh and processed farm commodities and products. Moreover, agriculture is a source of nonfood products such as fiber, fuel, timber, medicinals, and industrial raw materials. Individuals are thus increasingly needed to manage agribusinesses competently and sustainably in food and nonfood value chains serving both domestic and global markets. The fundamental functions of agribusiness management are to oversee marketing, finance, operations and logistics, and human resources.

To train more stakeholders, in particular CEOs, managers, and officers of agribusiness companies including SMEs, officers of government and NGOs, academics, extension officers, consultants, and other technical personnel engaged in planning, training, extension, and/or promotion of agribusiness and providing consultancy services on agribusiness management, the APO offered a self-learning e-course on Agribusiness Management (Basic), 15 September 2016–14 February 2017. A total of 378 participants from 29 countries, including 11 from nonmembers, enrolled in the course to gain basic knowledge of and skills in the management of agribusinesses. Fifty-six completed the course and passed the final examination.

Program coverage: Overview of agribusiness management; The agribusiness manager; Agribusiness marketing; Operations management and quality; Human resources management; Financial management; Information management; and Ethics, social responsibility, and corporate governance of agribusinesses.

Self-learning e-Course on Controlled-environment Agriculture

Controlled-environment agriculture (CEA) systems have the advantage of high levels of certainty in meeting contractual commitments for the delivery of produce because cropping intensity and production cycles are programmed to meet market requirements in terms of volume, timeliness, and quality. Production is tailored to consumer specifications from the very beginning. Such production systems also reduce the risks of diseases and pest infestations and the corollary labor required to address such problems in conventional agriculture. CEA systems are seen as having great potential for agribusiness investment and for increasing agricultural productivity and food production, even with declining areas of prime agricultural land and obvious impact of climate change on the sector.

The APO launched a self-learning e-course on Controlled-environment Agriculture, available online from 1 June 2017 to 7 June 2018. At the time of writing, a total of 181 participants had enrolled, of whom 173 were from member countries while eight came from Antarctica, Monaco, the Netherlands, Nigeria, South Africa, and USA. This course is offered to provide basic knowledge of the concepts and principles of CEA as well as the basic skills, tools, techniques, and technologies of CEA production systems to enhance sustainable productivity in agriculture.

Program coverage: Introduction to CEA; Growing systems and the crops they support; Crop maintenance; Irrigation systems; Plant nutrition; Insect pests and diseases and their management; Greenhouse structure and design; Environmental control and energy conservation; Food quality and safety; and Marketing of CEA produce.

Self-learning e-Course on Good Agricultural Practices (GAP)

Agricultural producers, particularly small farmers, need to have their farms certified as GAP compliant to enhance the market acceptability of their products. Several countries have developed their own GAP standards and certification systems. However, the lack of harmonization among national GAP schemes and scarcity of affordable certification systems have often led to increased confusion and higher certification costs for farmers and exporters. Those with contractual relations with several retailers also complain about multiple audits against varying criteria set by different groups of retailers every year.

To enhance understanding of the approaches, principles, and standards of GAP and benchmarking of national GAP schemes against globally recognized guidelines like the GLOBALGAP standard, it is essential to enable stakeholders in member countries to orient and guide small farmers. The APO therefore launched a self-learning e-course on Good Agricultural Practices (GAP), available online from 26 April 2017 to 25 March 2018. A total of 248 participants enrolled in the course, of whom 233 were from member countries while 15 came from Aruba, Botswana, Cameroon, Kenya, Mauritius, Monaco, New Zealand, Nigeria, South Africa, the UK, and USA.

Program coverage: Introduction to GAP; Development of GAP in conventional horticultural production practices; Farm management; Food safety; Environmental conservation; Workers' health, safety, and welfare; Quality management systems; and Implementation of GAP for greater access to markets.

Self-learning e-Course on Agritourism Business Development

Tourism is one of the world's largest industries, with 1.2 billion annual international travelers creating almost 300 million jobs. As an increasing number of the world's

population becomes more experienced travelers, their attitudes, interests, and behaviors are also changing. For example, a global trend is the motivation of tourists to expand their travel activities into rural regions. When outdoor-deprived people travel, they often seek experiences that allow them to interact with the natural environment, which can be most easily accomplished in rural areas. These trends have created greater tourism development opportunities for rural communities, in particular for farmers and related agricultural enterprises. The resulting economic growth supports rising incomes and higher employment in rural areas while satisfying the increasing demand for nature-focused tourism experiences.

In this context, the APO Secretariat has provided a self-learning e-course on agritourism business development open to APO member/nonmember countries since July 2017. The APO assigned a Thai resource person to increase participants' knowledge of trends in the global tourism environment and the growing importance of the agritourism niche in the global tourism market. The course also aims to provide innovative contents on agritourism operation models that generate sustainable economic growth. During the year, 198 participants enrolled in the course, including nine from nonmembers Antarctica, Australia, Botswana, Jamaica, Nigeria, Russian Federation, Timor-Leste, Turkey, and South Africa.

Program coverage: Introduction to agritourism opportunities; Tourism trends and traveler behavior; Sustainable tourism development; Engaging stakeholders for collective impact; Developing differentiated agritourism experiences; Creating effective agritourism promotional strategies; and Successful case studies of agritourism.

Self-learning e-Course on Food Safety Management (Basic)

Food safety is a global issue as contaminated food causes widespread health problems with serious implications for families as well as public healthcare systems. There is



an urgent need to put in place sound FSMS such as GAP, Good Handling Practices (GHP), Good Manufacturing Practices (GMP), and Hazard and Critical Control Point (HACCP) analysis through building reliable, safe food supply chains. The limited pool of trainers and experts who can provide training and consultancy in this field, as well as the high cost of implementing the requirements relating to food safety, especially for SMEs, are among the major challenges.

To provide food safety practitioners with good knowledge of fundamental FSMS concepts, principles, tools, techniques, regulations, and critical success factors for SMEs, the APO launched a self-learning e-course on Food Safety Management (Basic) from 9 June 2017 to 8 June 2018. At the time of writing, a total of 396 participants had enrolled, of whom 383 were from member countries and 13 from 10 nonmembers.

Program coverage: Introduction to and overview of FSMS; Key concepts in food quality and food safety; Basic concepts, tools, and techniques of FSMS; Implementation and certification of FSMS; Food traceability; and Strategies for achieving food safety by SMEs in the food industry.

Self-learning e-Course on Rural Entrepreneurship Development

Entrepreneurship is a driving force for rural development. It involves strategic interventions to accelerate and revitalize declining rural economies by expanding business outreach to farm/nonfarm areas. The interplay between rural development and entrepreneurship overcomes the constraints of primary industry, mainly agriculture, which is the principal source of income in rural areas. It enables local people to appreciate the value of resources in their areas and utilize them as inputs for creating value-added products and services. Thus entrepreneurship diversifies sources of livelihood and increases per capita income. Furthermore, it creates jobs for the under/unemployed labor force and improves the autonomy and independence of rural households.

The APO Secretariat developed a self-learning e-course on Rural Entrepreneurship Development offered through its e-learning web portal, which was open to individuals from member/nonmember countries starting from September 2017. The APO assigned a resource person from Pakistan to enhance participants' understanding of the concepts and special features of entrepreneurship. A total of 204 people from 22 countries registered for the course to develop their ability in designing and managing rural enterprises using different techniques, tools, and models for strategic business development. These included 196 participants from member countries and the rest were from Australia, Canada, Egypt, Italy, Monaco, Nigeria, South Africa, and Turkey. The course includes thought-provoking content on global trends and the changing environment to identify future challenges and opportunities for rural entrepreneurs.

Program coverage: Introduction to entrepreneurship development; Developing entrepreneurial ideas into actionable plans; Agribusiness and rural enterprise promotion and marketing; Agricultural startups for rural entrepreneurs; Conducive environment for incubating young enterprises; Role of business development service providers; Financial modeling for sustainable rural enterprises; and Role of entrepreneurs in shared interests and philanthropic development.

Self-learning e-Course on Agribusiness Management (Advanced)

Agribusinesses include farms and off-farm enterprises that produce and distribute agricultural inputs and those that assemble, store, process, and distribute fresh and processed farm commodities and products. Agriculture is also a source of nonfood products such as fiber, fuel, timber, medicinals, and industrial raw materials. It is estimated that SMEs account for at least 80–90% of all enterprises and generate about 50–80% of total employment in the developing economies of Asia, where a significant number of players in the agrifood sector operate. Individuals are thus increasingly needed to manage SMEs in the agribusiness sector competently and

sustainably within the context of value chains that serve both domestic and global markets.

The APO launched a self-learning e-course on Agribusiness Management (Advanced), available online from 15 December 2017–14 May 2018. A total of 43 participants had enrolled at the time of writing, of whom three came from Australia, Monaco, and Nigeria. This course is offered to train a critical mass of stakeholders in advanced agribusiness management knowledge with practical applications of theories and analytical principles. The individuals passing the course are expected to be able assess threats and opportunities critically, make decisions, and take leadership roles as they and their organizations face tremendous challenges in a rapidly changing, interconnected business environment.

Program coverage: Value chains in Asian agribusiness; Environment-friendly concepts in food value chains; Agrifood innovation; Strengthening public–private partnerships in agribusiness; Innovative finance for agribusiness development; Lean agribusiness operation management; Managing entrepreneurial growth in agribusiness enterprises; Engaging small Asian farmers and entrepreneurs for inclusive agribusiness value chain development; and Sustainability assessment for agribusiness SMEs.

Self-learning e-Course on Food Safety Management (Advanced)

Both developed and developing countries share concerns over food safety as international trade and cross-border movements of people, livestock, and edible products increase. Advanced FSMS, standards, and regulations are considered an essential step in developing the agriculture and food sectors for successful trade in agrifood products. Advanced FSMS are expected to open up new international markets for high value-added food products and increase efficiency in domestic markets.

The APO launched a self-learning e-course on Food Safety Management (Advanced)

from 15 December 2017 to 14 June 2018 to acquaint enrollees with the design and management requirements associated with the application and implementation of advanced FSMS in food-industry SMEs. At the time of writing, 68 had enrolled, of whom 65 were from member countries while three were from nonmembers Australia, Monaco, and the USA.

Program coverage: Overview of and recent advances in FSMS; Tools, techniques, and approaches in advanced FSMS; Requirements, development and documentation, implementation, and performance evaluation of FSMS; and Overcoming difficulties in implementing and sustaining advanced FSMS for SMEs.

Establishment of the APO Future of Intelligence Center under the Program Development Fund

Given all the revolutionary, transformative, shifting paradigms in business as well as other aspects of human activities, the APO will endeavor to support member countries in keeping pace with new trends by advancing public understanding of artificial intelligence (AI) and related state-of-the-art technologies. For this purpose, it will establish the APO Future Intelligence Center (AFIC) to strengthen its capacity-building and advisory services to member countries, especially in the areas of strategic foresight and scenario planning. One of the objectives of the AFIC is to strengthen the capability of the APO Secretariat in strategic planning, including foresight mid-scenario planning, by integrating AI and analytics in its systems.

The Secretariat organized a Scenario Planning Workshop from 15 to 16 March in Tokyo, in which 22 Secretariat staff participated. The main objective was to equip them with the fundamentals of strategic foresight and scenario planning to be used when undertaking planning exercises for the APO, especially the biennial project planning exercise, by anticipating future drivers of productivity. The workshop was facilitated by Michael Jackson from Shaping Tomorrow Ltd. of the UK.



Program coverage: Introduction to scenarios; Delphi analysis; Scenario construction, scenario writing, and scenario sharing; Option identification; and Option prioritization. A group discussion exercise among participants allowed in-depth analysis as they drafted a future scenario report as the final workshop output.

Research on Industry 4.0 Digitization Strategies for SMEs

Industry 4.0, the rapid technological revolution driven by new-generation technologies, has fundamentally transformed the future of production systems. The integration of manufacturing with state-of-the-art ICT linked to logistics processes among different companies is the key concept behind Industry 4.0. In APO economies, SMEs are on a fast-growth trajectory, but only a small fraction of them have access to the type of ICT that is commonplace in larger enterprises. There are numerous barriers to overcome before SMEs can fully embrace Industry 4.0. Such barriers include a lack of digitization knowledge, the high learning curve involved, difficulty in defining the starting point, etc.

Under the APO COE on IT for Industry 4.0 hosted by the NPC, research on Industry 4.0 Digitization Strategies for SMEs was initiated to support SMEs in member countries in moving toward digitization and staying competitive in global value chains as the Fourth Industrial Revolution proceeds. A chief expert from Germany and five national experts from the ROC, India, Indonesia, Malaysia, and Vietnam were selected to undertake this research. A coordination meeting among all experts, the NPC, and APO Secretariat took place 13–15 December in New Delhi to define the scope and methodology of the project, including data collection, data analysis, and timeline. They also designed a set of questionnaires to assess the current level of digitization and the critical needs of SME to achieve it. Recommendations for SME digitization strategies at national level will be generated at the end of the research.

Program coverage: APO COE Program; Industry 4.0; SME digitization strategies;

Digital innovation; Digital ecosystems; and Smart processes.

Research on Productivity Analysis for NPOs

With the increasing recognition that productivity growth is one of the keys to sustained economic expansion, measuring and analyzing productivity are becoming more important for member economies and NPOs to provide better recommendations to policymakers on setting appropriate priorities for their economic growth. As a part of capacity-building efforts, it is necessary to strengthen the ability of NPOs to collect and utilize those data in their own national productivity analyses and provide evidence-based policy advice and guidance to policymakers. While recognizing that it is daunting to discuss different issues of productivity measurement in each participating member, this project is the initial feasibility study on the capacity building of NPOs in productivity measurement and producing national productivity reports.

This research was initiated by a coordination meeting of national experts in December 2014 in Vietnam, where they agreed to undertake a study analyzing national productivity and economic growth trends and attempt to produce national productivity analysis reports, while establishing collaborative channels between NPOs and national statistics offices. Participating countries have so far submitted partial drafts of national productivity reports based on their research, and the Secretariat has provided feedback and advice to some experts. In 2017, national experts worked on the final national productivity analysis reports to be completed in 2018.

Program coverage: Productivity concepts and different productivity measures; National data collection and productivity analyses at national level; Labor productivity and sources of growth; and National development plans and evidence-based policy analyses.

Research on Institutions Offering Productivity Courses

The researchers involved in the project on Institutions Offering Productivity Courses first attended a coordination meeting held 6–8 October 2015 in Hanoi, Vietnam. Six national experts from Bangladesh, Pakistan, the Philippines, Sri Lanka, Thailand, and Vietnam with a chief expert from India were selected to undertake the project. The objectives were to: assess the curriculum designs and training programs of institutions that offer productivity courses; expand the productivity courses and programs of institutions to increase the number of productivity specialists in the region; and make recommendations that will strengthen the delivery and quality of productivity courses and training programs. The consolidated research report was undergoing review and editing in 2017.

Research on GP for the Base of the Pyramid for Sustainable Development in APO Member Countries

To heighten awareness among organizations, companies, and individuals of the need for continuous improvement and innovative approaches, the COE on Green Productivity (GP) undertook this research to examine possible contributions and opportunities for base of the pyramid (BoP)-targeted GP activities to improve the quality of life of people in that socioeconomic segment while underpinning sustainable development efforts. In particular, the research explored how the BoP approach interacts with issues such as eco-business, renewable energy, recycling industries, eco-agriculture, etc. while serving the interests of the poor.

Six national experts from India, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam were selected to participate, with the coordination meeting held from 3 to 5 May 2016, hosted by the CPC in the ROC. The in-country studies continued through 2017, and at the time of writing the chief expert was consolidating all national reports for submission to the APO.

Program coverage: The BoP and BoP framework; Relationships among the BoP, poverty, and development; New business strategies under the BoP model; and The BoP and sustainable development.

Research on Youth Employment Issues and Human Capital Development for APO Economies

In all APO member countries, the youth face more than two-fold higher unemployment rates than adults. Many APO member countries are experiencing a “youth bulge,” a period in which young people are far more numerous than all other age-groups combined. Measures to ensure that the youth bulge will turn into a demographic dividend or to maximize the human capital potential and minimize the negative impact of youth employment issues are essential. Encouraging youth entrepreneurship is one approach to solve the issues of youth unemployment and underemployment. Youth entrepreneurship is not a panacea to deal with employment challenges, but it could contribute to job creation and boost innovation for the economy by fostering new, innovative models.

The APO assigned a research team of one chief expert and seven national experts from India, Indonesia, Malaysia, Nepal, Pakistan, Thailand, and Vietnam to support member countries in dealing with the challenges posed by youth employment issues. The research project focused on the study of the policies and programs initiated by governments, the private sector, and public–private partnerships focusing on youth entrepreneurship promotion. In December 2017, a report on best practices, failures, and constraints of the programs and policies implemented within the past five years in the participating countries were submitted. Policy implications to help entrepreneurship contribute to solving the issue of youth employment, thus enhancing labor productivity and the quality of human capital, were highlighted in the final report.

Program coverage: Youth employment; Youth unemployment and underemployment; Youth



entrepreneurship; Youth not in employment, education, or training (NEET); Start-up supporting policies; Innovative self-employment programs; and Skill development programs.

Training Program on Productivity Improvement for the Supporting Industry

Through cooperation with local enterprises, numerous Japanese companies have expanded their business into Asia and contributed to its economic growth. To maintain rapid economic growth, improved productivity in local supporting industries is particularly crucial. The Training Program on Productivity Improvement for the Supporting Industry, conducted under a special cash grant from the Japanese Ministry of Economy, Trade and Industry, aims to promote improvements in local supporting industries and the quality of their human resources by providing opportunities to learn about and acquire productivity skills and management techniques developed and refined in Japan. This will allow more supporting industries to contribute to higher national productivity. The program is designed to benefit local companies that are current or potential suppliers and business partners of Japanese companies in the target countries as well as Japanese SMEs that have business bases in those countries.

The APO conducted need assessment and promoted the new training program in Delhi, India, in August. Five Japanese organizations were visited to seek their support in promoting the program among Indian companies. The outline of the program was explained to 100 local companies in India to understand their needs and expectations of the program.

At the time of writing, 24 proposals had been received from 10 local companies in India wishing to apply for training courses under the scheme proposed by Japanese manufacturers. The NPO of Pakistan had also proposed a similar training course to be conducted in 2018.

Development of the APO Certification System

The APO Certification Program has been developed to create a pool of certified productivity practitioners in member countries. It will also help to gain global recognition and raise the visibility of the APO as a leading international productivity organization by 2020. Since 2015, the training courses on DPP: Basic and Advanced have been designated as prerequisites before participants can undergo the certification process. After DPP: Basic and Advanced, they are given six months to undertake their own productivity improvement projects and submit a report to the Secretariat for evaluation. In 2017, the Certified GP Specialists Program was introduced, and the multicountry Training of Trainers in Green Productivity was selected as the prerequisite course. Each participant must submit a project report on GP implementation after completing the face-to-face course in order to be certified by the APO.

An Evaluation Committee consisting of representatives of the Secretariat, NPOs, and external experts was established to assess the reports by participants. Evaluations determine whether participants showed a clear understanding of productivity tools and techniques; had an overall understanding of productivity; were able to analyze issues and then utilize appropriate approaches and methodology to resolve them; described the detailed process followed in the project; and presented the relevant facts and figures, along with the overall results or intended results/outcomes.

Four project reports were submitted by individuals attending DPP: Basic and Advanced implemented in 2016. Based on the assessment and evaluation, in 2017 two participants from Fiji and Thailand became APO-certified Productivity Practitioners (Basic) for a period of three years.

PROMOTING THE DEVELOPMENT OF SMEs AND COMMUNITIES

Workshop on the Development of Productive Rural Communities Through Social Enterprises

Social enterprises have become increasingly popular in various countries in recent years, although the concept and models vary. Social enterprises are emerging as effective means of creating vibrant rural communities. They are able to reach and address the needs of stakeholders in rural areas, especially micro and small entrepreneurs who have limited or no access to basic support services from government agencies and financial institutions.

To help member countries identify critical factors essential to the sustainability of social enterprises and share the best management practices of successful social enterprises, the APO in partnership with the NPCC, Ministry of Industry and Handicraft, organized a workshop on the Development of Productive Rural Communities through Social Enterprises in Phnom Penh, 6–10 February. Twenty-three participants from 12 countries and five resource persons from Cambodia (two), India, Pakistan, and Uganda attended.

