



## 56th GBM concludes

**T**he 56th Governing Body Meeting (GBM) of the APO opened in Hanoi on 15 April 2014 and concluded on the 17th. Fifty-four delegates comprising APO directors and their advisers from 19 members, along with observers from the Ministry of Science, Industry and Technology of Turkey, FAO, Japan International Cooperation Agency, and Pan African Productivity Association were in attendance.

Vice Minister of Science and Technology Tran Viet Thanh was the guest of honor at the event. In his keynote speech, he commented that, “For businesses, productivity, quality, and innovation are factors to help improve performance and competitive advantage in the domestic as well as international markets. I believe that the APO, which leads and coordinates activities to promote quality and productivity in the Asia-Pacific, will put forward innovative and appropriate strategies to support its members in a more effective way.”

APO Director for Vietnam Dr. Ngo Quy Viet delivered the welcome remarks. He stated that, “The APO is also an important bridge connecting members in the region as well as with other international organizations.” APO Chair Yamaaranz Erkhembayar expressed similar sentiments, adding, “In recent years, the Asia-Pacific member economies have shown great resilience in growing despite the global economic and financial crises that took place over several years. The year 2014 is expected to see strengthening economic growth for all APO member countries. As we endeavor to grow stronger and more competitive, productivity enhancement remains one of our top priorities. In order to achieve these targets, the APO therefore still has to continue making strong efforts to improve the productiveness and competitiveness of member countries.”

During the plenary session, APO Director for Nepal Krishna Gyawali was elected APO Chair for 2014–2015, with APO Alternate Director for Pakistan Arif Ibrahim (representing APO Director for Pakistan Shafqat Hussain Naghmi) and APO Director for the Philippines Margarita R. Songco assuming the positions of First and Second Vice Chairs, respectively. Key GBM agenda items included the annual report of the Secretary-General, report on the revised APO membership contribution formula, and approval of the APO preliminary budget for the 2015–2016 biennium.

The meeting unanimously approved the preliminary budget for the 2015–2016 biennium which maintained the same level of total membership contributions as for the 2013–2014 biennium but increased the budget by 5% to include more projects. Additional sources of income to fund the increased expenditure will come from surpluses and other sources.

*(Continued on page 5)*



*Vietnamese Vice Minister of Ministry of Science and Technology Tran Viet Thanh delivering the inaugural address. Photo courtesy of VPC.*



*56th Session of the APO Governing Body. Photo courtesy of VPC.*

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# Secretary-General's report to the GBM

*This is a summary of the written report submitted to the 56th Governing Body Meeting and appearing in the proceedings of the meeting.*

**A**fter welcoming APO Directors, Advisers, and Observers to the 56th session of the APO Governing Body (GBM) in Hanoi, Secretary-General Mari Amano expressed gratitude to the Government of Vietnam and the Vietnam Productivity Centre for (VPC) hosting the meeting.

He stated that he was honored to serve as the 10th Secretary-General of “a unique international organization.” After meeting several APO Directors and NPO Heads during the past half-year, Secretary-General Amano believed that the challenges they faced were usually classified into two categories: domestically, the key concern was raising awareness of the importance of improving productivity, especially in sectors not performing to expectations; and internationally, the issue was leveraging the APO platform to address productivity issues.

While noting that global economic growth appeared more positive compared with two to three years ago, major emerging economies such as PR China and Brazil had started slowing down, and the Secretary-General warned that factors such as potentially tighter credit conditions, higher trade barriers, and weaker external demand might threaten growth. However, “Regardless of the global economic situation, enhancing productivity will remain at the top of the agenda for all governments that wish to maintain strong economic fundamentals and achieve sustainable growth. From the issues raised with me by APO Directors, together with feedback from NPO Heads and project participants and research findings, I concluded that there is no need to revamp APO programs completely. Instead, I intend to enrich and deepen programs by focusing on specific areas to address emerging issues and create the greatest benefit for member countries.”

Secretary-General Amano acknowledged that APO member economies were diverse and customized approaches were needed to be more effective. A key finding of the ongoing member country need assessment was that core APO in-country programs such as the Technical Expert Services and Center of Excellence (COE) Program remained in high demand. The Secretary-General also referred to the COE Program as “a success story,” calling the COE on Business Excellence (BE) within SPRING Singapore “a catalyst to reignite interest in using the BE framework to recognize productive and competitive enterprises.” He expected the COE on Green Productivity (GP) in the China Productivity Center to be similarly successful in performing research and projects in line with the APO’s GP strategy.