Program coverage: Concept and principles of social enterprises; Case studies of different models of social enterprises; Raising initial funds for social enterprises; Management of social enterprises: Issues and challenges; Sustaining and scaling up social enterprises; and Measuring the success and impact of social enterprises. Participants visited a social enterprise company, the Kampot Pepper Promotion Association, located in Kampot province.

Multicountry Observational Study Mission for Mass Media Practitioners on Innovation and Productivity Promotion in SMEs

The mass media could be the missing link in efforts of governments to share knowledge and information more effectively with the multitude of SMEs. Learning from two APO pilot projects in 2013 and 2014, it is important to expose

mass media practitioners to information on technologies or best practices so that they can help in disseminating it. Study missions also provide opportunities for mass media practitioners to establish networks among themselves across the region. Building upon such lessons, the APO is attempting to strengthen and expand its links with the mass media in member countries in line with its strategies under the Roadmap to Achieve the APO Vision 2020.

To enhance the knowledge and understanding of mass media representatives of innovations and best practices in productivity enhancement for SMEs, develop a framework for cooperation to strengthen the links of the APO with them, and involve them in productivity promotion in member countries, the APO organized the Multicountry Observational Study Mission for Mass Media Practitioners on Innovation and Productivity Promotion in SMEs, 20–24 February in Tokyo. Eighteen participants from 12 APO members attended. The APO Secretariat hosted the mission.

Program coverage: The emerging role of mass media practitioners in information and knowledge sharing; The policy environment for creating innovative, competitive SMEs in Japan; Roles of industry associations and communities in SME development in Japan; APO programs to enhance the productivity and sustainability of SMEs; Experiences and good practices of selected mass media practitioners in promoting APO and NPO activities; and Developing a framework of cooperation among mass media practitioners and the APO. Participants visited the robotics company Cyberdeen in Tsukuba; Merui Shumi Company, a distiller of traditional beverages like sake, *umeshu*, and *shochu*, in Mito, Ibaraki prefecture; and a textile school, the Spread Plant Factory, and Suntory Whisky Factory in Kyoto.

Advanced Agribusiness Management Course for Executives and Managers

Opportunities in agribusiness have expanded substantially due to the globalization of trade,



rising incomes in the region, and increasing population. Efforts to expand agribusiness operations must deal with emerging challenges such as climate change, progressive decimation of agricultural lands, aging of farmers, and the migration of the young labor force to urban areas. The future of agribusiness in the region will be shaped by these trends, but a looming question is how agriculture can meet the food requirements of the future.

To enhance participants' knowledge of recent and emerging developments in global and regional agribusiness and best practices in agribusiness management, the APO in collaboration with the Ministry of Agriculture and Ministry of Manpower R.I. and the Dyson School of Applied Economics and Management of Cornell University organized the Advanced Agribusiness Management Course for Executives and Managers, 27 February–3 March, in Bali, Indonesia. Twenty-five participants from 13 members, 35 local observers, and six resource speakers from Germany, Indonesia, the ROK, Malaysia, and USA attended.

Program coverage: Food value chains in future; Upgrading micro- and small enterprises; Food trade/food safety/food security; Perspective of micro and small enterprises in Indonesia; What all companies need to know about strategy; Marketing strategy case study analysis; and Value-added industry of Indonesia. To learn about agribusiness operations, as well as management and marketing strategies, participants visited Kopi Kupu-Kupu Bola Dunia (a coffee-processing factory), Cau Chocolate Company, and Jati Luwih Rice Terrace (a well-known organic agriculture system).

Workshop on Emerging Roles of Producers' Associations and Farmers' Cooperatives

In Asian countries, producers' organizations have played pivotal roles in the development of small farmers and served as conduits for technical and monetary assistance from governments and financial institutions. In recent years, however, their roles have been changing as many small farmers have direct access to farm input providers and markets

for their produce. Farmers' associations (FAs) and farmers' cooperatives (FCs) are facing new challenges and unprecedented demands driven by shortages of labor in rural areas and fluctuations in the prices of agricultural commodities. Thus, it is critical for producers' associations and FCs to be aware of changing trends and think outside the box to stay relevant.

To acquaint participants with emerging trends in agriculture and the changing roles of FAs and FCs and enable them to incorporate those changes to increase farm productivity and profitability, a workshop on Emerging Roles of Producers' Associations and Farmers' Cooperatives was held 23–27 April, in Dhaka, Bangladesh. Twenty-three participants from 14 countries attended. The workshop was facilitated by three APO resource persons from India, Japan, and the ROK.

Program coverage: Challenges and opportunities in the development of smart agriculture; Emerging models and strategies of FCs/FAs in supporting small farmers in improving sustainable farm productivity and profitability; Key features and the management of a smart FC/FA; Best practices in value-adding agriculture and community products through collective activities of FCs/FAs; and Changing roles of FCs/FAs to prepare for future challenges in agriculture. A site visit was hosted by Shikha Shastha Unnayan Karzakram (Education, Health, and Development Program; SHISUK), an independent NGO operating in Dhaka. During the visit, SHISUK Executive Director Sakiul Millat Morshed made a detailed presentation on its activities, and participants were able to observe the self-reliant sustainable community programs sponsored by SHISUK, including handicraft production and aquaculture, for the benefit of local citizens.

Multicountry Observational Study Mission on Community Development for Achieving Inclusive Growth: Saemaul Undong Model of Community-driven Development

The ROK's Saemaul Undong (SU) is a community-driven movement spawned in the early 1970s to solve epidemic rural poverty issues. The SU was

a rural-focused development plan systematically supported by the Korean government in efforts to achieve balanced national development. The government also promoted the inspirational “Saemaul Spirit,” which basically translates as the “can-do spirit.” This embraces the mindset of diligence, self-help, cooperation, and a sense of ownership. With those aligned efforts, the ROK achieved rapid economic growth often referred to as the “Miracle on the Han River.”

An observational study mission was organized by the APO in conjunction with the KPC to showcase the model practices of the SU and its positive spirit. The workshop was held 15–19 May in Seoul, with 19 representatives from 13 countries in attendance. The mission aimed to acquaint participants with community-driven rural development through exposure to the Korean experience of the SU. It also examined emerging trends and opportunities in rural development from the perspective of ongoing global changes. Participants were expected to develop community-based rural development plans engaging key stakeholders in decision-making processes to increase rural productivity and inclusive growth in their home countries.

Program coverage: The concept, key features, and implementation of the SU; The SU and economic development plans and policies of the ROK; Emerging roles of community-driven rural development in the age of modern rural development and sustainable agriculture; Developing action plans for inclusive community development to engage all groups of communities; and SU models in the context of APO member countries to promote sustainable rural development and inclusive growth. Site visits demonstrating SU achievements were hosted by the Yangpyeong Agriculture Technology Support Center, Agriculture Machinery Rental Center, a modern SU model village, SU History Museum, Canaan Farmers’ School, Hanaro Club, and National Agricultural Cooperatives Federation.

Workshop on e-Business Modeling for Women Entrepreneurs

Today, online websites have become the first interface where consumers are introduced to new goods and services. As 60% of the world

population resides in Asia, it is also the busiest e-commerce region, with more positive growth to come. For women entrepreneurs, e-commerce can be an effective business platform. In many Asian countries, women are forced to work in unfavorable, male-dominated business environments with limited access to the necessary resources to set up their own enterprises. It is important for women to share information about business opportunities and e-business models as well as strategies and methodologies for successful implementation.

The APO therefore designed the workshop on e-Business Modeling for Women Entrepreneurs to review recent trends in e-commerce in the era of digital agriculture and identify e-business markets by learning about successful e-business models, systems, and practices. The workshop was held 19–23 June in Taipei, with 31 participants from 15 countries. Nine participants were representatives of the Asia-Pacific Association of Agricultural Research Institutions. Three APO-assigned resource persons from India, the ROK, and Malaysia facilitated the workshop.

Program coverage: Key concepts and principles of e-business/e-commerce; Trends, challenges, and opportunities for women entrepreneurs; Getting started, business structure, financial mechanisms, and points to consider before starting a business, including frameworks governing e-commerce transactions; How to read current trends and project future ones in the digitized market; Methodologies and tools for e-business modeling, planning, data collection, and analysis; and e-Market identification through different digital media such as social network services, open markets, and social commerce. The participants also visited the flagship store of Tan Hou Co., Ltd., which was the first company in the ROC to earn HACCP certification, and the Food Taipei Exhibition hosted by the Taiwan External Trade Development Council, which had 1,717 exhibitors from 36 countries.

Multicountry Observational Study Mission on Modern Food Quality Management Systems

Implementing a quality management system is a good way of ensuring the quality and hygiene



of food. In response to heightened consumer awareness of food safety and quality, and public distrust of increasingly complex global food value chains, governments are putting in place stringent food control regulations. The food industry is implementing modern food safety and quality standards with the primary objective of protecting consumers and gaining their trust in production and distribution systems. However, due to a lack of clear understanding of these systems as well as limited financial and human resources, food-processing SMEs have difficulties in establishing and operating those systems.

To disseminate knowledge of modern food quality management systems by showcasing examples of successful implementation of such systems by Japanese food industry SMEs, the APO organized a multicountry observational study mission on Modern Food Quality Management Systems in Japan, 24–29 July, which was made possible by a special grant from the Government of Japan. Seventeen participants representing relevant government agencies, the food-processing industry, NPOs, and academic institutions from 12 member countries, along with eight resource persons, attended.

Program coverage: Institutional framework for managing food quality; Food safety management systems; Current food safety issues in Asian countries; Emerging trends in food quality management systems in Japan; Future food; Predictions and precautions with risk analysis; Traceability in food chains; Cold chain logistics for food quality management in Asia; and Regional branding of high-quality Kobe beef. The study mission included visits to the Food and Agricultural Materials Inspection Center, food-processing companies (Japanese pickles, pre-cut vegetables, prepackaged seasonings, dairy products, soy sauce), a rice mill; and a plant factory.

Workshop on Revitalization of Rural Communities through Productivity Improvement Initiatives

To bridge the urban–rural gap, many local governments in Asian countries have

encouraged people's participation in collective efforts to revitalize rural economies in farm/nonfarm areas. There are successful examples where the average income of rural residents in those countries exceeds that of urban employees, and some young people with entrepreneurial mindsets have returned to the countryside to set up successful businesses.

The APO, in collaboration with the Ministry of Village, Development of Disadvantaged Region, and Transmigration (MVDDRT) of Indonesia and Centre on Integrated Rural Development (CIRDAP), held a workshop on Revitalization of Rural Communities through Productivity Improvement Initiatives to review the different approaches to and models of rural community rejuvenation and their applicability to participating organizations and countries to achieve efficient productivity improvement. The workshop was held 21–25 August in Jakarta, with 21 participants from 12 APO member countries. Led by three APO-assigned international resource persons from Australia, Japan, and the ROK, participants reviewed emerging approaches to enhancing the sustainable productivity of rural economies and shared successful innovative productivity improvement policies addressing inclusive growth.

Program coverage: Trends in rural community development in the Asia-Pacific; Approaches to rural community revitalization; Government policies and initiatives for stimulating rural economies with the participation of SMEs and local residents in inclusive development; Successful models of revitalizing rural communities; and Digitized delivery methodologies in achieving community revitalization. Participants also had the opportunity to attend the International Village Development Forum organized by the MVDDRT.

Training Course on Basic Productivity Tools for SMEs

SMEs provide the major source of employment and momentum for economic growth. Ensuring SMEs' capacity and competitiveness thus plays a pivotal role in national socioeconomic development. However, unlike larger

enterprises and public-sector agencies, SMEs usually lack sufficient resources and expertise for continued development; therefore, fundamental concepts, tools, and techniques that contribute to quality management and the operational efficiency of SMEs are essential for APO members.

With the objective of familiarizing participants with the latest trends in productivity improvement for SMEs, including digitization and technological advances, the APO in conjunction with the NTPC conducted a training course on Basic Productivity Tools for SMEs in Suva, Fiji, 21–25 August. Twenty-four SME executives, consultants, and policymakers from 13 member countries attended. Resource persons from Fiji, Malaysia, and the Philippines facilitated the course and spoke on productivity knowledge and techniques and how they could contribute to the Industry 4.0 movement for the benefit of SMEs.

Program coverage: Productivity, competitiveness, innovation, and their links to the movement of Industry 4.0; Overview of productivity measurement and data analysis; Understanding 5S as a basic productivity improvement tool; Quality and total quality management: Elements, principles, and benefits; Promotion of productivity tools and techniques in Fiji; Lean management implementation; Problem identification and decision making; Suggestion schemes; and Quality circles. Mark One Apparel and FMF Foods hosted site visits to allow participants to observe practical applications of productivity techniques in the Fijian context.

I Training of Trainers in TQM for SMEs

For the past few decades, total quality management (TQM) has been recognized as an effective method to improve the product and service quality of organizations, especially of large companies. As it encompasses many aspects of operations beginning at the lowest level of the organization focusing on customers' requirements, to the delivery process, to the system of production while ensuring quality in all steps of the process, most companies can reap the benefits of a TQM management system and culture. However, it is an uphill task for SMEs to implement TQM successfully, mainly due to

factors related to finances and manpower. In contrast to larger organizations that have the financial capability to hire skilled individuals or install advanced technology for improving business performance, SMEs need external assistance to implement those initiatives. Therefore, competent trainers or consultants to guide SMEs in applying productivity improvement methods are in great demand.

In collaboration with the MPO, a Training of Trainers in Total Quality Management for SMEs was held from 4 to 8 September in Ulaanbaatar, Mongolia. A total of 22 participants from 14 member countries attended the course. The APO assigned resource persons from Japan, Malaysia, and Singapore to lead the training.

Program coverage: Industry 4.0 and impacts on SMEs; TQM concept and methodology; Effective TQM for SMEs; Case studies on successful TQM implementation in SMEs; Best practices of trainers' development programs; and Linking TQM to ISO certification and business excellence. Site visits were hosted by APU JSC, Mongolia's oldest company and largest beverage producer; and publisher Munkhiin Useg LLC, an APO demonstration company that adopted material flow cost accounting (MFCA).

Conference on Smart Agriculture for Sustainable, Inclusive Productivity

Smart agriculture can achieve super labor-saving, high-quality production using advanced technologies such as remote sensing and digital automation of farming operations. The automation of farming and digital technology-enabled equipment can facilitate agricultural operations by elderly and women farmers and attract youth to the sector. Promoting smart, sustainable, efficient management of natural assets and building resilience in farming communities are fundamental to rural development aimed at inclusive growth. Agricultural transformation and long-term productivity improvements are often disrupted, however, due to environmental degradation and climate change.

To share and provide updates on successful, innovative models of smart agriculture and to



assist participants in preparing action plans appropriate for their countries, the APO organized a Conference on Smart Agriculture for Sustainable, Inclusive Productivity in Tokyo, 5–7 September 2017. Twenty-nine participants from 16 countries and 10 resource persons from Japan, Singapore, Thailand, and the USA attended.

Program coverage: Smart agriculture and the future of food: Global trends, opportunities, and challenges; Smart farming solutions to problems facing small farmers; Applications of AI, robotics, GPS, and IT for the development of sustainable food production systems in the digital economy; Key drivers for developing smart agriculture such as finance, agroindustry, SMEs, agricultural R&D, pro-poor technology, social inclusion, food security, climate adaptation, and land use; and Successful models of sustainable smart agriculture and digital farming. Participants visited the Plant Factory of the Japan Plant Factory Association, located in Kashiwa-no-ha Smart City, Chiba University.

Asian Food and Agribusiness Conference: Enhancing Exports of Organic Products

The global organic market has been steadily expanding due to consumer awareness, health concerns, and environmental issues. Today there are 70 million ha of certified organically managed land, and the global organic market has reached USD70 billion. Organic agriculture and organic markets are well developed in Europe and North America. Asian organic markets are growing fast and are expected to catch up in the future. There is a need to sensitize policymakers and planners, agricultural professionals, and executives and managers of agribusiness and food industry SMEs on emerging trends, issues, challenges, and strategies for modernizing the organic sector in member countries to enhance exports of organic products to international markets.

In efforts to strengthen organic farming-sector productivity in member countries, the APO along with the DAP organized the Asian Food and Agribusiness Conference in Tagaytay City,

the Philippines, 13–15 September. Sixty-seven participants and observers from 14 countries; 11 resource persons from IFOAM Organics International and Hong Kong, India, Japan, the Philippines, and PR China attended.

Program coverage: Emerging global and regional trends, opportunities, and challenges in organic agribusiness and the food industry; Major global markets for Asian organic products; Key regulations governing the entry of organic food products in major markets (such as the USA, Japan, Europe); Formulation of export promotion strategies for new organic products and/or new markets; Development of business intelligence, certification systems, and other support programs for organic exporters in member countries; Digital technology for developing smart organic product value chains; and Successful models of organic agribusiness and food industry SMEs. Participants visited the Bio-Normalizer Nutraceutical Corporation, located in First Philippines Industrial Park, Tomas, Batangas.

Workshop on Advanced Farm Mechanization: Crop Sector

Combined with the declining availability of arable land and reduction in farm sizes, productivity improvement of farmland and labor is becoming urgent for many governments in the region. One of the main causes of low agricultural productivity in developing countries in the Asia-Pacific is the low level of mechanization in production and postharvest operations. Most farms are still predominantly operated inefficiently using manual labor. The lack of appropriate machinery catering to the requirements of small-scale farms is considered one of the major obstacles to increasing the mechanization of agriculture in developing countries.

To review recent developments and emerging trends in farm mechanization, a workshop on Advanced Farm Mechanization: Crop Sector was organized by the APO in collaboration with the NPC and Indian National Institute of Rural Development and Panchayati Raj, co-sponsored by the CIRDAP, 25–29 September in Hyderabad. Fifteen participants from eight

APO members, two resource persons from Japan and the Philippines, and three local experts attended the workshop.

Program coverage: Recent global developments and emerging trends in farm mechanization; Development and commercialization of small farm machinery; Farm mechanization with special focus on rain-fed ecosystems; Policy environment and institutional settings; Technical and financial support for small farmers for effective adoption of advanced farm machinery; Application of digital technologies; and Automated farming through robots. Participants visited the farm machinery unit of the Central Research Institute for Dryland Agriculture to learn about its contributions to promoting mechanization.

Training Course on Sustainability Assessment of Agribusiness Enterprises

Agriculture and food-sector stakeholders have been playing a leading role in efforts to achieve socially, economically, and environmentally sustainable development through improving productivity, protecting natural and human resources, and minimizing the environmental impacts of farming and agribusiness operations. A credible model or approach to sustainability assessment is needed for the recognition of such achievements in the agribusiness sector. Sustainability assessment determines the rating of a company's or production site's sustainability performance.

To enhance the knowledge and skills of trainers on the latest approaches, tools, and techniques for assessing the sustainability of agribusiness enterprises and to promote the adoption of best practices and innovative models, the APO along with DOSMEP and the LNPO organized a training course on Sustainability Assessment of Agribusiness Enterprises in Vientiane, Lao PDR, 25–29 September. Twenty participants from 13 APO member countries and three resource persons from the Philippines, Singapore, and Switzerland attended.

Program coverage: Key concepts, principles, and challenges of sustainability assessment of agribusiness enterprises as well as challenges; Current status of sustainability assessment of agriculture and agribusiness enterprises in Asian countries; Global initiatives in sustainability assessment of food and agriculture systems; Methods of conducting sustainability assessment, e.g., tools, techniques, and requirements as well as status of sustainability metrics and global best practices; and Model cases of assessment of sustainability performance of agribusiness enterprises with the emphasis on SMEs. Participants visited the Setthavangso farm, located in Thagorn village (19 km from Vientiane).

e-Learning Course on ICT-based Services for Agricultural Extension

The application of ICT in agricultural extension services (AES) has shown many promising outcomes for small farmers. People who live in remote rural areas are susceptible to isolation from or being beyond the outreach of AES. Taking online courses and using Internet search engines reduce innovation disparities that are prevalent in marginalized rural areas. In addition, computer-aided AES and the utilization of electronic media expand the scope of farmers' learning experiences. ICT both facilitates and democratizes learning opportunities.

An e-learning course on ICT-based Services for Agricultural Extension was offered using the APO's own videoconferencing platform. Bangladesh, Cambodia, Thailand, and Vietnam participated in the first session held 3–6 October, while the second session held 27–30 November catered to India, IR Iran, Malaysia, Pakistan, and Sri Lanka. Three APO international resource persons from Australia, Indonesia, and Sri Lanka facilitated both sessions and reviewed recent trends in and the latest applications of digital technology for AES. The 206 participants studied successful cases of ICT adaptation for the benefit of less-privileged sections of society.

Program coverage: Key features of AES and ICT; Emerging models of and trends in ICT-



based AES; ICT utilization to accommodate the needs of farmers and rural SMEs; Reframing AES to incorporate ICT-based services; Policies to promote and implement ICT-based learning environments in Asia and beyond; and Strategies for developing user-friendly, online interfaces for knowledge sharing in rural areas. A field visit was conducted on the final day of the course in each participating country.

Multicountry Observational Study Mission on SME Development

SMEs, including microenterprises and startups, are important pillars supporting socioeconomic development in APO member countries. They vary in business models and types of activity but contribute significantly to production, trade, employment, income growth, and national fiscal and financial development. Supporting the development of SMEs has thus been a core element of the APO's mandate and one of its strategic directions.

In efforts to familiarize member countries with key elements and current trends affecting SMEs while observing good practices and improvement strategies in IR Iran, the APO collaborated with NIPO in organizing an observational study mission on SME Development, 7–11 October, in Tehran. Twenty-three individuals representing 10 APO members attended, along with resource persons from the ROC, IR Iran, and Singapore who shared observations on macro strategies for SME development and the benefits of AI and data analytics in upgrading SME productivity.

Program coverage: Overview of SME development: Driving factors and trends; The digital economy and challenges in the process of transformation; SME development in IR Iran; Entrepreneurship in IR Iran; Challenges for SMEs in applying AI to data analysis; and SME development trends in the ROC: Innovation and entrepreneurship. Participants visited six companies, representing the textile, food-processing, houseware manufacturing, and traditional medicine sectors, located in the Shokohie Industrial Park, Qom province, to observe how Iranian SMEs are striving to stay competitive in domestic and global markets

despite the challenges resulting from the lack of opportunities for foreign investment and trade over the past few decades.

Study Mission to a Nonmember Country on Enhancing Access for Agrifood Products

The lack of awareness of global food safety and quality standards, insufficient understanding of the requirements for certification, and lack of market access information are key challenges for agrifood industry enterprises in the Asian region in exporting their products to European markets. This study mission was held in Germany since it is the biggest market in the EU and Germany's exports and imports account for more than half of the EU's international trade.

To learn about the latest trends in the EU and German agrifood markets, policy and institutional settings regulating the import/export of agrifood products, and key success factors for enhancing the market access of Asian products to those markets, the APO along with Organic Services GmbH organized a study mission on Enhancing Access for Agrifood Products in Munich and Cologne, Germany, 9–14 October. Seventeen participants from 10 APO member countries attended.

Program coverage: The program included two days in Munich and three in Cologne. In Munich, participants visited Naturland International, one of the leading private organic standard organizations, which operates an organic farm with a wide production scope (plant, animal), a wholesale market (the third largest in Europe), and an agriprocessor (a bakery). In Cologne, they were given a tour of Anuga, the world's number one food fair, and made visits to the headquarters of GlobalGAP to learn about the worldwide vegetable and fruit (new: aquaculture) certification system; the German Development and Investment Bank, which explained how banking can support the UN's Sustainable Development Goals when strict ethical, sustainable standards are followed; and the State of North Rhine Westphalia's research and food safety authority.

Training Course on Planning and Management of Community-based Rural Tourism Projects

The Asia-Pacific region has shown the strongest growth in tourism numbers, welcoming 263 million international guests in 2014. It is forecast that tourist arrivals to the region will reach 535 million by 2030, making it the second-largest tourism market. With the upward trend, tourism in rural areas can be an effective tool to revitalize local communities. For sustainable, successful operation, however, it is critical to seek strong support from residents and build community-based consensus on tourism facilities. Today, the community is considered an important player in the implementation phase and should be included in the planning and decision-making process for the development of sustainable community-based rural tourism (CBRT) projects.

The APO, in collaboration with NIPO and the Institute of Technical & Vocational Higher Education (ITVHE), Agriculture Jihad, held a training course to enhance participants' knowledge of planning and management of CBRT facilities and familiarize them with successful models as well as methodologies for CBRT project development. The training course was held 28 October–1 November in Karaj, with 24 participants from 13 APO member countries and 12 observers. There were three APO-assigned international resource persons from Belgium, Malaysia, and the Netherlands who guided participants in reviewing principles of and applications for rural tourism development.

Program coverage: Recent trends in and features of rural tourism development; Key components of CBRT; Principles of and approaches to CBRT project planning and management for inclusive development; Project implementation process and cycle management; Tools and techniques to identify interest groups and analyze possible future issues; and Roles of different interest groups in CBRT project development. Participants, observers, and resource persons had the opportunity to visit Vardeh and Baraghan tourist villages, both located in Baraghan rural district, Alborz province, to observe and discuss potential tourist products that the villages might be able to develop through the involvement of community residents.

Training Course on Food Safety Management Systems: Basic Course for SMEs in the Food Industry

Each year, millions of illnesses can be attributed to contaminated food. Foodborne illnesses have serious implications for families as well as government expenditures for healthcare. They can also cause reduced productivity of the workforce. There is an urgent need to put in place sound food safety management systems (FSMS) through building reliable, safe food supply chains. The situation of food safety in many developing countries in the Asia-Pacific region, however, is far from satisfactory.

To develop FSM trainers and practitioners with good knowledge of fundamental FSM concepts, principles, tools, techniques, and critical success factors for SMEs in the food industry aiming at strengthening the capacity to promote sustainable development and inclusive growth in member countries, the APO in partnership with the NTPC of Fiji National University (FNU) organized a training course on Food Safety Management Systems: Basic Course for SMEs in the Food Industry in Nadi, 20–24 November. Twenty-three participants from 14 countries and three resource persons from Fiji, Hong Kong, and Malaysia attended.

Program coverage: Introduction and overview of FSM; Key concepts in FSM; Introduction to prerequisite programs: HACCP and ISO 22000; Approaches to implementation of FSMS, and fundamental questions; Documents, records, and food traceability; and Certification in FSMS (fundamental concept and benefits, requirements and standards for certification, accreditation, and process for certification). To observe the implementation of the FSMS ISO 22000 and quality management system ISO 9001, participants visited Punjab Biscuit Ltd.

Self-learning e-Course on Marketing Strategy and Product Branding for SMEs

The crux of business success lies in marketing. Marketing helps create awareness among the public about a company's products/services,



increase sales, build brand reputation, and foster an environment in the marketplace for healthy competition. A marketing strategy takes a comprehensive view of all activities related to selling a product or service and helps ensure that these activities support each other. Branding is especially important for SMEs as it influences people's perceptions of the company's quality of customer service, image, advertising, and logo. Today, many SMEs have great products and provide excellent customer service, although most do not know how to develop appropriate marketing and branding strategies to keep the business afloat.

Realizing the effectiveness of using its e-learning platform to attract more participants, a self-learning e-course on Marketing Strategy and Product Branding for SMEs opened on 1 May and was completed on 30 October. The main objective was to help SMEs in developing marketing and product branding strategies and to enable participants to gain fresh perspectives on developing new products and services.

A total of 324 participants enrolled in the course, and 78 completed all modules and passed the examination. Nine participants from the nonmember countries Australia, Kenya, Mauritius, Monaco, Nigeria, and United Arab Emirates also enrolled for self-development.

Program coverage: Designing new products; Determining pricing structures; Developing promotional strategies; Competitive distribution channels; and Branding strategies, loyalty, and intellectual property.

Self-learning e-Course on the Occupational Health and Safety Management System (OHSAS 18001)

The rapid growth and diversification of industries and economic activities have helped achieve greater prosperity in the Asia-Pacific region. However, this has posed new challenges such as occupational health and safety issues. The lack of measures to safeguard occupational health and safety can

result in workplace injuries and illnesses, with long-term implications for workers, employers, and their families. Millions of work-hours are lost due to job-related injuries and diseases, which may occur due to poor understanding of safety and health aspects and a weak or absent management system. To address those issues using a management approach, OHSAS 18000, consisting of parts 18001 and 18002, was developed.

The APO designed a self-learning e-course on the Occupational Health and Safety Management System to impart basic training under OHSAS 18001 covering all specifications. The course was available in a new interactive, animated format from 1 January–31 December 2017. A total of 735 participants from 37 countries, including 18 from the nonmembers Algeria, Armenia, Aruba, Australia, Botswana, Canada, Iceland, Jamaica, Latvia, Mauritius, Monaco, Nigeria, Russian Federation, Saudi Arabia, South Africa, United Arab Emirates, the UK, and USA enrolled. Participants from all APO member economies also registered for the course. Eighty completed it and passed the final exam.

Program coverage: Policy; Identification of occupational health and safety risks; Legal requirements; Generation of objectives and targets; Preparation of management plans and activities; Monitoring of system performance; Auditing; Continuous review of the management program; and Improvement.

Self-learning e-Course on Productivity Tools and Techniques (Basic)

Productivity matters because it can drive growth in the quantity and value of national output. This can lead to improved economic growth and sustain the competitiveness of countries in the global market. Recognizing the importance of this, the pursuit of higher productivity growth has become the main development agenda item of most countries. This requires a pool of practitioners fully equipped with skills, knowledge, and ability to lead productivity improvement initiatives through promotion, consultancy services, and training.

To expand the coverage of multicountry programs known as Development of Productivity Practitioners (DPP): Basic and Advanced, the APO launched self-e-learning courses with similar coverage to provide enrollees with a clear understanding of the background of the productivity movement in the Asia-Pacific. The courses are considered to be foundational and are necessary preparation before participants take the APO-certified Productivity Practitioners Course.

The self-learning e-course on Productivity Tools and Techniques (Basic) opened on 8 May 2017 and will be available online until 31 December 2018. In 2017, 718 participants from APO member countries enrolled in the course, of whom 185 completed it. Forty-eight participants from the 16 nonmember countries Afghanistan, Armenia, Bolivia, Botswana, Brunei Darussalam, Canada, Kenya, Mauritius, Monaco, Namibia, Nigeria, Saudi Arabia, South Africa, Suriname, United Arab Emirates, and the UK also enrolled.

Program coverage: Introduction to productivity, quality, and competitiveness; Background of the Asian productivity movement; The profile of a productivity practitioner; Basics of productivity measurement; Basic productivity and quality tools and techniques; and Introduction to total quality management.

Self-learning e-Course on Productivity Tools and Techniques (Advanced)

The self-learning e-course on Productivity Tools and Techniques (Advanced) is a continuation of the basic version. While the basic course introduces productivity fundamentals, the advanced one provides knowledge on selected advanced productivity improvement tools and techniques such as measurement techniques, statistical data analysis, lean concepts, and the Business Excellence framework. Therefore, participants who have completed the basic course are encouraged to enroll in the advanced course. In addition, it is a prerequisite for participants from APO member countries before attending multicountry face-to-face courses on similar topics.

The self-learning e-course on Productivity Tools and Techniques (Advanced) opened online on 11 July 2017 and will be available until 31 December 2018. In 2017, a total of 460 participants enrolled, with 184 completing the modules and passing the examination. It also attracted 28 individuals from the nonmember countries Algeria, Armenia, Bolivia, Botswana, Brunei Darussalam, Kenya, Mauritius, Monaco, Nigeria, South Africa, Suriname, Turkey, United Arab Emirates, and the UK.

Program coverage: Productivity measurement; Business Excellence; Lean techniques; Basic statistical data analysis; Value stream mapping; and Material flow cost accounting.

Self-learning e-Course on Applying Green Productivity Based on ISO 14001 Standards

An environmental management system (EMS) is part of the overall management system that addresses the impact of an organization's activities, products, and services on the environment. An EMS allows an organization to identify and take control of the environmental impacts that it generates and is a tool to improve efficiency to benefit the entire organization. The end goal is to make day-to-day operations more sustainable. Sustainability can include saving costs, improved product reputation, engaged employees and business partners, and resilience against the ever-increasing rate of uncertainty and complexity in today's world. More importantly, an EMS can also improve relationships with suppliers and customers as a result of more consistent management and reduced environmental impacts. The APO has organized a number of projects related to the EMS and ISO 14001 due to the relevance of the topics to member countries.

In 2017, a self-learning e-course on Applying Green Productivity Based on ISO 14001 Standards was offered to help participants understand the ISO 14001 EMS and how it can be implemented utilizing the Green Productivity (GP) approach. The course was available from 1 July–31 December 2017 and attracted 352 participants from 31 countries, including all



APO members and 11 nonmembers. Thirty-seven passed the course.

Program coverage: General concept and overview of EMS: ISO 14001; Understanding the EMS standard ISO 14001; Implementation of EMS: Operation, checking and correcting and management review steps; General concept of GP and interrelation with ISO 1400; and Application of GP tools to adopt the EMS ISO 14001.

Self-learning e-Course on Material Flow Cost Accounting (ISO 14051)

The concept of MFCA, developed in Germany in the late 1990s and since adopted widely in Japan, focuses on tracing waste, emissions, and nonproducts and can help boost an organization's economic and environmental performance. It is one of the major tools of environmental management accounting used to link environmental considerations with economic objectives. MFCA promotes the efficient use of materials more effectively, contributing to reductions in waste, emissions, and nonproducts. It also increases the transparency of material flow, which is a key to successful problem solving and improvement. To standardize MFCA practices, a working group of the ISO Technical Committee developed ISO 14051, which complements the ISO 14000 family of EMS standards.

The APO offered a self-learning e-course on Material Flow Cost Accounting (ISO 14051) to acquaint participants with basic concepts and principles of MFCA and enhance their understanding of ISO 14051. It was offered online from 1 July–31 December 2017 and attracted 329 participants from 28 countries, including all APO members and nonmembers Angola, Armenia, Canada, Monaco, Nigeria, South Africa, and Turkey. Passing scores on the final exam were earned by 45.

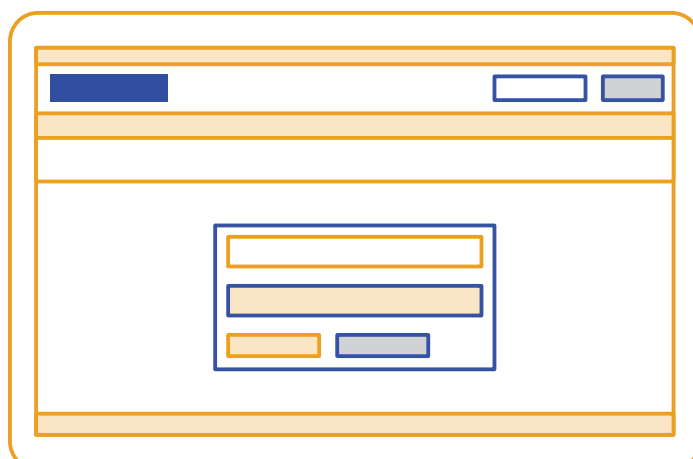
Program coverage: General concept of MFCA; Background of the MFCA standard ISO 14051; Understanding the MFCA standard ISO 14051 II; Fundamental elements of MFCA; and MFCA implementation steps.

Self-learning e-Course on Climate Change Impacts and Adaptation (Basic)

The unsustainable relationship humans have had with the environment in the past has become a new dimension of challenges to be resolved. The current climate change has numerous ramifications. Social unrest might be one of the worst results of climate change if appropriate, timely actions are not taken. The physical surface of the earth is already being altered, and the ongoing changes are predicted to accelerate over the next few decades in the absence of effective global actions to steer a different course.

In line with the APO's GP Program, a self-learning e-course on Climate Change Impacts and Adaptation (Basic) was developed as an introduction to multidisciplinary perspectives on climate change and how it affects individuals, local communities, countries, and the global community as well as adaptation strategies to reduce the impacts. The course was available from 1 July–31 December 2017. There were 220 enrollees from 25 countries, including nine from nonmembers Antarctica, Cameroon, Monaco, New Zealand, Nigeria, South Africa, Spain, Turkey, and United Arab Emirates. A total of 35 passed the final exam.

Program coverage: Science and impact of climate change; Energy usage; and Environmental economics, mitigation measures, climate change adaptation and future focus.



CATALYZING INNOVATION-LED PRODUCTIVITY GROWTH

Industrial Human Resources Development for Africa: Training Course on Development of Advanced Productivity Practitioners

The engagement of the APO with Africa through the Pan African Productivity Association (PAPA) is partly motivated by the continent's increasing significance to the world economy. The continuous expansion of a pool of productivity practitioners is critical for the development of a productivity culture, which in turn is a prerequisite for a better quality of life. More than 160 individuals have benefited so far from the collaboration between the APO and PAPA.

To continue its contributions to the African productivity movement, the APO in collaboration with PAPA and National Productivity and Competitiveness Council of Mauritius offered a training course on Industrial Human Resources Development for Africa: Training Course on Development of Advanced Productivity Practitioners, 6–17 February in Mauritius. Targeting practitioners with at least five years of experience, the objective was to ensure their availability and quality to sustain the African productivity movement. Thirty practitioners and consultants from Botswana, Burkina Faso, Kenya, Mauritius, Namibia, Nigeria, South Africa, United Republic of Tanzania, Zambia, and Zimbabwe attended. The APO assigned two resource persons to lead the course: Principal Consultant Mohd. Lizuan Abd. Latif of QualityMind Sdn. Bhd., Malaysia; and APO-certified Productivity Specialist/Independent Professional Nina Maria B. Estudillo, the Philippines.

The course was opened by Secretary for Foreign Affairs U.C. Dwarka Canabady, Ministry of Foreign Affairs, Regional Integration and International Trade, Republic of Mauritius, and concluded with a public lecture on the future of productivity by APO Secretary-General Dr. Santhi Kanoktanaporn.

Program coverage: The APO Development of Productivity Practitioners: Advanced course; and New tools and concepts for enhancing productivity through technological advances.

Two observational site visits were made to the Registrar-General's Department Mauritius and Sofap factory and offices in Coromandel.

Training Course on Business Excellence for SMEs

The business excellence (BE) framework is a dynamic tool for managing organizations to improve competitiveness and productivity. The BE framework allows organizations to identify strengths and opportunities and then align management systems and processes to create an environment for sustainable, continuous improvement. In 2009, SPRING Singapore was designated by the APO as its Center of Excellence (COE) on BE to assist other APO member countries in developing and strengthening their BE initiatives. The COE on BE has conducted a series of activities including research, sharing of best practices, building competencies of BE experts, and transferring knowledge to other member countries. More recently, the APO and COE have assigned BE experts to member countries to help develop strategies for the public sector.

In collaboration with SPRING, the APO organized a training course on Business Excellence for SMEs, 28 February–3 March in Singapore. A total of 19 participants representing 11 APO member countries attended. The APO assigned three resource persons from Fiji and New Zealand to share their knowledge of BE theory and field experience. The workshop aim was to strengthen national BE strategies for SMEs, promote applications of the BE concept and assessment tools, and exchange information on and experience in best practices of BE adoption in SMEs. Under the COE on BE, the APO published *Understanding Business Excellence: An Awareness Guidebook for SMEs* and *Implementing Business Excellence: An Implementation Guidebook for SMEs*, and those were used in this training course to help SMEs adopt the BE framework and become more productive.



Program coverage: BE: Its importance for SMEs and wealth creation; Initiatives and practices for raising the performance of SMEs; and How to apply BE in SMEs. Participants also had the opportunity to attend the BE Winners Sharing Conference 2017 along with the BE award ceremony.

Top Management Forum on Knowledge Management for SMEs

As essential sources of entrepreneurship, employment, and innovation, SMEs must emphasize the competitive advantages of their products and services. Knowledge or know-how is the most important asset of virtually all organizations, and SMEs are no exception. SME top managers need to manage knowledge for the same reasons as larger organizations, allowing their enterprises to gain competitive advantage through their ability to manage and exploit knowledge.

Knowledge management (KM) is a discipline that enables individuals, teams, organizations, and communities to capture, store, share, and apply their knowledge collectively and systematically to achieve specific objectives. It can deliver a competitive advantage through greater competency and synergy, more balanced decisions with fewer errors, more creativity and innovation, broader collaboration and knowledge sharing, and easier links to expertise and understanding.

To discuss applications of KM tools and techniques in SMEs, share best practices and success stories of KM applications, and enhance the abilities of top managers of SMEs to undertake KM initiatives, the APO in cooperation with the KPC organized the Top Management Forum on Knowledge Management for SMEs, 14–16 March in Jeju, the ROK. A total of 19 participants representing 16 APO member countries attended, along with three resource persons from Malaysia, Singapore, and the UK.

Program coverage: The impact of Industry 4.0 on SMEs; APO KM framework; KM tools and techniques for SMEs; Social media technologies and knowledge platforms for

KM; The global knowledge economy and the SME; Four KM implementation approaches: Discover, design, develop, and deploy; SME KM case studies; Opportunities and challenges in implementing KM in SMEs; and How to build a KM culture in SMEs.

APO Alumni Forum on Innovations and Best Practices in Productivity Promotion

The APO has organized numerous capacity-building projects since its establishment in 1961. However, there has been no sustained effort to monitor the extent to which participants have undertaken follow-up actions and the outcomes of such actions. The success stories of those participants and/or their organizations could provide learning points for others. APO alumni are also a potential pool of resource persons for APO and NPO projects. Links among participants, NPOs, and the APO could therefore be reestablished and maintained for mutual benefit.

To provide a venue for sharing success stories among alumni on the applications of the knowledge and skills they acquired from APO projects, develop an action plan for the establishment of national and regional networks of APO alumni for knowledge and best practice sharing, and provide a refresher for alumni on recent developments in and approaches to innovation and productivity promotion, the APO Alumni Forum on Innovations and Best Practices in Productivity Promotion was organized in Tokyo, 14–17 March. The forum was held in response to Governing Body directives to tap expertise in member countries for APO projects and aligned with a strategy under the APO roadmap to harness alumni resources in the productivity movement. Thirty-one participants from 14 APO members attended the forum at the Secretariat.

Program coverage: Innovation, productivity, and competitiveness enhancement; Industry 4.0; The Internet of Things; The Roadmap to Achieve the APO Vision 2020 and productivity and competitiveness enhancement programs; Best practices of NPOs with organized APO alumni; Selected success stories of APO alumni; and

National follow-up activities of APO alumni. Site visits were hosted by the Science Square in Tsukuba, Kairakuen plum garden, and Meiri wine museum in Mito, Ibaraki prefecture.

Multicountry Observational Study Mission on Public-private-academia Partnerships for Industrial Human Resources Development

The development of a country's human resources to meet the labor requirements of industries requires cooperation among the public and private sectors and academia. Japan has been successful in enhancing public-private-academia (PPA) cooperation to produce graduates who are equipped with knowledge and skills relevant to the needs of industries. Other countries can learn from such best practices to develop their industrial human resources. If PPA partnerships were effectively implemented in other APO members, the employment rates of new graduates would be higher, R&D outputs of academic institutions could be utilized, and the productivity of businesses would be enhanced.

In order to provide participants with opportunities to learn about PPA partnership initiatives in Japan and observe the best practices that could be adopted elsewhere to support industrial human resources development programs, a multicountry observational study mission on Public-private-academia Partnerships for Industrial Human Resources Development was organized, 27 March-1 April in Japan. Seventeen participants from 12 member countries attended.

Program coverage: Promoting PPA partnerships for industrial human resources development as a public policy; Current status and challenges of human resources promotion through PPA partnerships in Japan; Role of higher education in developing industrial human resources under PPA partnerships; Cases of PPA collaboration in Japan and some best practices; and Site visits to various institutions involved in PPA platforms in Japan.

Multicountry Observational Study Mission on Industrial Human Resources Development for Women

In the context of rapidly aging populations in Asia, APO member economies face the prospect of shrinking labor forces and labor shortages in coming years. Tapping the potential of female labor resources by increasing the rate and quality of female labor force participation could boost productivity growth. Japan, the leading country in the trend of aging societies, has recognized the important contributions that women can make to society. The Government of Japan has introduced policies and measures to empower and encourage women's participation in all aspects of socioeconomic and political affairs. The private sector has also opened up more opportunities for women. Those efforts have shown very positive results, and there are several cases that could provide good models for other Asian countries.

A five-day observational study mission to Japan, funded by the Ministry of Foreign Affairs, was organized to showcase how the government recognizes the importance of women in the workforce and how its policies and programs have been put into practice. Sixteen participants from 10 member countries and one from Myanmar attended the study mission. Participants visited different Japanese companies and an academic institution in Tokyo, Osaka, and Kyoto to acquire firsthand information on how Japanese companies engage more women in the workforce and how gender equality is promoted. Successful businesses initiated and managed by women were also introduced. Given the background that in some Asian countries, prevailing cultural and policy biases still prevent women from contributing fully to the workforce, the best practices participants observed during the mission could be useful for them upon returning to their home countries.

Program coverage: Female labor force participation; Womenomics; Women empowerment; Gender diversity and equality in the workplace; and Women entrepreneurship. Visits were made to Chiba Bank; Aeon Group Workers' Union; Miss Paris



(a case of a successful woman entrepreneur); All Nippon Airways Workers' Union; Shiseido Union; Daikin Industries Technology Innovation Center; Osaka Gas Co.; Wacoal Holdings; and Kyoto Women's University.

Workshop on Public-sector Leadership

In an era when public-sector organizations must cope with rapid changes due to technological progress facilitating greater public participation in the decision-making processes of government, public-sector leadership must embrace elements important for change management or anticipating the future, such as coping with rapid, continuous change, dealing with turbulence and uncertainty, providing direction and vision, and focusing employees on the organizational mission based on leadership efficiency and effectiveness. The quality of public-sector leaders' work is assessed by how well citizens' interests and preferences can be embodied in government services provided. In addition, organizational capacity is positively correlated with leadership due to its effect on the ability to deliver responsive, innovative, efficient services. Responsiveness, the ability to innovate, and efficiency are the building blocks of the productivity concept.

The APO in cooperation with the DAP organized a workshop on Public-sector Leadership in Manila, 15–19 May, as part of a series of interventions to promote better performance in the sector in member countries through enhanced leadership. The workshop also outlined the leadership knowledge, capabilities, skills, and behaviors that senior managers and leaders must exhibit to support the successful implementation of public-sector productivity development initiatives. Facilitated by three international resource persons from Australia, Canada, and Malaysia, along with two local ones, who gave presentations and led discussions, the workshop was attended by 22 individuals from 15 APO members.

Program coverage: Innovative leadership and productivity in the public sector; Communicating with influence; Potential applications of emerging, smart technological advances and

innovations enabling productive public-sector organizations to deliver services more efficiently while engaging citizens through participatory initiatives; Innovative leadership through reliance on technologies to improve public services and invite more public participation in policymaking; and Designing a two-year organizational-level leadership development plan. A visit was hosted by Bangko Sentral Ng Pilipinas to show workshop attendees how innovative public leadership concepts are being adapted to enhance the organization's performance in serving the public.

Multicountry Observational Study Mission on Innovations in Food Value Chain Management

To enhance the role of the agriculture sector in inclusive growth and improving nutrition, more focus is needed on food value chains (FVCs) between production and consumption. In an FVC, value is added to products along the supply chain through activities such as storage, distribution, and processing by many stakeholders. As consumers are increasingly interested in the process history and background of their food, FVCs as business arrangements can respond to the needs of customers through strategic collaboration by creating greater efficiency and profitability among food producers and distributors.

The APO organized a multicountry observational study mission on Innovations in Food Value Chain Management, 15–20 May in Japan, to study current trends, new technologies, and innovative practices in FVC management. The study mission was conducted under a special grant from the Government of Japan. Eighteen participants from relevant government agencies, the food-processing industry, NPOs, and academic institutions of 13 member countries, along with five resource persons, attended.

Program coverage: Emerging trends in FVC management and their impact on agriculture and food industry development; Cost-effective cold chain logistics; Policies for promoting cooperation between agriculture and the food industry; Agrofood

business development through multisector cooperation; and Logistics for FVCs in Asia. Site visits were hosted by Nichirei Distribution Center, the world-renowned Tsukiji Market, K-DIC International Distribution Center at the Port of Kobe, Agricultural Producers' Cooperative Corporation, food-processing companies specializing in confectionery and dairy products, and the Plant Factory of Chiba University.

Multicountry Observational Study Mission on Public-sector Productivity for High-level Officials

The public sector plays a vital role in socioeconomic development, and leaders in government agencies must increase efficiency and effectiveness. Ongoing, unprecedented changes in the external environment, including aging populations, rising demand for and expectations of better public services from citizens, income inequalities, and rapidly changing technologies, are putting enormous pressure on governments to do more with less through constant innovation. Without appropriate leadership, public-sector organizations will find it difficult to respond to current challenges, let alone anticipate those in the future. Leadership itself is a key factor in all successful performance management systems, affecting organizational ability to deliver responsive, innovative, efficient services to customers while continuing to improve service delivery over the long term.

As part of initiatives to help member countries improve public-sector productivity, the APO conducted a multicountry observational study mission on Public-sector Productivity for High-level Officials organized jointly with the CPC, 22–26 May in Taipei. The mission was attended by 17 middle-to-top government officials from 11 APO member countries and led by three resource persons from Canada, Hong Kong, and Malaysia.

Program coverage: Innovative leadership and productivity in the public sector; Leading for excellence; Driving change in the public sector; Leadership development plans; Strategic governance planning; and Open-

source government, stakeholder analysis, crowdsourcing, and soliciting citizen participation through the use of technology. Mission participants had the opportunity to visit the Civil Service Development Institute's Directorate-General of Personnel Administration to observe the impact of leadership style on productivity in the ROC's public-sector organizations. Another visit was organized to Zhonghe Household Registration Office, New Taipei City, to investigate specific innovative leadership efforts at the local government level.

Study Mission on Lean and Advanced Technology in Healthcare Services

With more than half of the world's population living in Asia, the region offers the highest potential for growth in the healthcare sector. While rising incomes and spending power, greater awareness of healthy lifestyles, and aging populations have made it imperative to improve healthcare and treatment facilities, people are also demanding higher-quality service provision. Therefore, a transformation of the entire healthcare ecosystem is required, from pharmaceuticals to makers of health devices, and from insurance companies to hospital chain operators. Experts indicate that one of the largest transformations in the sector will occur through mergers of healthcare and technology, be it home healthcare, home monitoring, or wearable devices. The use of smartphones, connected medical accessories, and health-related apps has increased in the past two years. Wider adoption of such technology could improve the service quality of healthcare organizations by squeezing out administrative waste, reducing costly errors, managing chronic conditions better, and understanding consumer preferences more rationally. This has happened in countries such as the USA, and it is expected that it will also occur in APO members like Indonesia, Malaysia, Singapore, and Thailand. In the meantime, healthcare providers need to improve their internal processes continuously to deliver effective services. Process improvement activities such as lean management which were confirmed to be effective in manufacturing



are now being expanded to other sectors, including healthcare.

Against this backdrop, to learn about advanced technology and future trends while studying the best practices of lean applications in the US healthcare sector, a total of 13 delegates from nine member countries participated in the study mission to a nonmember country on Lean and Advanced Technology in Healthcare Services from 5 to 9 June in California. In collaboration with Nexus Forum, which acted as the implementing organization, participants visited healthcare institutions in Los Angeles and attended the Lean Healthcare Transformation Summit 2017 in Palm Springs.

Program coverage: Discussions on productivity improvement initiatives; Emerging and future trends impacting the healthcare sector in member countries and the USA; Lessons learned from healthcare communities including providers, employers, purchasers, and patients on lean applications leading to transparent performance, speedy delivery, and value creation in the USA; and Attending the Lean Healthcare Transformation Summit and observational study visits showcasing advanced technology in the healthcare sector. Participants visited Keck School of Medicine of the University of Southern California and Cedars-Sinai Medical Center, both located in Los Angeles.

Observational Study Mission from Myanmar on the Innovative Rice Industry in Japan

The economy of Myanmar relies heavily on agriculture and the food industry. These sectors provide employment to a major part of the labor force and are linked to various economic activities that provide livelihoods to rural areas. Since Myanmar's food exports are focused on rice, improving productivity and value addition in the rice industry are critical to reducing poverty and raising its competitiveness.

To expose participants to innovations and technologies that have increased the productivity and sustainability of the Japanese rice industry, the APO organized an observational study mission from Myanmar

on the Innovative Rice Industry in Japan, 12–16 June, under a special grant from the Government of Japan. Fourteen participants from relevant government agencies, food-processing companies, and academic institutions from Myanmar, along with four resource persons, attended the study mission.

Program coverage: Rice breeding for development of high-yielding, high-quality varieties; Rice production systems in Japan; Precision rice farming technologies; The Japan Grain Inspection Association; and Role of the National Agriculture and Food Research Organization, including the National Institute for Rural Engineering. Site visits were hosted by an agricultural machinery factory, rice-processing facility, farmers' market, rice mill plant, rice wine brewer, and rice-sorting and -processing company to give participants a broad-based perspective on current best practices in the rice-related sector.

Multicountry Observational Study Mission on Innovation and Competitiveness in SMEs

Facing increasing challenges from globalization, the Internet, and digital revolution, all economies are striving to find new ways to help their SMEs survive global competition and enhance productivity through innovation. Topping the list in the 2017 Bloomberg Innovation Index, the ROK's continuous efforts for innovation have made it the most globally competitive in R&D intensity, value-added manufacturing, and patent activity, making the ROK a model that other APO members are eager to learn from.

Recognizing the strategic importance of innovation for long-term, sustainable productivity enhancement of SMEs, the APO joined forces with the KPC in organizing an observational study mission on Innovation and Competitiveness in SMEs, 19–23 June in Seoul. The 16 participants from 13 APO member countries heard presentations on trends and practical incentives that foster innovation and entrepreneurship at national, institutional, and individual levels given by resource persons from the ROC, ROK, and Singapore.

Program coverage: SME innovation and productivity improvement; Importance of innovation for SMEs; Infrastructure and environment fostering innovation and the role of entrepreneurship; ROK's experiences in and policy support for innovation in SMEs; Case studies from the ROC and ROK; Regional collaboration in fostering entrepreneurship; and The future economy for Singapore. Participants had opportunities to observe innovative practices undertaken by the Small and Medium Business Corporation, Gyeonggi Center for Creative Economy and Innovation, Ulala Lab, and Samsung Innovation Museum.

Workshop on Innovative Water Resource Management

Global water demand is on the rise due to continuous population growth. Climate change also adds to demand by creating additional water requirements for agriculture and for reservoir replenishment. Agriculture consumes about 70% of world freshwater supplies, and achieving higher levels of agricultural water productivity is critical. Addressing this challenge requires innovative smart approaches and advanced technologies for water harvesting, storage, distribution, and on-farm management. The use of IT-based smart irrigation systems will also be critical.

To share successful innovative models of water resource management and to develop action plans for participants to promote the adoption and scaling up of successful models and best practices in their countries, the APO in partnership with the NIPO, Ministry of Agriculture Jihad, Agriculture Research and Education Organization (AREO), and Institute of Technical and Vocational Higher Education (ITVHE) of IR Iran organized a workshop on Innovative Water Resource Management in Tehran, 22–26 July. Twenty-five participants from 14 countries, 12 observers, three resource persons from Japan, Pakistan, and UN FAO, and two local experts attended.

Program coverage: Sustainable water resource management systems in Asia and the Pacific: Status, trends, challenges, and

opportunities; Advanced technologies for increasing the water supply for agriculture; Smart technologies for increasing water use efficiency; Innovative technologies for wastewater management; Digital devices for promoting farmer-friendly irrigation systems; Policies and institutional settings for promoting advanced technologies for farm water management; and Successful models of water resource management for small- and medium-sized groups. A site visit was hosted by Sharifabad Agroindustry Complex, situated in the western part of Qazvin province.

e-Learning Course on Customer Satisfaction Management for the Service Sector

The service sector is one of the major contributors to GDP in all APO member countries. The promotion of productivity and innovative service-sector management is therefore crucial to drive national economies. Economic growth in advanced economies with a good quality of life is typically dominated by the service sector. Service-sector innovations, especially in customer satisfaction (CS) management, can result in quantum leaps in productivity and involve harnessing the creativity of employees to increase efficiency and enhance overall performance.

To provide an understanding of new concepts of and strategies for CS management for improving productivity in the service sector, learn how to meet the needs of customers in the era of Industry 4.0, and share CS strategies and best practices for successful innovation in the service sector, the APO organized an e-learning course on Customer Satisfaction Management for the Service Sector. It was held in two sessions: 25–28 July for Cambodia, Fiji, Malaysia, Mongolia, the Philippines, and Vietnam; and 21–24 August for Bangladesh, India, IR Iran, Nepal, Pakistan, and Sri Lanka. Two hundred and eighty-one participants took the course. Two resource speakers from Japan and Singapore conducted both sessions. Member countries also shared their best practices in CS management for the service sector through country presentations after site visits.



Program coverage: Module 1, Overview of CS management; Module 2, Service management and innovation strategy; Module 3, Guiding steps to achieve service excellence; Module 4, CS framework and index; Module 5, CS practices in service—the Singapore Perspective; and Module 6, Service innovation in Japan. A written examination was given on the final day to evaluate learning from the course.

Workshop on Productivity Measurement in the Higher Education Sector

Higher learning institutions are facing real challenges in meeting the demand of stakeholders to deliver better-quality services in most member countries. In the current environment where public funds are shrinking and institutions must hike tuition fees to sustain their operations, it is urgent to measure the performance of the higher education sector in the hope that costs can be contained without compromising quality or accessibility. In addition, the prevalence of private education due to lucrative markets in Asia's developing nations has also raised the issue of quality, and it is reported that almost 80% of higher education institutions are run by profit-oriented organizations. Another challenge faced by this sector is keeping pace with rapid advances in communication and social networking technologies. Questions are also raised about degree granting and credentialing, quality control mechanisms, and governance.

In collaboration with the Ministry of Manpower, Republic of Indonesia, the APO organized a workshop on Productivity Measurement in the Higher Education Sector, 7–10 August in Yogyakarta. A total of 24 participants from 14 member countries attended. The APO assigned two resources persons from Australia and the USA who were involved in the development of its research on Productivity in Higher Education: Research Insights for Universities and Governments in Asia.

Program Coverage : Concepts of productivity and their applications in higher education; Current practices of and approaches to productivity measurement in the higher education sector; *APO Guide on Productivity Metrics in Higher*

Education; Latest trends and best practices in improving higher education performance outside the APO region; and Best practices of productivity improvement initiatives and interventions in the higher education sector. Participants visited Universitas Gadjah Mada, Yogyakarta, to learn about the initiatives of the institution to raise overall quality.

Training Course on Knowledge Management and Innovation for Local Government Authorities

A five-day training course on Knowledge Management and Innovation for Local Government Authorities was organized in Tehran from 26 to 30 August. It was implemented by the NIPO and the Ministry of Energy (MoE) to provide training in the KM concept and tools and demonstrate the applicability of the APO KM Framework and innovation in local government authorities. Twenty participants from 13 member countries and 10 local observers attended the training course, which was conducted by APO experts CEO Rudolph D'Souza of InKnoWin Consulting and Principal Consultants Praba Nair and Dr. Ida Yasin of Putra Business School. The opening ceremony was attended by APO Director for IR Iran and NIPO Head Dr. Roya Tabatabaei Yazdi and high-ranking officials from the MoE and Institute for Energy and Hydro Technology, a subsidiary organization of the MoE.

Mission modules included presentations on the importance of KM and innovation to productivity and quality improvement, the concept of the APO KM Framework and implementation approach, and overview of KM in the age of advanced IT. Officials from local government authorities, NIPO staff engaged in KM-related tasks, and academics specializing in KM examined the APO KM Framework and techniques, its application in organizations, and the use of technology and KM. Case studies and country papers provided examples for comparative analyses.

The group made observational site visits to Niroo Research Institute (NRI), which has been implementing the APO KM Framework through an APO demonstration project

over the past two years. The MoE intends to undertake KM initiatives throughout the ministry and in more than 200 subsidiaries by applying the APO KM Framework to improve productivity and quality. MoE Headquarters, the Tehran Regional Electricity Company, and NRI were selected as pilot locations for the KM initiative. The sharing of its success story by the NRI broadened participants' views and illustrated the applicability of the framework to the organization.

The course concluded with the formulation of individual action plans by participants detailing how they intended to apply KM in their own organizations. They submitted the plans to the APO, and the experts gave feedback on proceeding with the plans effectively.

I International Forum on Productivity

Productivity growth drives long-term living standards, and boosting economic growth in the future will increasingly depend upon improvements in multifactor productivity. However, productivity has slowed in many developed countries, raising concerns about prospects for the future, which could seriously affect the pace of economic growth in developing economies including Asia. For the APO, raising sustainable productivity is a fundamental challenge for its member countries to go forward amid the challenges faced within and outside the region. More than ever, productivity remains the main driver of future growth and prosperity. Against this backdrop, the APO organized a forum to generate recommendations on how to strengthen the governance of institutions devoted to enhancing sustainable productivity and how to improve the design and implementation of productivity policies while taking into account specific national contexts.

The International Forum on Productivity was held from 12 to 14 September in Kuala Lumpur, Malaysia, with the MPC as the host. The forum served as a platform to: review the trends in and future of global sustainable productivity; analyze sources of productivity growth in a knowledge- and technology-driven economy; understand the role of

public institutions and policies in enhancing productivity; and discuss best practices and frontier-research findings on productivity. A total of 300 participants attended, with 34 from 15 member countries. The international resource speakers for this project came from the ROC, ROK, Singapore, and USA, in addition to the local experts invited.

Program coverage: Role of public policy in stimulating productivity growth; Links between trade, global value chains, and productivity; Enhancing sustainable productivity in a globalized world; Regulatory reforms for productivity growth; and The workforce for the future. A group discussion exercise among participants allowed in-depth analysis of the views shared by different resource speakers.

Workshop on Corporate Sustainability Management for SMEs

Productivity is a key driver of economic growth, competitiveness, and improvement in the quality of life. The slowdown in productivity in recent years, especially in more developed countries, has created concerns about the long-term global economic outlook.

Excellence in productivity no longer guarantees that an organization will survive and thrive in a world of constant change and uncertainty. To be resilient, organizations must take a long-term view and develop future readiness strategies, address risks, and seize opportunities for productivity increases that can fit and be sustained in the highly uncertain, complex future, i.e., achieve sustainable productivity.

In collaboration with the CPC, the APO organized a workshop on Corporate Sustainability Management for SMEs, 25–29 September 2017 in Taipei. A total of 17 participants representing 12 APO member countries and three local participants attended. The APO assigned five resource persons from the ROC, Japan, the ROK, and Singapore.

Program coverage: The latest technological developments and market trends in the era of industry 4.0; Overview of corporate sustainability



management: Concept and philosophy; Paradigm shift for sustainable development; Sustainable management strategy for SMEs in the era of Industry 4.0; Embracing business excellence and quality management systems for corporate sustainability of SMEs; SME strategies for corporate sustainability management; and Best examples of corporate sustainability management. Participants visited Hair O'right International Corporation to observe its eco-friendly and corporate social responsibility (CSR) activities and and screen printing equipment supplier Atma Champ Enterprise, which is undertaking continuous innovation and social activities.

Workshop on Innovative Leadership and Talent Management for Public-sector Productivity

Governments everywhere are adopting more cost-oriented perspectives to reduce inefficiencies and improve productivity, motivated mainly by shrinking resources and demands for better public services from citizens. At the same time, the challenges faced by the public sector show that innovations in government services are needed. Managing talent within public-sector organizations can promote a culture of innovation, while establishing clear linkages between leadership and productivity gains. Suitable models of talent management that can help organizations retain and nurture leaders as a part of change management in the public-sector context are needed. Appropriate strategies for talent management and retention can make public-sector organizations more relevant to society as a whole.

As part of initiatives to help member countries improve public-sector productivity utilizing innovative leadership and talent management tools, the APO organized a workshop on Innovative Leadership and Talent Management for Public-sector Productivity in Colombo, 2–6 October, in cooperation with the NPS. The workshop was attended by 28 government officials representing various levels and functions from 13 APO member countries and facilitated by three international experts from Canada, Malaysia, and Romania.

Program coverage: Innovative leadership, leadership style, talent management models, and best practices; Strategies for developing innovation in the public sector; Strategic talent management for a higher-performing workforce; Performance management for talent development; Branding for public-sector organizations; Designing of leadership development plans; and Applications of talent management and recruitment with technologies. A site visit was hosted by Sri Lankan Customs to showcase initiatives to encourage innovative leadership and its talent management model.

International Conference on Public-sector Productivity

In the face of unprecedented volatility, uncertainty, complexity, and ambiguity mainly resulting from technological advances and innovations, the working mandate for governments to do more for less does not seem adequate to resolve issues such as economic inequality, unemployment, and population aging. At the same time, attempts to deliver better outcomes and experiences for citizens at a sustainable cost have been accompanied by the rapid dissemination of new technologies and tools. Public-sector organizations have never faced such extraordinary challenges and opportunities. Efforts to raise productivity in public-sector organizations must have a forward-looking element to ensure their sustainability. The concept of sustainable public-sector productivity where government institutions have the capability to make productivity improvement strategies resilient against the uncertainties of the future not only fits current conditions but also inherently accommodates new developments.

With the primary objective of redefining the notion of productivity in public-sector organizations in their changing external environment, the APO in conjunction with the DAP held an International Conference on Public-sector Productivity in Tagaytay City, 10–12 October. The three-day conference was attended by 680 local and 24 international participants representing 12 APO member economies who were seeking ways to

redefine the role of government and public-sector productivity. It covered 39 presentation sessions on diverse topics related to public-sector productivity, facilitated by nine local and 11 international speakers.

Program coverage: Next generation of governance; Governance of the future; Distributed and collaborative governance; New frontiers in performance management and productivity measurement; Data-driven decision making; Action learning for transformation in public-sector organizations; Digital government services; Big data and data analytics for public-sector productivity; Citizen science; Phronetic and innovative leadership; Managing changes; e-Governance; and Future-thinking perspectives for policymakers.

Multicountry Observational Study Mission on Innovations in Value-added Agriculture

Value-added agriculture has the potential for increasing productivity and farm profitability and generating off-farm employment opportunities in rural areas. Value-added products can open new markets, enhance the public's appreciation of farming, and extend marketing seasons. Value addition makes intensive use of both human resources and local agricultural raw materials and is therefore one of the best strategies farmers can employ to improve net profitability.

To study and learn from the experience of Japan in value-added agriculture through observing successful examples and help participants formulate strategic action plans to disseminate and utilize the lessons learned and insights gained for wider adoption among agribusiness SMEs, the APO conducted a multicountry observational study mission on Innovations in Value-added Agriculture in Japan, 10–14 October. It was attended by 19 representatives of agriculture-related government agencies, the food-processing industry, and academia from 12 member countries. Five resource persons facilitated the mission and led discussions.

Program coverage: Emerging trends in value-added agriculture; Innovative policies for

promoting cooperation between agriculture and the food industry; Promotion of biomass utilization; Development of functional foods and use of the health claim system in Japan; and Advanced technologies for producing value-added food. The study mission included visits to AGRI WORLD 2017, Japan's largest exhibition for the agriculture industry; research institutes under the National Agriculture and Food Research Organization, including the Agri-food Business Innovation Center; an agriculture cooperative; greenhouse facilities for vegetables and flowers; a GAP-certified farm; a processor of frozen vegetables; and a dairy products factory.

Workshop on Performance Management for the Public Sector

Interconnections among performance management and concepts such as higher productivity, efficiency, and customer satisfaction are obvious. Within the context of the public sector, performance management is based on clear organizational objectives and established methods to measure the extent to which they are achieved. This allows all levels within organizations to improve efficiency, productivity, and citizen satisfaction. One reason why performance management remains relevant as a tool to enhance public-sector efficiency is that it aligns stakeholder aspirations and organizational culture with the ever-changing nature of government services and resources available to deliver them to citizens. Success in meeting citizens' needs depends on sufficient organizational flexibility to remain relevant in the face of changes affecting their demands. This is becoming more important with the unprecedented changes in the external environment faced by the public sector. Instilling a longer-term perspective, for example, particularly at the planning and design stage, can increase the durability of strategies and reduce uncertainty in the future.

The APO continues to reexamine methods to improve government performance in member countries by aligning individual, team, and organizational objectives and results to reflect the uncertainty and complexity of the changing world order. As part of



its initiatives to strengthen performance management frameworks and related measurement elements to create the public-sector organizations of the future, the APO implemented a workshop on Performance Management for the Public Sector in Manila, 6–10 November, organized in collaboration with the DAP. Twenty-one individuals from 18 government agencies representing 12 APO members attended, along with resource persons from Australia, Canada, and India.

Program coverage: Performance management for sustaining efficiency and productivity improvement in the public sector; Principles and important elements of performance management; Performance reporting, strategic thinking, and execution; Managing change in performance management systems; Performance dialogues; Lessons learned and best practices from advanced countries; and Performance management through the use of technologies. An observational visit was organized to the offices of the Land Bank of the Philippines, a state-operated rural bank that has renewed its performance management systems in the face of recent changes.

Workshop on Corporate Social Responsibility in SMEs

CSR is a continuing commitment by businesses to behave ethically and contribute to socioeconomic development and environmental protection while improving the quality of life of the workforce and their families as well as of the local community and society at large. Today, business and society are interdependent. In this context, CSR is about how companies manage their business processes to produce an overall positive impact on society. Thus, it is vital that businesses consider the economic, social, and environmental impacts of their activities with stakeholders' engagement. CSR is also a strategic tool to enhance the competitiveness of SMEs. Integrating social responsibility throughout an SME can be undertaken through practical, simple, cost-efficient actions and does not need to be complex or expensive. Owing to their small size, potential for being flexible and innovative, and generally close ties with local communities, SMEs have

particularly good opportunities for exercising social responsibility.

In collaboration with the NPS, the APO organized a workshop on Corporate Social Responsibility in SMEs, 6–10 November in Colombo. Guided by two Japanese resource persons, the 28 participants from 14 APO member countries examined the concept, methodology, recent trends, and best practices of CSR in SMEs in the era of Industry 4.0. Specific barriers to developing social responsibility programs and how to overcome them were described, and the ISO 26000 standard for undertaking CSR initiatives was introduced.

Program coverage: Overall concept of CSR and global trends in SMEs; The UN Sustainable Development Goals and business; How to develop practical and competitive CSR programs for SMEs; CSR development and best practices in SMEs; Value chain management for SMEs; and Building CSR strategy in SMEs for CSR manual development. A site visit to Maliban Biscuits Manufacturing Ltd. was



organized to allow participants to benchmark against its CSR initiatives.

Workshop on Global Market Access Focusing on the Retail Industry

In the era of the Fourth Industrial Revolution, intense global competition to gain market access and rapid changes in the business environment are forcing enterprises to become more agile. Service-sector SMEs play an important role in the Asia-Pacific region, not only because of their sheer numbers but also the variety of their activities. Realizing the importance of productivity improvement among SMEs in the global business environment, the APO organized a workshop on Market Access for SMEs in 2011 and one on Market Access for SMEs in the Service Sector in 2014.

In 2017, in collaboration with the NPCC, the APO organized a third workshop to enable participants to understand new trends in global markets, how access can be gained, and challenges faced by SMEs seeking new market access strategies in the service sector, focusing on the retail industry. The workshop on Global Market Access Focusing on the Retail Industry, held in Phnom Penh 13–17 November, was attended by 22 participants from 15 APO member countries and six local ones. Three resource persons from Japan and Singapore, with long experience in helping SMEs gain wider market access, were assigned to facilitate workshop proceedings. The focus was on understanding the latest technological developments in the retail industry including the Internet of Things and its implications for the global retail landscape, global market access strategies followed by major companies, current challenges and opportunities in global market entry, and developing action plans for retail SMEs to go global.

Program coverage: The global retail landscape and Asia; Global market development strategies and market readiness; Impact of the Fourth Industrial Revolution on the retail sector; Success stories of global market access in the retail industry; Challenges and opportunities for SMEs attempting to

go global; and How to plan for retailers to access the global market. Participants visited LyLy Food Industry Co., Ltd. to understand the global market access plan and strategy followed by the snack food producer.

Training Course on Labor- Management Relations in SMEs

Labor-management relations refer to the system in which employers, workers, their representatives, and, directly or indirectly, the government interact to set the ground rules for the governance of work relationships. How companies develop and maintain an amicable relationship between labor and management is an important process that they see as mutually beneficial. The experience of countries with good productivity records underlines the link between labor-management relations and productivity growth.

The APO conducted a workshop on Labor-Management Relations with Special Focus on the Automobile Industry in Japan in 2013 and then published the *Manual on Labor-Management Relations: Japanese Experience and Best Practices* in 2014. In 2015, it organized a workshop on Labor-Management Relations for policymakers, NPO staff, and representatives of agencies in charge of labor-management issues, followed by a 2016 forum on the topic focusing on the Japanese model.

In 2017, in the era of Industry 4.0, the APO in conjunction with NIPO held a training course in Tehran on Labor-Management Relations in SMEs, 25–29 November. It allowed the 23 participants from 12 member countries to discuss the current status of labor-management relations, issues involved, and the roles of governments, labor unions, and NPOs in the era of Industry 4.0 in promoting harmonious environments leading to sustainable productivity improvement. The APO assigned two labor-management relations specialists from Japan and Singapore to guide the workshop.

Program coverage: Industry 4.0 and sustainable productivity; Productivity improvement and the role of labor-management relations; Building high-performance organizations through labor-



management relations; Creating a knowledge-sharing culture through labor-management relations; Enhancing labor-management relations through progressive human resources management practices; Developing a manual on implementing amicable labor-management relations; and Best practices of labor-management relations. A visit to enterprises in Caspian Industrial Town, Qazvin province, showcased model labor-management relations practices in SMEs in several sectors.

e-Learning Course on Food Safety Risk Management in Food Supply Chains

The food chain has many stages in which products may be susceptible to contamination by pathogens. The application of the risk analysis approach to assess food safety can contribute significantly to reducing foodborne illnesses and strengthening food safety systems. Risk analysis enables national food regulatory authorities to make evidence-based safety decisions. It consists of three interactive processes: risk assessment; risk management; and risk communication. The increasing use of risk analysis to support national food safety, public and animal health policies, and international trade agreements has led to growing demand for good risk analysis practices.

To enhance understanding of risk management frameworks and their applications in ensuring the safety of food supply chains in selected member countries, the APO offered a videoconferencing (VC)-based e-learning course on Food Safety Risk Management in Food Supply Chains in two sessions: 20–23 November (Bangladesh, India, IR Iran, Pakistan, Vietnam); and 5–8 December (Cambodia, Fiji, Malaysia, Mongolia, the Philippines). NPOs implemented the course in the 10 countries for a total of 264 participants.

Program coverage: Emerging foodborne pathogens and their socioeconomic impact; Food safety risks and vulnerabilities in food supply chains; Risk analysis framework for food safety; Food safety risk management (FSRM); Regulations and policies for FSRM; FSRM tools and technology; and Collaboration among stakeholders along food supply chains.

Research on Public Policy Innovation for Human Capital Development

In a rapidly evolving employment landscape, the ability to anticipate and prepare for future skill requirements, changing job content, and their aggregate effect on employment will be increasingly critical for businesses, governments, and individuals to seize the opportunities presented and to mitigate undesirable outcomes. It is therefore essential to formulate a comprehensive vision for human capital strategy, as this will provide impetus to developing national competitive advantages, especially with the pace of change in the global employment scenario. This research therefore aims to look into innovative approaches to public investment in human capital using the science, technology, engineering, and mathematics (STEM) framework in selected APO member countries and make recommendations on managing future skill and workforce development in response to the technology-driven changes and structural adjustments now taking place.

A coordination meeting was held from 11 to 13 December in Colombo, Sri Lanka, with the NPS as the host. The meeting served as a forum to review public investment in human capital development, analyze its role in determining overall development, and provide recommendations on managing future skill requirements for human capital in member countries. Ten national experts from member countries are participating in this research under the guidance of a chief expert from the University of Tokyo.

Program coverage: Revisiting human capital and its implications for development; Innovative approaches to and policies for human capital development; STEM framework in education and its challenges and opportunities; and Future talent and skill formation requirements in modern economies. All national experts also made presentations on their preliminary research work.

e-Learning Course on Management Innovation in SMEs

The capacity to innovate in today's world is as important for SMEs as for larger enterprises. Greater competitive pressure and uncertainties in the external environment mean that the creation and introduction of new products/services, as well as of their components and related procedures and/or processes, are constant requirements. Management innovation involves deliberate application of information, imagination, and initiative in deriving greater or different value from resources and encompasses all processes by which new ideas are generated and converted into useful products.

With the objective of enhancing the productivity and efficiency of SMEs by expanding their capacity to innovate, the APO organized a VC-based e-learning course on Management Innovation in SMEs in two sessions: 11–14 December 2017 (Bangladesh, India, IR Iran, Nepal, Pakistan; and Vietnam); and 15–18 January 2018 (Cambodia, Fiji, Malaysia, Mongolia, the Philippines, Thailand, and Sri Lanka). A total of 105 participants from the six countries attended the first session of the VC course. The session was coordinated by their NPOs. The APO assigned resource persons from India and Japan to guide the participants' learning activities.

Program coverage: Overview of management innovation; Important elements of management innovation for SMEs; Strategies for management innovations in SMEs' Sustaining innovation for SMEs; Continuous creation of new value for SMEs; and Open innovation for SMEs. During the course, participants visited SMEs in their countries to observe the applications of management innovation in real-life situations in addition to proposing suggestions for improvement.

Workshop on Cold Chain and Logistics Management for Agrifood Products

Food loss and waste not only have global socioeconomic and environmental consequences, they also have negative

impacts on farmers' and traders' incomes and the volume of food reaching consumers. An estimated one-third of all food produced, or about 1.3 billion tons, is wasted annually for reasons including poor harvest and postharvest handling practices and the lack of appropriate transportation, storage, cooling, processing, and marketing infrastructure. To reduce postharvest losses and maintain the quality and safety of agrifood products at the desired level, well-organized cold chain and logistics management is critical.

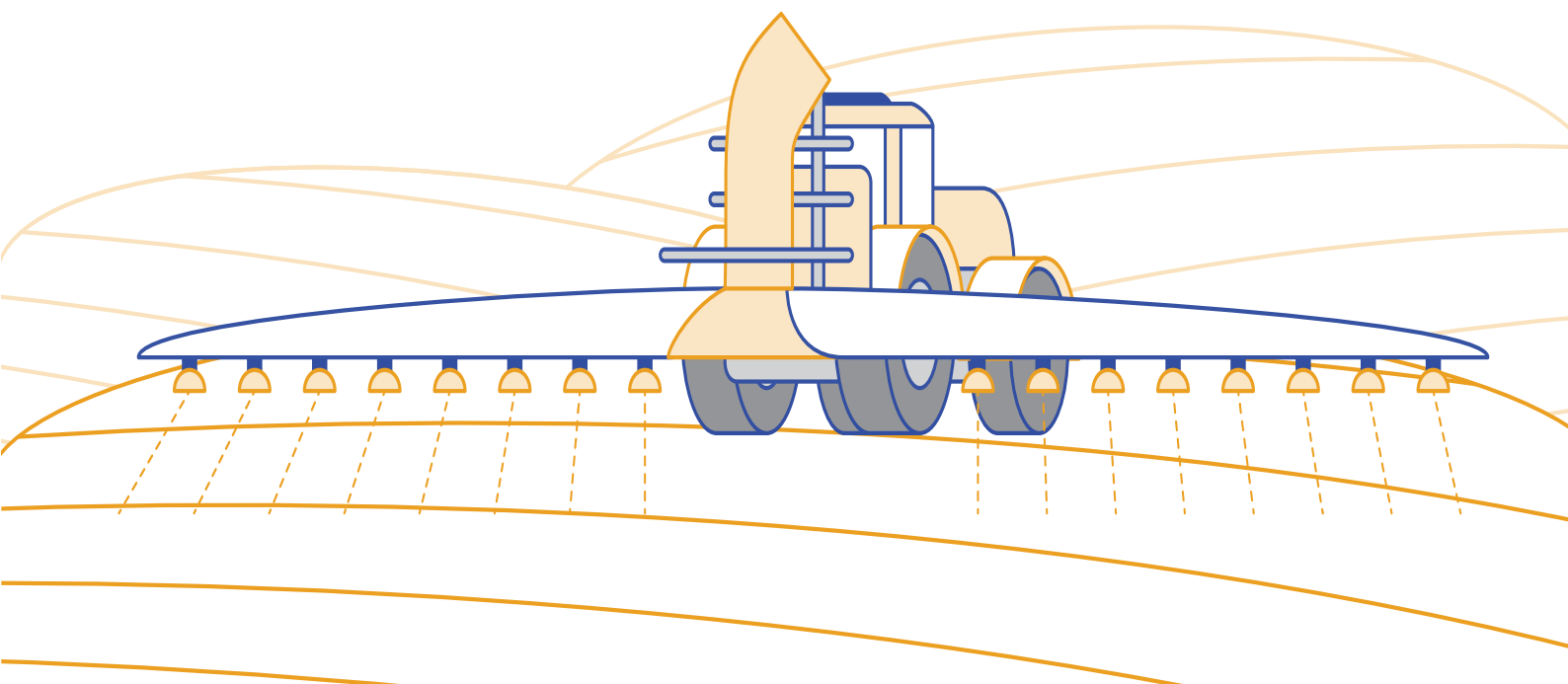
To share cost-effective, innovative cold chain technologies, models, and logistics for agrifood products and find ways to promote the adoption and scaling up of such technologies and models in member countries, the APO in partnership with the Fijian Ministry of Agriculture, NTPC, and Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP) organized a workshop on Cold Chain and Logistics Management for Agrifood Products in Nadi, 11–15 December. Twenty-two participants from 15 countries as well as three resource persons from India, New Zealand, and Singapore attended.

Program coverage: Cold chain and logistics development for agrifood products—an overview; Impact of cold chains on agriculture and the food industry—experience of developed countries like Japan and the USA; Cold chains and logistic services for small farmers in Asia; Public–private partnerships in cold chain development; Capacity development needs for cold chain and logistics management for food products in APO member countries; and Development of cold chain and logistics management strategies to address the needs of developing countries. A site visit was arranged in Bilalevu settlement which provided opportunities for participants to understand details of cold chain and logistics facilities for local Fijian fruit and vegetable products.

Research on Agricultural Productivity Measurement and Monitoring

Increased agricultural productivity is crucial in achieving the objectives of rural poverty reduction, food security, and inclusive economic growth. For many developing





and less-developed countries, agriculture contributes substantially to rural livelihoods, trade revenues, and national food security. But for most of those countries, the systems for monitoring agricultural productivity trends are weak. This usually translates into weak planning and programming systems, which often lead to improper allocation of scarce resources among sectors and even within the agriculture sector.

With increasing international trade in agricultural and food products, countries in the region need reliable databases on agricultural resources and their productivity so that governments can plan and pursue the appropriate policy mix and program support. This is essential for enhancing the competitiveness of agri-based enterprises and at the same time will help the private sector identify potential areas for investment.

To monitor and report on the agricultural productivity trends and performance in member economies, provide analysis of those most recent trends, and strengthen national agricultural policy analysis, the APO conducted research on Agricultural Productivity Measurement and Monitoring, June 2016–May 2017. Dr. C.J. O'Donnell, Professor and Deputy Head, University of Queensland School of Economics, Brisbane, Australia,

was assigned as the chief expert. His team undertook research and submitted the report titled *Productivity Change in Agriculture: A Comparative Analysis*. It provides data on and analysis of agricultural productivity trends in 17 APO member countries along with those in some nonmember countries as benchmarks, with 55-year coverage (1961–2015).

Research on Science, Technology, and Innovation Policies on Productivity Enhancement in APO Member Countries

Scientific advances, technological changes, and innovative value creation are important drivers of productivity and economic growth. Building up an effective science, technology, and innovation (STI) system that can absorb technical know-how, strengthen scientific capabilities, and improve firm innovation is receiving a surge of interest from many governments. STI policies (STIPs) need to be well designed and implemented to enable STI systems to contribute their full economic potential. Recently, various socioeconomic, environmental, technological, and political trends have been influencing the development of societies and economies. The emerging trends not only are promising but also carry

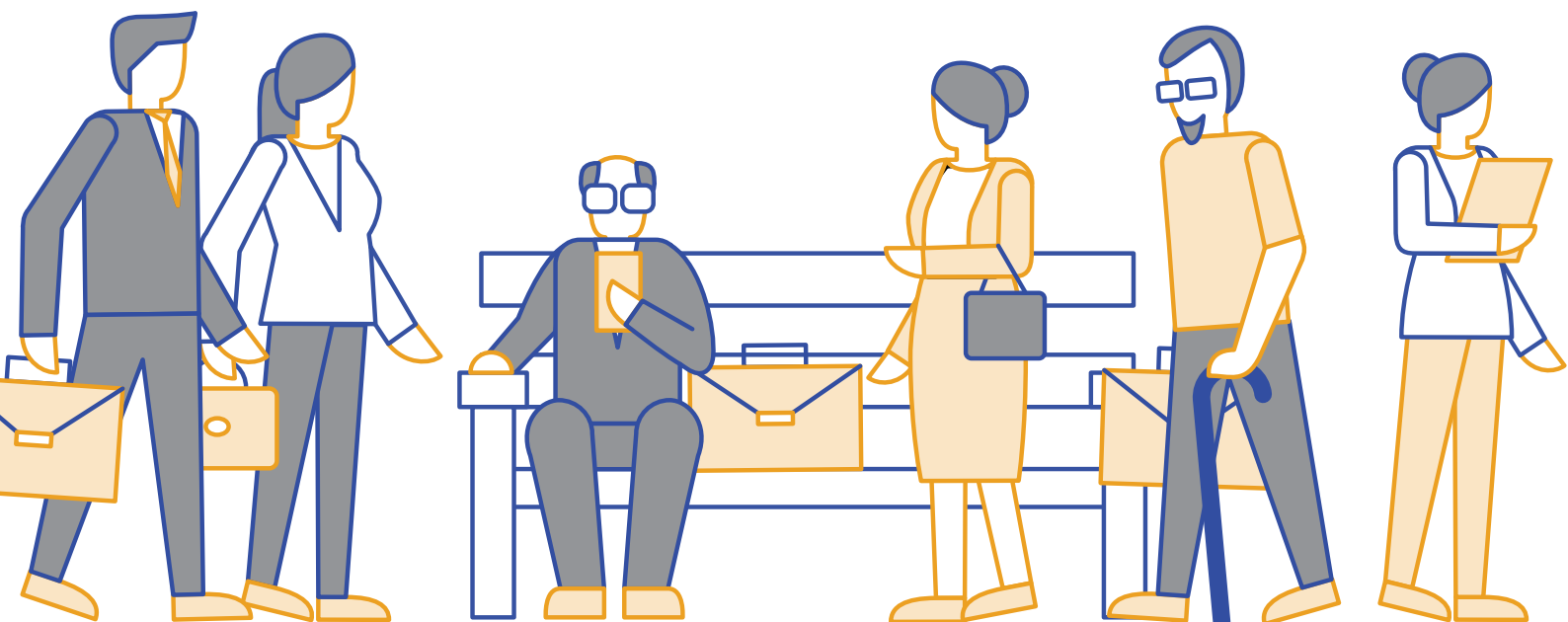
significant risks for the future. They pose challenges to the direction and pace of STI activities as well as the status and efficacy of STIPs.

In order to support informed policymaking in member countries, a research project on Science, Technology and Innovation Policies on Productivity Enhancement in APO Member Countries is being conducted. It aims to determine the key trends impacting STI, review collaborative linkages among STI actors and recent developments in STIPs, and publish an outlook document focusing on strengthening future STI systems and their policy implications for APO member countries. The final report will present future STI systems, provide policy insights for efficient interventions to boost economic growth, and make recommendations to encourage stronger linkages among STI players. A three-day coordination meeting of experts was held 21–23 November in Vientiane, attended by one chief expert from Japan and eight national experts from the ROC, India, Indonesia, Lao PDR, Pakistan, Sri Lanka, Thailand, and Vietnam. The meeting discussed the scope, framework, methodology, and timeline of the research.

Program coverage: Key trends impacting STI systems; Review of collaborative linkages among STI actors; Industry 4.0; Society 5.0; Future-oriented technology analysis; Analysis of recent developments in STIPs; Future of STI systems; and Policy implications to strengthen technological and innovative performance.

Research on Aging Societies and Gender Mainstreaming in Human Capital Development

Currently, APO member countries face the prospect of shrinking labor forces and thus labor shortages in coming years with rapidly aging populations. Better utilization of the untapped or underutilized pool of female labor is crucial to stimulate productivity growth and cope with the challenges facing aging societies. Initiated at the end of 2015, the Research on Aging Societies and Gender Mainstreaming in Human Capital Development aims to examine the trends, patterns, and determinants of the female labor force participation (FLFP) rate in participating countries and their impact on labor productivity. One chief expert and six



national experts from the ROC, India, Indonesia, Malaysia, the Philippines, and Thailand were assigned to conduct the research. After one year spent collecting data, the research team consolidated a report containing an analysis of policies to boost the participation of women in the labor force. Good practices and lessons learned from advanced countries with experience in driving FLFP will be documented and serve as the basis for recommendations for the more active participation of women in the labor force in participating member countries. The final research report was planned to be published in early 2018.

Program coverage: Aging societies; Gender mainstreaming; Human capital development; FLFP; Quality employment for female labor; Labor market participation framework; and Labor productivity.

Research on Measurement of Productivity in the Public Sector

Research on Measurement of Productivity in the Public Sector was carried out in 2016 with eight national experts from India, Indonesia, IR Iran, Malaysia, Pakistan, the Philippines, Sri Lanka, and Thailand and one chief expert from Australia participating. The objective of the research was to identify the key performance indicators (KPIs) in measuring public-sector productivity, measure and determine the productivity level of the public sector using those KPIs, and make recommendations to enhance the overall productivity performance of the sector. The coordination meeting was hosted by the MPC, 23–25 November 2016 in Kuala Lumpur, and the project continued throughout 2017 in participating countries.

Research on Case Studies of Diversity Management and Human Capital Strategy

Employing a diversified workforce is not only an advantage but also a challenge for management. Diversity could have both positive and negative effects on firm productivity. A strategy to manage diversity successfully is a

strategy to create a work environment where similarities and differences in the workforce are included and valued. Such a strategy turns a diverse workforce into an inclusive workforce. The more diverse and inclusive the workforce, the greater the team collaboration and commitment to organizational performance and productivity enhancement. The organization's ultimate goal of improving efficiency and effectiveness while achieving better productivity performance can be met by well-satisfied, better-performing, more committed employees.

Initiated in September 2016, the research on Case Studies of Diversity Management and Human Capital Strategy was designed to assess the impact of a diverse, inclusive workforce on organizational productivity gains and competitiveness. One chief expert and six national experts from the ROC, India, IR Iran, Malaysia, the Philippines, and Thailand were commissioned to implement the research. In December 2017, a report covering best practices in strategies for diversity management and inclusiveness in organizations in both the public and private sectors was submitted. The impact of diversity and inclusion on productivity gains was analyzed in each case. The final report was scheduled for publication in 2018.

Program coverage: Diversity and inclusion strategy; Human capital development; Unconscious bias; Organizational performance; and Firm productivity.

Research on Change Management in the Public Sector

A meeting on the research project on Change Management in the Public Sector was held 7–9 December 2016 in Bangkok, with 10 national experts from Bangladesh, Cambodia, India, Indonesia, IR Iran, Malaysia, Pakistan, the Philippines, Sri Lanka, and Thailand and one chief expert from Thailand in attendance. The research was designed to look into the models and theories of change management as applied to the public sector, examine the complexities and results of their applications to public-sector organizations, and provide

recommendations that could enhance overall sectoral performance within the framework of change management. The individual reports on the research carried out by national experts were reviewed during 2017 for consolidation by the chief expert.

Research on Measuring Productivity in Higher Education

A research project on Measuring Productivity in Higher Education was carried out in 2015 with nine national experts from Cambodia, Fiji, India, Indonesia, Malaysia, Pakistan, the Philippines, Sri Lanka, and Thailand selected to undertake the national surveys and background investigations. The objective was to examine the concepts of productivity and their application to higher education, agree on the key productivity indicators for assessing the productivity level of academic institutions, and recommend proposals that would enhance the productivity outcomes of the higher education sector in general. The coordination meeting was hosted by the FTPI, 24–26 November 2015 in Bangkok,

and the project was completed in 2017 with the publication of the report titled *Raising Productivity in Higher Education: Selected Papers on Global Best Practices by Experts*.

Research on Knowledge Management Models in the Public Sector

Five national experts from Indonesia, Malaysia, the Philippines, Singapore, and Vietnam contributed to the APO Research on Knowledge Management Models in the Public Sector. The project commenced with the first coordination meeting in 2015 hosted by the MPC, which was attended by the five national experts, chief expert, and a guest expert from Hong Kong. The research aimed to identify KM models in the public sector which could serve as practical guides to improving performance in the sector, with strong emphasis on knowledge productivity enhancement. A second coordination meeting, organized by the VNPI, was held in 2016. The project was completed with the publication of the report by the APO in 2017.

GREEN PRODUCTIVITY

Development of Demonstration Companies: Energy Efficiency Program

Under the Special Cash Grant Program on Energy Conservation funded by the Ministry of Economy, Trade and Industry of Japan, the APO has been carrying out research on need assessment since August 2015. A training course on energy conservation was held in February 2016. In parallel with those activities, the APO has been organizing demonstration company projects and assigning experts to target countries to offer know-how on energy conservation measures and technical assistance. The establishment of demonstration companies disseminates knowledge of and techniques for energy conservation to a wider variety of people

along with trained trainers through onsite assistance by an expert(s). The five target countries for this program are Bangladesh, Mongolia, Nepal, Pakistan, and Sri Lanka.

On 15 February, the APO in cooperation with the MPO organized a conference for the dissemination of the results of this demonstration program in Ulaanbaatar, Mongolia. Speakers from three demonstration companies, APU Company, TESO LLC, and UBEDN SOJS Company, shared their outcomes. All three companies had seen positive results and appreciated the advice received by experts. Seventy-five participants from 16 Mongolian companies and organizations attended and were eager to apply similar energy efficiency techniques to their own workplaces.



On 25 April, the APO and NPS organized a conference for the dissemination of the results of the demonstration project undertaken in Sri Lanka. Wijeya Newspapers shared examples of the applications of energy management tools and techniques as well as the outcomes of its demonstration project. The conference was attended by Minister of Public Administration Ranjith Maddumabandara as well as by NPS Director General Thilaka Jayasundara and over 150 participants from energy-related fields in the public and private sectors. Significant results achieved under the project at Wijeya Newspapers included a 15% improvement in its energy performance indicators and reduced electricity usage.

The selection and onsite assistance of demonstration companies were initiated in Nepal and Pakistan in 2017. In Nepal, Udayapur Cement Industries Limited and Hetauda Cement Industries Limited were selected as demonstration companies. In June and October, the APO in cooperation with the NPEDC organized training-of-trainers seminars along with factory visits to provide onsite assistance to those two companies, assisted by an expert from the Energy Conservation Center Japan. In Pakistan, Asian Food Industries Limited, Pakistan Engineering Company Limited, and Serena Hotels were designated as demonstration companies. Japanese experts Yoshio Hirayama and Norio Fukushima visited the three companies in July and October for productivity diagnoses and to offer guidance. The project is scheduled to be completed in 2018.

Program coverage: General concepts and overview of energy efficiency and conservation and energy management systems; Establishment of total energy management systems; Latest technologies for and knowledge of energy management; Measures and viewpoints to improve energy efficiency and conservation; Demonstration projects; and Green Productivity (GP).

Research on the Status of Green Business in the Region

A green business adopts strategies that demonstrate commitment to a sustainable

future. Many businesses are integrating environmental dimensions in their business planning and implementing sustainability action plans that will lead to greater value creation, improved productivity, and enhanced corporate image. In order to monitor and evaluate the effectiveness and performance of green businesses, indicators to measure the progress of environmental performance and sustainable business are important.

In 2015, the APO commenced the Research on the Status of Green Business in the Region. One chief expert and six national experts from the ROC, India, Indonesia, the ROK, Philippines, and Thailand were assigned to undertake the research. In 2016, the research team completed a report in which a framework of indicators to assess green businesses in APO member countries, i.e., the GP Excellence Framework, was refined. Based on the GP Excellence Framework, the research team was able to assess and rank all participating companies in the six countries in terms of green business. In 2017, the final report was published.

Program coverage: Green business definition, trends, and study; Analytical hierarchy process methodology; and GP Excellence Framework.

Research on Green Productivity and Productivity Measurement Program for Myanmar

Measuring the productivity performance of a nation is essential to evaluate its efficiency in resource use and assess areas for potential economic growth, which are pivotal for evaluating national productivity improvement. The research on Green Productivity and Productivity Measurement Program for Myanmar is attempting to assess labor, capital, and energy productivity in the country while examining the potential for improving energy efficiency with lower carbon emissions.

This research is implemented under a cash grant from the Japanese Ministry of Foreign Affairs. The first phase of the research was a collaboration between the APO and Keio University (Keio) and generated a preliminary draft report examining energy productivity

and overall productivity in Myanmar. It has now moved into the second phase, which entailed inviting another partner, the Research Institute of Innovative Technology for the Earth (RITE) and evolving into a three-party project undertaken by the APO, Keio, and RITE. The second, final phase will produce a research paper, including international comparisons of energy productivity, for Myanmar. It will contribute to enhancing understanding of productivity measurement and evidence-based productivity analysis, as well as the productivity statistics issues involved.

Program coverage: Assessment of national account data; Establishment of preliminary methodology to construct a growth accounting framework; Productivity and energy efficiency; and International comparisons.

The 15th Annual Meeting of the Green Productivity Advisory Committee (GPAC)

Since the establishment of the GP Program in 2003, the APO has been expanding Green Productivity Advisory Committee (GPAC) activities internationally. The main objective of the GPAC is to promote state-of-the-art ecotechnology and innovations that contribute to GP practices among member economies.

On 10 February, the 15th Annual Meeting of the GPAC was held in Tokyo. The main agenda included introduction of the new vice-chairpersons and new GPAC members, a presentation on the results of the Eco-products International Fair (EPIF) 2016, and an update on the final preparations for the EPIF 2017 during which details of the main EPIF program and side events were explained by representatives of the host organizations, Director Nguyen Anh Tuan of the VNPI and Deputy Secretary General Nguyen Quang Vinh of the Vietnam Chamber of Commerce and Industry (VCCI). The meeting was attended by APO Secretary-General Santhi Kanoktanaporn; GPAC Chairperson Hajima Bada, Honorary Adviser, JFE Holdings Inc.; five vice-chairpersons; 14 members, nine observers; and four guests from the Vietnamese host organizations of the EPIF 2017.

Workshop on Material Flow Cost Accounting

Material flow cost accounting (MFCA) is a management tool that examines and optimizes consumption of materials and energy in operation processes. It proposes the treatment of waste as resources and thus contributes to reductions in emissions and nonproducts, optimized utilization of resources and energy, and therefore enhanced productivity. It was first developed in Germany in the late 1990s and was later adopted widely by Japanese enterprises. It has since helped numerous SMEs to reduce waste and costs and increase overall productivity.

To familiarize members with the methodologies and good practices of MFCA and the concepts of sustainability and the circular economy, the APO collaborated with the NPO of Bangladesh in conducting a workshop on Material Flow Cost Accounting, 21–24 March in Dhaka. It was attended by 22 participants from 15 member countries, who exchanged experiences in practicing MFCA and learned about the latest developments of MFCA techniques and resource management from technical experts from Germany, Malaysia, and Thailand.

Program coverage: The circular economy and sustainable waste management; Linking the circular economy and MFCA: How MFCA contributes to reaching the vision of the circular economy; Connection between waste management and MFCA: Case studies from Thailand; MFCA implementation steps for SMEs; MFCA simulation: Hands-on exercise to visualize and quantify waste and evaluating improvement with MFCA; Sustainability management: Case studies from Germany; Visualization of MFCA: Case studies from SMEs; and International standards for MFCA: ISO 14051 and ISO 14052.

Workshop on Successful Models of Integrated Farming

Integrated farming (IF) practices emphasize the use of naturally, sustainably produced soil nutrients and cultivation of diversified crops, livestock husbandry, and allied enterprises



in a manner that enhances overall farm productivity in balance with local, regional, and global environmental resources. IF makes judicious use of agricultural inputs and farm resources, generates farm employment, optimizes technology use, produces diverse agrifood products, increases farm profitability, and generates farm income year round. It also improves agricultural resilience and adaptability to changing climate conditions.

To share successful models of IF and to develop action plans for participants to promote the adoption and scaling up of successful models and best practices of IF in their countries, the APO in partnership with the NPO of Bangladesh under the Ministry of Industries organized a workshop on Successful Models of Integrated Farming in Dhaka, 7–11 May. Twenty-five participants from 13 countries, one observer, six resource persons from Australia, India, and the Philippines, and three local experts from Bangladesh attended.

Program coverage: Sustainable farming systems in Asia and the Pacific: Status, trends, challenges, and opportunities; Cost-effective new technologies for small- and medium-sized IF; Roles of government, the private sector, NGOs, agribusiness companies, markets, and farmers in stimulating the adoption of IF; Successful models of IF; and Best practices for improving IF productivity and profitability. A site visit was hosted by Shikha Shastha Unnayan Karzakram (SHISUK), or the Education, Health, and Development Program, an independent, nonprofit NGO located in Comilla district.

International Environmental and Economic Forum: Action for the Future and Moving Toward a Virtuous Circle for Sustainable Development

The APO has long been endeavoring to contribute to the sustainable development of its member countries through activities aligned with the GP Program, which is also strengthened by the EPIFs that leverage the channels of international trade, investment, and exchange of knowledge, experiences, and technologies.

To explore potential additional avenues for sustainable development, the APO held an International Environmental and Economic Forum in conjunction with the 2017 EPIF, 11–13 May, in Ho Chi Minh City. Forty-three participants representing 15 APO members attended, along with resource persons from the ROC, Germany, India, Japan, Switzerland, and the UK who presented the latest trends in and initiatives on resource efficiency, pollution management, and the circular economy which contribute to sustainable development. Eleven service and technology providers exhibiting at the EPIF also showcased how state-of-the-art technologies could assist countries, enterprises, and individuals to pursue greener productivity growth.

Program coverage: The APO, sustainability, and the circular economy; The circular economy: Concept, practice, and the role of technology; Green industry, an important part of inclusive and sustainable industrial development; The dematerialized service economy in the age of anthropocene; Pollution control policies and practices in Vietnam; Pollution control in India; Eco-industrial park initiatives in Vietnam; Resource efficiency and management of secondary raw materials; Sustainable material management; Sustainable consumption and production in Asian countries; Win-win strategies and solutions between assistance providers and recipients: Experience from the Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ); How the circular economy creates jobs and saves lives in low- and middle-income countries; and The circular economy for the Asia-Pacific region.

I Eco-products International Fair 2017

Since 1994, the APO has been actively promoting GP. With the cooperation of the GPAC, which facilitates expansion of the APO's partnerships with the public and private sectors, the first EPIF was held in 2004. Since then, the EPIFs have been globally recognized as pioneering international environmental exhibitions in the Asia-Pacific region. The EPIF has been held 10 times in different APO member countries, attracting both exhibitors with innovative eco-solutions seeking

synergistic business opportunities and visitors who are keen to learn about state-of-the-art initiatives for sustainable development taken by both industries and the public sector.

To provide a platform to showcase the latest eco-technologies and eco-products to governments, industries, and the general public, as well as to expand green markets for the creation of a sustainable society, the APO organized the 11th EPIF 2017, 11–13 May at the Saigon Exhibition & Convention Center in Ho Chi Minh City, in collaboration with the VNPI, VCCI, and Vietnam Environment Administration. The EPIF 2017 was themed Green Technologies and Products: Actions for the Future and focused on the B2B (business-to-business), B2G (business-to-government), and B2C (business-to-consumer) models. This was the second EPIF to be held in Vietnam. VIPs from industry and the government, including Vice Minister Trần Việt Thanh of Vietnam's Ministry of Science and Technology, Vice Minister Võ Tuấn Nhân of the Ministry of Natural Resources and Environment, and VCCI Vice-Executive President Hoang Quang Phong, attended the opening ceremony and toured the fair. The EPIF 2017 attracted nearly 36,000 visitors and 170 exhibitors from five economies over the three days.

Program coverage: GP; Environmentally friendly eco-technologies, eco-products, and eco-services; Green growth; and Eco-innovation and energy efficiency.

Multicountry Observational Study Mission on Energy Efficiency and Energy Management Practices for SMEs

A five-day multicountry observational study mission on Energy Efficiency and Energy Management Practices for SMEs was organized in Taipei from 24 to 28 July. It was implemented by the CPC to create awareness of innovative, smart, energy-efficiency applications that can be used by SMEs to reduce energy consumption. Nineteen participants from 10 member countries attended the mission, which was conducted by APO experts

Technical Director Howie Ng Ha Wai of Hong Kong Veritas Limited and General Manager for Energy and Carbon Services Sanjiv Kumar Bose of the BSI Group India. Chief Guest and CPC President Dr. Pao-Cheng Chang opened the first session.

Mission modules included presentations on the concepts and fundamentals of energy efficiency and management. The energy professionals, SME managers, and energy managers, consultants, and auditors attending examined current energy management tools and techniques, their industrial applications, and use of energy-efficient systems in building and facility management. Case studies and country papers provided examples for comparative analyses.

Observational site visits to SMEs using advanced green energy technologies for improving energy management and energy efficiency were an important feature. The visits identified effective ways to transfer such technologies to the manufacturing sector in participants' countries, which is key to sustainable economic development. Participants made positive comments on the learning from the site visits, especially regarding smart devices and smart cities. They realized that energy management should be planned properly as early as possible from the fundamentals. Step-by-step improvement is another important strategy, especially for existing facilities.

2nd International Conference on Biofertilizers and Biopesticides

Inappropriate use of chemical fertilizers and pesticides can cause irreparable damage to ecosystems and food production systems. Biofertilizers and biopesticides (B&B) can be important in meeting current challenges to sustainability. B&B are environmentally friendly and important basic inputs for sustainable agriculture. B&B commercialization is, however, constrained due to challenges like a lack of awareness of B&B benefits; limited investment in R&D; and absence of appropriate regulatory and policy incentives for B&B production and use.



Concerted efforts will be needed to promote R&D on and the use of B&B.

To share recent initiatives in R&D and national regulations on B&B, and accelerate cooperation on these among Asian countries, the APO in collaboration with the Council of Agriculture (COA), CPC, and Agricultural Technology Research Institute organized the 2nd International Conference on Biofertilizers and Biopesticides in Taichung, 8–11 August. Forty-one participants from 11 member countries; more than 150 local observers; and nine resource persons from Australia, the ROC, India, Malaysia, and Thailand attended.

Program coverage: B&B — global trends in R&D; Role of industry in conducting R&D and commercialization; Latest regulations in APO member countries; and Regional and international cooperation to expedite B&B commercialization. To observe activities relating to B&B R&D and use in the host country, the participants visited the Taichung District Agricultural Research and Extension Station of the COA, Dacun township, Changhua county; and Integrated Pest Management Demonstration Field of Jia-Non Enterprise Co., Ltd., Sioushuei township, Changhua county.

Training of Trainers and Consultants in Green Productivity

GP is a strategy for enhancing productivity and environmental performance for overall socioeconomic development. It involves the application of appropriate productivity and environmental management tools, techniques, and technologies to reduce the environmental impact of an organization's activities, goods, and services. The Training of Trainers and Consultants in Green Productivity is an initiative by the APO to enhance capacity building in member countries in this particular area. The course covers GP methodology, techniques, and tools as well as emerging environment-related issues, such as green energy, waste management, and environmental management systems. It aims to develop future GP experts equipped

with up-to-date skills and knowledge to tackle environmental issues that are constantly changing and evolving. This year, the APO introduced its specialist certification scheme, under which participants who attended the training course are given six months to complete and submit a GP project to qualify as specialists.

In collaboration with the CPC, the annual Training of Trainers and Consultants in Green Productivity was held from 14 August to 1 September in Taipei. A total of 19 participants from 11 member countries attended the course. The APO assigned resource persons from Malaysia and Singapore, who were supported by local experts identified by the CPC.

Program coverage: GP concept, tools, and techniques; MFCA; Green supply chains; Waste and energy problems; GP practical work and report presentation; and Preparation of project reports for certification. Participants visited and undertook practical GP diagnoses in Champion Building Materials Co., Ltd.; Kinik Company; O'Laurie Corp.; and HwaSeng Group.

Workshop on Climate Change Adaptation and Disaster Risk Management in Agriculture

Agriculture and food production systems are highly vulnerable to climate change (CC). Changes in precipitation and temperature directly affect production systems, and CC-related disasters like frequent, unpredictable floods, droughts, and heat waves are already causing widespread damage and loss to the agricultural sector. The consequent crop failures and livestock deaths cause huge economic losses and undermine food security. CC brings new uncertainties, adds new risks, and changes existing risks. Many countries are mainstreaming CC adaptation into policy, development planning, and programs.

To share smart approaches, innovative technologies, and integrated frameworks for effective CC adaptation in agriculture while reviewing policies, programs, and plans for developing adaptation measures

and managing risks of extreme weather events and disasters, the APO and Centre on Integrated Rural Development for Asia and the Pacific, in collaboration with the Sri Lankan Ministry of Agriculture and NPS, organized a workshop on Climate Change Adaptation and Disaster Risk Management in Agriculture in Colombo, 11–15 September. Twenty-eight participants from 11 member countries and seven resource persons from the Economic Research Institute for ASEAN and East Asia (Indonesia), India, Pakistan, Sri Lanka, and Thailand attended.

Program coverage: Trends in CC and associated natural disasters and their potential impacts; Linkages among CC, CC adaptation, and disaster risk management; National policies and programs on CC adaptation and disaster risk management in agriculture; Smart, innovative technologies for effective CC mitigation and adaptation; Development of a regional/national integrated framework for the agriculture sector to integrate CC adaptation and disaster preparedness into agricultural policy and programs; and Successful models of mainstreaming CC adaptation and climate-related disaster management for sustainable agriculture and rural development. To learn best practices of CC mitigation and adaptation in agriculture and observe research facilities and activities on improved rice production and protection technologies, participants visited the Rice Research and Development Institute.

Training Course on Management Consultancy on Green Productivity Focusing on SMEs

GP represents an approach that simultaneously enhances productivity and alleviates negative environmental impacts. It combines appropriate productivity and environmental management tools, techniques, and technologies that improve performance and profitability while addressing environmental concerns, thus leading to more sustainable growth in productivity and more comprehensive socioeconomic development.

In its efforts to equip participants with essential management consultancy skills that incorporate the concept and techniques of GP, the APO, in collaboration with the CPC, held a training course on Management Consultancy Focusing on SMEs, 11–22 September, in Taipei. The training course was attended by 18 participants from 10 APO member countries, with resource persons from the ROC, France, Germany, and Singapore presenting concepts, techniques, and case studies of GP and describing the circular economy and MFCA.

Program coverage: GP concepts and practices; Overview of management consultancy: Concept, principles, and fundamentals; Consulting framework and process; Consultancy project management: Requirements, challenges, and action plans; Management consultancy case studies; MFCA: Concepts and implementation; MFCA case studies; International standards of environmental management; Practice of MFCA: Data collection; Practice of MFCA: Utilizing software for calculation and visualization; Understanding the circular economy; Circular economy in Taiwan: Strategies, policies, and case studies; Circular economy for businesses: Why and how; Promoting the circular economy in Taiwan: experiences and good practices; Discovering opportunities of the circular economy; New business models in the circular economy: Applications and case studies; MFCA in Taiwan: Practices and cases; MFCA and the circular economy; and Proposal writing for GP projects. Participants visited the circular economy practitioners Hair O'right International Corporation and Singtex Industrial Co., Ltd. to observe new business models contributing to a circular economy; they also conducted consulting skill practices by visiting a locally well-known food and beverage provider.

International Conference on Material Flow Cost Accounting

GP-related initiatives enhance productivity and environmental performance for sustainable socioeconomic development. It



consists of various applications of productivity tools, techniques, and technologies to reduce the environmental impact of an organization's activities, products, and services. To ensure that member countries are able to practice GP effectively, the APO has offered various projects on related topics for more than two decades. Different tools and techniques have been introduced to provide more options for GP implementation. In 2010, the APO added MFCA as a new GP tool. Originally developed in Germany, MFCA has been proven to be an effective method for organizations to promote the efficient use of materials, contributing to reductions in waste, emissions, and nonproducts. It also increases the transparency of material flows, which is a key to successful problem solving and improvement.

In collaboration with NIPO, an International Conference on Material Flow Cost Accounting was held 19–21 September in Tehran, IR Iran. A total of 70 participants and observers from 12 member countries attended the conference. The APO assigned eight resource persons from Germany, India, Japan, Malaysia, Thailand, and Vietnam.

Program coverage: MFCA concept and methodology; MFCA implementation in member countries and other regions; Different approaches to MFCA; and Success stories of practitioners. Participants visited Pars Khodro Company in Tehran.

Asian Forum on Smart Agriculture: Futuristic Technologies for Sustainable Farming

Smart agriculture is driven by innovative changes and advanced technologies such as remote sensing and digital automation of farming operations. The automation of farming and digital technology-enabled equipment makes farming operations easier and more convenient. They can also attract youth to the agriculture sector and allow efficient use of agricultural inputs. Smart technology use also gives producers access to the latest information on agrifood markets and contributes to building CC

resilience. Thus, digital technology-enabled smart farming is important for promoting sustainable productivity in agriculture.

To deliberate on emerging farming technologies with the potential to enhance sustainable productivity in agriculture and foster rural development and inclusiveness in member countries, the APO in partnership with the FTPI and the Charoen Pokphand Leadership Institute organized the Asian Forum on Smart Agriculture: Futuristic Technologies for Sustainable Farming in Bangkok and Nakhon Ratchasima, Thailand, 6–9 November. Thirty-one participants from 14 countries as well as 12 resource persons from the ROC, Germany, Japan, Netherlands, Thailand, and USA attended.

Program coverage: Salient trends in agriculture and the food industry; Precision agriculture technologies; Emerging technologies for successful, safe, and productive farming in fragile environments; Technologies for safe agricultural and food commodity production and marketing; and Applications of cutting-edge agricultural technologies. To learn about applications of digital technology for automation of the poultry supply chain, participants visited CPF Korat Poultry Processing Plant. They also visited the GranMonte Smart Vineyard family business to observe operations of a microclimate monitoring system.

e-Learning Course on Green Productivity

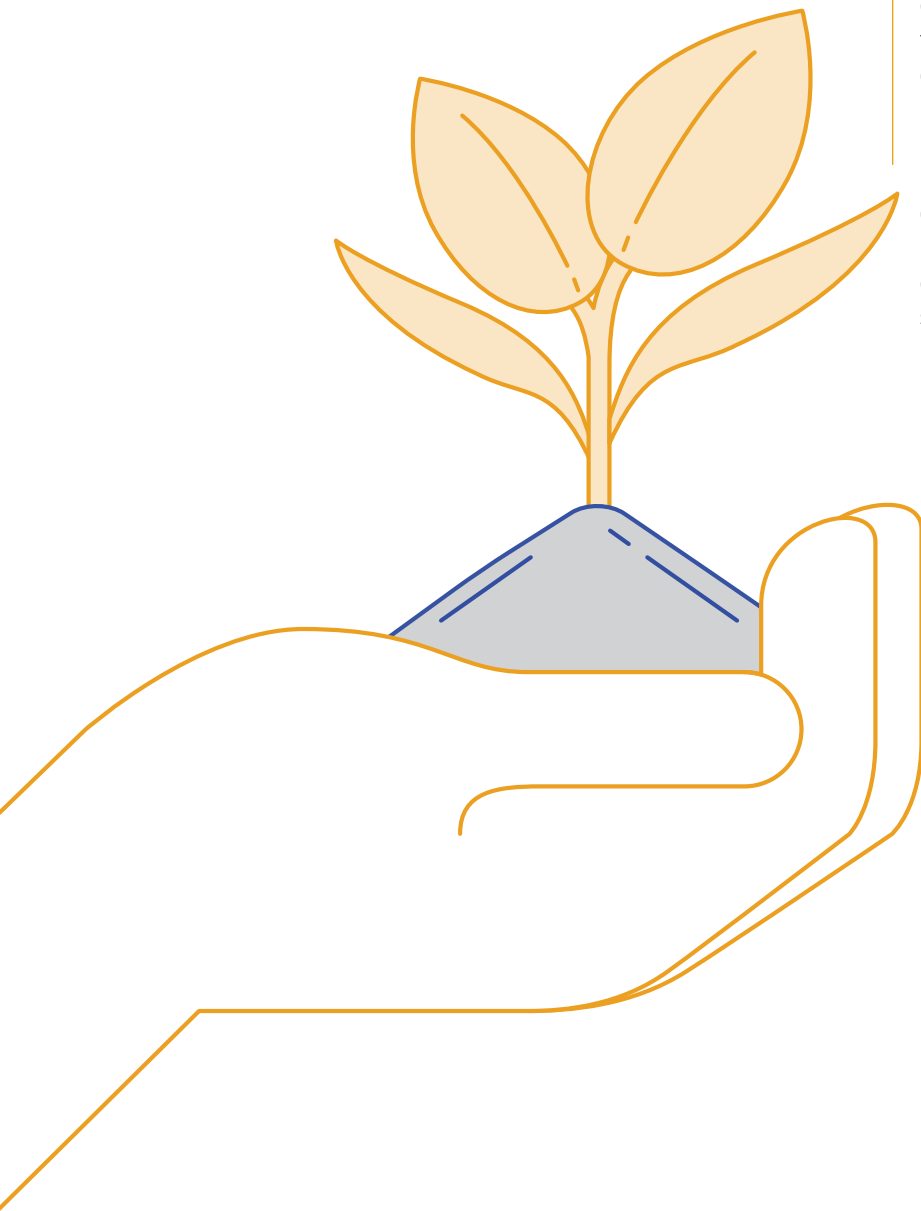
GP involves simultaneously enhancing productivity and environmental performance for overall socioeconomic development, which leads to sustained improvement in the quality of human life. It is the combined application of appropriate productivity and environmental management tools, techniques, and technologies to reduce the environmental impact of an organization's activities, products, and services while enhancing profitability and competitive advantage. The APO has been in the forefront in promoting this strategy in member countries through various modalities including face-to-face

training courses, demonstration projects, and self-e-learning and videoconference (VC)-based courses.

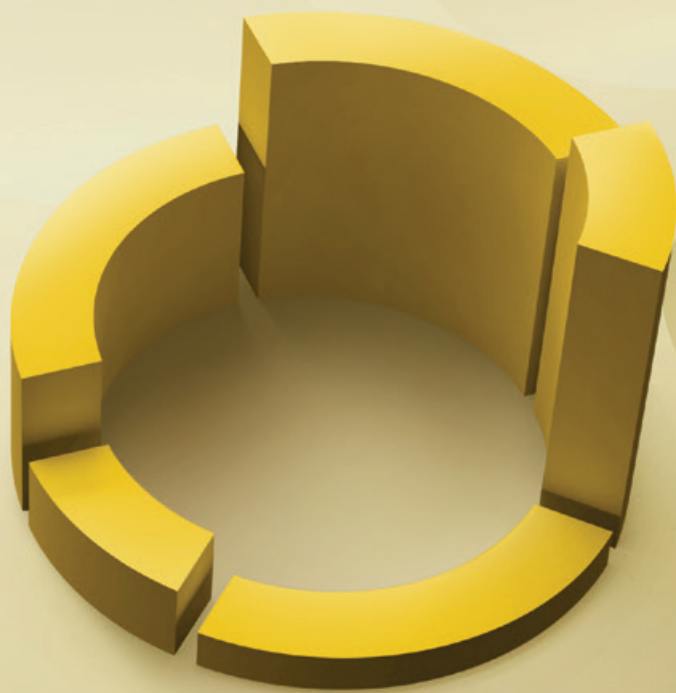
To enhance awareness of the importance of GP to sustain business growth and to provide theoretical knowledge of the methods, techniques, and tools in its implementation, the APO held a VC-based e-learning course

on Green Productivity in two sessions: 7–10 November (Cambodia, Fiji, and Vietnam); and 13–16 November (Bangladesh, India, IR Iran, Mongolia, Nepal, Pakistan, and Sri Lanka). A total of 222 participants from the 10 countries enrolled in the course, which was coordinated by their NPOs. Meanwhile, the APO assigned resource persons from Singapore and Malaysia to deliver presentations.

Program coverage: Introduction to GP concepts and methodologies; Tools and techniques to implement GP; Case studies of GP implementation; Sustaining GP implementation; Integrating GP with other productivity improvement initiatives; and best practices of GP implementation at organizational level. During the course, participants visited enterprises in their own countries to observe GP practices in real-life situations and make suggestions for additional improvements.



FINANCIAL REPORT





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 2017, 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 2017;
- 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 (ISAs). 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 Ethics Standards Board for Accountants' Code of Ethics for Professional 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.

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To the Governing Body of Asian Productivity Organization
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Responsibilities of management and those charged with governance 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.

Those charged with governance are responsible for overseeing the Organization's financial reporting process.

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 ISAs 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 ISAs, 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.



To the Governing Body of Asian Productivity Organization
Page 3

- 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 those charged with governance 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 Sarata LLC

9 March 2018



ASIAN PRODUCTIVITY ORGANIZATION
STATEMENTS OF FINANCIAL POSITION
31 DECEMBER 2017 AND 31 DECEMBER 2016

	2017	2016
		(US dollars)
<u>ASSETS</u>		
Cash and cash equivalents (Note 3)	\$21,714,534	\$28,348,301
Receivables (Note 4):		
Member countries	10,183,844	2,818,156
Others	4,838	80,697
Allowance for long-outstanding debts	(1,955,242)	(250,441)
Prepaid expenses	51,431	59,597
Deposits and other advance payments	55,363	87,257
Total current assets	30,054,769	31,143,566
Fund for severance payments (Note 11)	261,418	273,381
Property, plant and equipment (Note 5):		
Structure	349,440	349,440
Equipment	180,840	178,227
Automobile	72,935	72,935
Others	93,175	87,653
Accumulated Depreciation	(468,551)	(359,030)
Intangible assets (Note 5)	103,993	97,823
Total noncurrent assets	593,251	700,430
Total assets	\$30,648,020	\$31,843,996
<u>LIABILITIES AND SURPLUS</u>		
Accounts payable	\$1,782,672	\$1,390,317
Withholding tax and social insurance	53,142	25,054
Other current liabilities (Note 8)	9,225,641	9,475,664
Total current liabilities	11,061,455	10,891,036
Accrued annual leave (Note 6)	632,444	593,353
Liability for severance payments (Note 12)	2,517,221	2,482,018
Other noncurrent liabilities	90,046	90,046
Total noncurrent liabilities	3,239,711	3,165,417
Total liabilities	14,301,166	14,056,454
Surplus:		
Appropriated for		
Working capital fund	6,000,000	6,000,000
Contingency fund (Note 2)	500,000	500,000
Continuing projects	4,398,306	5,517,674
Unappropriated surplus (Note 15)	5,659,414	5,971,638
Accumulated other comprehensive income (Note 12)	(210,866)	(201,769)
Total surplus	16,346,854	17,787,543
Total liabilities and surplus	\$30,648,020	\$31,843,996

ASIAN PRODUCTIVITY ORGANIZATION
STATEMENTS OF REVENUES OR EXPENSES AND OTHER COMPREHENSIVE INCOME
YEARS ENDED 31 DECEMBER 2017 AND 2016

	(US dollars)	
	2017	2016
Revenues:		
Membership contributions (Note 7)	\$11,986,035	\$11,986,035
Special cash grants (Note 8)	839,110	915,134
Mandatory contribution for rent (Note 9)	219,156	237,924
Participation by member countries	4,806	6,576
Miscellaneous	38,455	102,825
Total revenues	13,087,562	13,248,494
Expenses:		
Projects		
Current year's project costs:		
APO share	4,644,287	5,127,683
Subtotal	4,644,287	5,127,683
Prior years' continuing project costs:		
APO share	2,946,050	2,309,779
Subtotal	2,946,050	2,309,779
Allocation to project costs from		
Administration expenses (Note 10)	1,766,032	1,679,105
Total	9,356,369	9,116,567
Administration		
Staff expenses (Note 12)	5,127,751	4,976,585
Office maintenance (Note 13)	250,981	247,432
Depreciation Expenses (Note 5)	91,990	94,823
Operations	59,654	70,388
Miscellaneous	264,447	253,973
Allocation to project costs (Note 10)	(1,929,442)	(1,851,458)
Total	3,865,380	3,791,741
Exchange (gain)/loss	(404,882)	591,369
Provision for (reversal of) allowance for long outstanding debts	1,704,801	(203,327)
Total	1,299,919	388,042
Total expenses	14,521,668	13,296,350
Net adjustment for closed projects (Note 14)	(2,514)	(4,971)
Excess of expenses over revenues	(1,431,592)	(42,886)
Other Comprehensive income (loss):		
Pension liability adjustments (Note 12)	(9,097)	66,557
Total other comprehensive income (loss)	(9,097)	66,557
Total comprehensive income (loss)	(\$1,440,689)	\$23,671

The accompanying notes are integral part of these statements.



ASIAN PRODUCTIVITY ORGANIZATION
STATEMENTS OF CHANGES IN SURPLUS
YEARS ENDED 31 DECEMBER 2017 AND 2016

(US dollars)

	<u>Appropriated for</u>			<u>Unappropriated</u>	<u>Accumulated other comprehen- sive income</u>	<u>Total</u>
	<u>Working capital fund</u>	<u>Contingency fund</u>	<u>Continuing projects</u>			
<u>2016</u>						
Surplus as of 1 January 2016	\$6,000,000	\$500,000	\$4,728,165	\$6,804,033	(\$268,325)	\$17,763,872
Excess of expenses over revenues	-	-	-	(42,886)	-	(42,886)
Transfer to continuing projects	-	-	789,509	(789,509)	-	-
Pension liability adjustment (Note 12)	-	-	-	-	66,557	66,557
Surplus as of 31 December 2016	<u>\$6,000,000</u>	<u>\$500,000</u>	<u>\$5,517,674</u>	<u>\$5,971,638</u>	<u>(\$201,769)</u>	<u>\$17,787,543</u>
<u>2017</u>						
Excess of expenses over revenues	-	-	-	(1,431,592)	-	(1,431,592)
Transfer to continuing projects	-	-	(1,119,368)	1,119,368	-	-
Pension liability adjustment (Note 12)	-	-	-	-	(9,097)	(9,097)
Surplus as of 31 December 2017	<u>\$6,000,000</u>	<u>\$500,000</u>	<u>\$4,398,306</u>	<u>\$5,659,414</u>	<u>(\$210,866)</u>	<u>\$16,346,854</u>

The accompanying notes are integral part of these statements.

ASIAN PRODUCTIVITY ORGANIZATIONSTATEMENTS OF CASH FLOWSYEARS ENDED 31 DECEMBER 2017 AND 2016

(US dollars)

	<u>2017</u>	<u>2016</u>
Cash Flows from Operating Activities:		
Excess of expenses over revenues	(\$1,431,592)	(\$42,886)
Adjustments:		
Depreciation and amortization	138,995	123,536
Provision for losses on accounts receivable	1,704,801	(203,327)
Interest income	(32,859)	(19,493)
Exchange variance	(488,724)	716,531
Decrease (increase) in receivables from member countries	(7,365,689)	764,981
Decrease (increase) in receivables - others	75,859	182,162
Decrease (increase) in other current assets	73,559	(75,853)
Decrease (increase) in funds for severance payments	11,963	1,892,869
Disposal (purchase) in property, plant and equipment	(77,278)	(22,491)
Increase (decrease) in accounts payable	392,355	196,997
Increase (decrease) in other current liabilities	(221,936)	9,077,858
Increase (decrease) in accrued annual leave	39,090	33,040
Increase (decrease) in liability for severance payments	26,106	168,501
Subtotal	<u>(7,155,349)</u>	<u>12,792,426</u>
Interest Received	32,859	19,493
Net cash flow from operating activities	(7,122,490)	12,811,919
Effect of exchange rate changes on cash and cash equivalents	488,724	(716,531)
Net increase (decrease) in cash and cash equivalents	<u>(6,633,767)</u>	<u>12,095,388</u>
Cash and cash equivalents at beginning of year	<u>28,348,301</u>	<u>16,252,913</u>
Cash and cash equivalents at end of year (Note 3)	<u>\$21,714,534</u>	<u>\$28,348,301</u>

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 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 nonproject 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 for the budget are:

- (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) Project implementation grants given by member governments that host projects and other governments and organizations that organize projects jointly with the Organization; and
- (d) Miscellaneous income such as proceeds from interest income.

2. Significant accounting policies

(1) Basis of preparation of accompanying financial statements

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

(2) Allowance for long-outstanding debts

The Organization uses the “aging the accounts” method as the estimation technique of the net realizable value of receivables. Although the Organization believes that the allowance is adequate to provide for losses that are inherent in the year-end accounts receivable balance, actual results could differ from those estimates.

(3) Property, plant and equipment and intangible assets

Property, plant and equipment and intangible assets consist of the furniture and fixtures, building improvements, structures and equipment which the Organization obtained at the time of relocation. 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:

- Structure: 5–8 years
- Equipment: 5–8 years
- Automobile: 6 years
- Software: 5 years
- Others: 5–10 years

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 consists of an insurance endowment fund and money market fund and is stated at fair value. The fair values of the fund for severance payments are estimated based on values quoted by financial institutions.

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 2017, the Organization recorded accrued annual leave of 68 days (68 days in 2016) for staff members who had annual leave of more than 68 days as a liability, since the unused accrued 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 separation from the Organization, and in consideration of the possible utilization of unused accrued annual leave in excess of 60 days upon separation.

(7) Revenue recognition

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.

Based on the decision in the 54th GBM, the Organization has set up a contingency fund amounting to \$500,000.

(9) Appropriation for continuing projects

The outstanding balance of commitments for continuing projects at year-end, which has been funded mainly from membership contributions and special cash grants, 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 both in Japanese yen and 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. Money market funds, which are treated as cash and cash equivalents except for specific use of the funds for severance payments, are carried at cost plus accrued interest.

Cash and cash equivalents	2017	2016
Current Deposits	\$19,620,124	\$26,324,333
Time Deposits	2,042,218	1,972,201
MMF	52,192	51,767
Total	<u>\$21,714,534</u>	<u>\$28,348,301</u>

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

The allowance for receivables of membership contributions overdue for one year and longer amounts to \$1,953,341 and it includes the allowance for a long-outstanding receivable for the membership contribution from Hong Kong since 31 December 1999, because there has been no communication from Hong Kong after the transfer of sovereignty. The Organization has also recorded allowance for the outstanding debt for receivables of participating country expenses amounting to \$1,901 as of 31 December 2017.

Allowances for outstanding debts as of 31 December 2017 and 2016 were as follows:

Receivables overdue for 1 year and longer	2017		2016	
	Provided by percent of	Allowance	Provided by percent of	Allowance
Membership contributions	100	\$1,953,341	100	\$248,125
Participating country expenses	100	1,901	100	1,364
Others		-	100	952
		<u>\$1,955,242</u>		<u>\$250,441</u>



Movements in the allowance for outstanding debts for the year ended 31 December 2017 were as follows:

	Membership contributions	Participating country expenses	Others	Total
Balance at beginning of the year	\$248,125	\$1,364	\$952	\$250,441
Amounts recovered during the year	-	(354)	(952)	(1,306)
Loss recognized on receivables	1,705,216	891	-	1,706,107
Balance at end of the year	\$1,953,341	\$1,901	-	\$1,955,242

Movements in the allowance for outstanding debts for the year ended 31 December 2016 were as follows:

	Membership contributions	Participating country expenses	Others	Total
Balance at beginning of the year	\$452,320	\$1,448	-	\$453,768
Amounts recovered during the year	(204,195)	(656)	-	(204,851)
Loss recognized on receivables	-	572	952	1,524
Balance at end of the year	\$248,125	\$1,364	\$952	\$250,441

5. Property, plant and equipment and intangible assets

Movements in property, plant and equipment and intangible assets for the year ended 31 December 2017 were as follows:

	Structure	Equipment	Automobile	Others	Total	Software
Cost						
On 1 January 2017	\$349,440	\$178,227	\$72,935	\$87,653	\$688,256	\$116,776
Additions	-	2,613	-	5,522	8,134	35,644
Disposals	-	-	-	-	-	-
On 31 December 2017	349,440	180,840	72,935	93,175	696,391	152,420
Accumulated depreciation						
On 1 January 2017	194,650	91,564	35,455	37,360	359,030	18,953
Depreciation	50,788	33,065	12,156	13,513	109,521	29,474
Disposals	-	-	-	-	-	-
On 31 December 2017	245,438	124,629	47,611	50,873	468,551	48,427
Net Book value						
On 1 January 2017	154,790	86,663	37,481	50,293	329,227	97,823
On 31 December 2017	\$104,003	\$56,211	\$25,325	\$42,301	\$227,840	\$103,993

Movements in property, plant and equipment and intangible assets for the year ended 31 December 2016 were as follows:

	Structure	Equipment	Automobile	Others	Total	Software
Cost						
On 1 January 2016	\$349,440	\$178,227	\$72,935	\$85,262	\$685,865	\$63,176
Additions	-	-	-	2,391	2,391	53,600
Disposals	-	-	-	-	-	-
On 31 December 2016	349,440	178,227	72,935	87,653	688,256	116,776
Accumulated depreciation						
On 1 January 2016	142,265	57,848	23,299	24,717	248,128	6,318
Depreciation	52,385	33,716	12,156	12,644	110,901	12,635
Disposals	-	-	-	-	-	-
On 31 December 2016	194,650	91,564	35,455	37,360	359,030	18,953
Net Book value						
On 1 January 2016	207,176	120,379	49,637	60,545	437,737	56,858
On 31 December 2016	\$154,790	\$86,663	\$37,481	\$50,293	\$329,227	\$97,823

6. Accrued annual leave

Movements in accrued annual leave for the year ended 31 December 2017 were as follows:

On 1 January 2017	\$593,353
Additional accrual during the year	120,108
Payments made during the year	(55,789)
Reclassified to Payable	(45,608)
Foreign exchange movements	20,380
On 31 December 2017	<u>\$632,444</u>

Movements in accrued annual leave for the year ended 31 December 2016 were as follows:

On 1 January 2016	\$560,313
Additional accrual during the year	118,487
Payments made during the year	(100,998)
Foreign exchange movements	15,551
On 31 December 2016	<u>\$593,353</u>

7. Membership contributions

The apportionment of total membership contributions for 2017/2018 was based on the long-term permanent membership contribution formula based on the six-year average GNI as approved by the 58th GBM held in April 2016. 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 APO 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 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 year ended 31 December 2017 and 2016 were \$8,860,101 and \$9,460,417, respectively and were included in other current liabilities.



The detailed amounts of the special cash grants for the years ended 31 December 2017 and 2016 were as follows:

Purpose of grants	2017	2016
Project costs	\$839,110	\$915,134
	\$839,110	\$915,134

9. Mandatory contribution for rent

The 54th GBM decided that the cost of the annual rental for the APO Secretariat Office from 2013 onward shall be borne by the host government, the Government of Japan. This amount, which shall not exceed JPY 26 million, is to be considered 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 APO allocated administration expenses which are directly or indirectly related to project activities to project costs.

11. Fund for severance payments

The balances of the fund for severance payments represent the amounts for the severance payments resulting from employees' termination of employment and comprise the following:

	2017	2016
Insurance endowment fund	\$261,418	\$273,381
	\$261,418	\$273,381
Time deposit	\$2,042,218	\$1,972,201

The fund for severance payments is exposed to a variety of financial risks, including the effects of change in debt and equity market prices, foreign currency exchange rates, and interest rates. The Organization has a policy of considering economic conditions at the time of the contract and consistently monitors the effectiveness of its selection. In 2001, the APO purchased three types of insurance for each employee, of which the beneficiary is the APO. In addition, the Organization has a time deposit in Japanese yen and the purpose of the insurance and the time deposit was to pay for the severance payments. Time deposit account was classified in cash and cash equivalents as of the statement of financial position date. Net gains on the fund for severance payments for the years ended 31 December 2017 and 2016 were \$3,827 and \$5,609, 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 0.35% per annum for the year ended 31 December 2017 and 0.38% for the year ended 31 December 2016. 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:

	2017	2016
Current service cost	\$390,640	\$318,013
Interest on obligation	9,270	7,685
Net periodic pension cost	<u>\$399,911</u>	<u>\$325,698</u>

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:

	2017	2016
Opening defined benefit obligation	\$2,482,018	\$2,380,073
Current service cost	390,640	318,013
Interest cost	9,270	7,685
Remeasurements (actuarial loss (gain))	9,097	(66,557)
Benefits paid	(453,715)	(221,255)
Foreign currency translation adjustments	79,910	64,059
Closing defined benefit obligation	<u>\$2,517,221</u>	<u>\$2,482,018</u>

The impact of the value of the defined benefit obligation of a reasonably possible change to the discount rate of 0.38% per annum for the year ended 31 December 2017, holding all other assumption constant, is presented in the decrease of US\$4,676.

The impact of the value of the defined benefit obligation of a reasonably possible change to the discount rate of 0.3% per annum for the year ended 31 December 2016, holding all other assumption constant, is presented in the increase of US\$13,842.

13. Operating leases

The Organization leases office space under a cancelable lease agreement. The contract can be terminated at any time by either party with six-month advance notice in writing. No rental deposit for the lease has been paid to the building owner. Rental expenses under operating leases for the years ended 31 December 2017 and 2016 were \$226,027 and \$225,582 respectively.

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 account of revenues and expenses retroactive year.

	2017	2016
Revenues	-	-
Expenses	\$2,514	\$4,971
Net adjustment for closed projects (loss)	<u>\$2,514</u>	<u>\$4,971</u>



15. Unappropriated surplus

The unappropriated surplus as of end December 2017 of \$5,659,414 will be disposed of as follows:

<u>Surplus balance as of December end 2017</u>	\$5,659,414
<u>To be disposed of in 2018 as follows:</u>	
Funding various 2018 projects*	<u>1,497,967</u>
<u>Surplus balance</u>	<u><u>\$4,161,447</u></u>

*The Governing Body approved US\$1,497,967 by using unappropriated surplus to fund the increase for the 2018 budget.

16. Related party transactions

Key management personnel compensations for 2017 and 2016 were as follows:

	<u>2017</u>	<u>2016</u>
Short-term employee benefits	\$209,675	\$212,945
Income Adjustment Allowance*	-	130,345
Annual leave	<u>19,412</u>	<u>2,218</u>
	<u><u>\$229,087</u></u>	<u><u>\$345,508</u></u>

*Income Tax Adjustment was paid according to Rule 4.10 of Staff Regulation and Rules. 2016 figures included Income Tax Adjustment for severance payment and unused annual leave reimbursement.

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(*] As of 30 May 2018

ABBREVIATIONS AND ACRONYMS

AEPM	Asian Economy and Productivity Map
AFIC	APO Future Intelligence Center
AI	Artificial intelligence
ASEAN	Association of Southeast Asian Nations
B&B	Biofertilizers and biopesticides
BCBN	Bilateral Cooperation Between NPOs
BE	Business excellence
BoP	Base of the pyramid
CAF	Common Assessment Framework
CEA	Controlled-environment agriculture
CIRDAP	Centre on Integrated Rural Development for Asia and the Pacific
COE	Center of Excellence
CPC	China Productivity Center
CSR	Corporate social responsibility
DAP	Development Academy of the Philippines
DON	Development of NPOs
DOSMEP	Department of Small and Medium Enterprise Promotion
DPP	Development of Productivity Practitioners
EMS	Environmental management system
EPIF	Eco-products International Fair
FA	Farmers' Association
FAO	Food and Agriculture Organization of the United Nations

FC	Farmers' cooperative
FLFP	Female labor force participation
FNU	Fiji National University
FSMS	Food safety management system
FTPI	Thailand Productivity Institute
FVC	Food value chain
GAP	Good Agricultural Practices
GBM	Governing Body Meeting
GHP	Good Handling Practices
GMP	Good Manufacturing Practices
GP	Green Productivity
GPAC	Green Productivity Advisory Committee
HACCP	Hazard and critical control point
I-OSM	Individual-country observational study mission
ICT	Information and communication technology
IoT	Internet of Things
ISO	International Standardization Organization
IT	Information technology
ITVHE	Institute of Technical and Vocational Higher Education
JPC	Japan Productivity Center
KM	Knowledge management
KPC	Korea Productivity Center



KPI	Key performance indicator	OHSAS	Occupational Health and Safety System
LDC	Least developed country	PAPA	Pan African Productivity Association
LNPO	Lao National Productivity Organization	PSP	Public-sector productivity
LPS	Lean production systems	RBM	Results-based management
MFCA	Material flow cost accounting	SDGs	Sustainable Development Goals
MOOC	Massive open online classroom	SPW	Strategic Planning Workshop
MPC	Malaysia Productivity Corporation	STI	Science, technology, and innovation
MPO	Mongolian Productivity Organization	STIP	Science, technology, and innovation policy
MSME	Micro, small, and medium enterprise	SU	Saemaul Undong
NFP	National Follow-up Program	TES	Technical Expert Services
NGO	Nongovernmental organization	TPM	Total productive maintenance
NIPO	National Iranian Productivity Organization	TPS	Toyota Production System
NPC	National Productivity Council	TQM	Total quality management
NPCC	National Productivity Centre of Cambodia	UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
NPEDC	National Productivity and Economic Development Centre	VC	Videoconference
NPO	National Productivity Organization; National Productivity Organisation (Bangladesh); National Productivity Organization (Pakistan)	VCCI	Vietnam Chamber of Commerce & Industry
NPS	National Productivity Secretariat	VNPI	Vietnam National Productivity Institute
NTPC	National Training & Productivity Centre, Fiji National University	WSM	Workshop Meeting of Heads of National Productivity Organizations
OECD	Organisation for Economic Co-operation and Development		



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