In reporting on the eighth Eco-products International Fair (EPIF) held in Singapore in 2013, Secretary-General Amano noted that was the first time it had focused on a B2B (business-to-business) model and that the *Eco-products Directory* launched during the EPIF had had the most business entries so far. The EPIF would be redesigned in consultation with member countries and the Green Productivity Advisory Committee, he said, after absorbing lessons from the B2B format.



*Secretary-General Mari Amano*

Citing the importance of the visibility of APO programs, the Secretary-General was pleased that in 2013 APO activities had received three times the coverage in 2012 and that research on productivity continued to receive attention from prominent institutions and the media. “Traditional outreach efforts will always play a role in increasing our visibility. In addition, we will also tap newer media,” he pledged. One fresh approach to raising the visibility of APO activities was inviting media representatives to participate in a study mission to Japan.

The Secretary-General then turned to the role of NPOs as catalysts to strengthen enterprises, in particular SMEs, and mentioned specific programs. One was the Member Country Support Program (MCSP) carried out in collaboration with the Japan Productivity Center and Government of Japan (GOJ) since 2002. In the sixth MCSP cycle, the National Productivity Council, India, strengthened its productivity promotion, training, and consultancy capacity on material flow cost accounting. NPOs also played crucial roles in developing country-specific programs, and Secretary-General Amano hoped that they could become more involved in planning APO activities.

In presenting the Program Plan and Financial Estimates for 2014, the Secretary-General explained that 69 multicountry projects were planned and study missions to advanced economies would be restarted. Gratitude was expressed to the GOJ for making special cash grants to fund APO projects through the Ministry of Agriculture, Forestry and Fisheries and Ministry of Foreign Affairs and to the Government of the ROC that had also provided regular cash grants to assign resource persons to projects.

“One of my first priorities when I became Secretary-General was to rejuvenate the Secretariat. My goal was not just to increase the number of staff members but, more importantly, to inject positive energy and boost the morale and restore confidence in the staff ranks,” declared Secretary-General



Amano. He reported that in the past half-year, four professional staff had been hired, with two recruited from NPOs.

Turning to projects proposed for the 2015–2016 biennium, the Secretary-General listed focus areas but commented that, “A paradigm shift will be required to plan programs better. I would like to explore new ideas so that we can respond more quickly to the changing needs of member countries while maintaining relevance to stakeholders.” As an example, he mentioned expanding the APO’s e-learning courses to reach out directly to professionals interested in upgrading their productivity knowledge and even to become a revenue source.

“It has been an interesting and eventful seven months as the APO Secretary-General,” he said in concluding his report. “With your help, we will develop a more comprehensive plan that will unlock the potential of the APO to increase its productivity and impact across the world,” he assured the GBM delegates. 🌀

## APO Chair and Vice Chairs for 2014–2015



(L–R) APO 2nd Vice Chair Margarita R. Songco, APO 1st Vice Chair Arif Ibrahim (representing APO Director for Pakistan Shafqat Hussain Naghmi), and APO Chair Krishna Gyawali.

## Sustainable energy training

Subsequent to the International Energy Agency (IEA)’s support for the APO’s energy management training course in 2011, in mid-2012 the IEA Training and Capacity Building Programme (IEA TCB) and APO started a discussion on the possibility of organizing a joint energy training event for Asian countries in collaboration with the Asian Development Bank (ADB) and then agreed to go ahead with that initiative. With support from the Ministry of Energy (MOE), Government of Thailand, and Thailand Productivity Institute, a five-day course was organized in Bangkok, 25–29 November 2013. This was one of the APO’s biggest collaborative efforts for a capacity-building program. Twenty-nine officials from ministries and power utility companies from 13 APO members learned the latest developments in the electricity, transmission and distribution, and renewable energy sectors. With support from the ADB, eight participants from the non-APO member countries Afghanistan, PR China, and Tajikistan also joined. “We had a very successful regional event in Bangkok on the very important topic of electricity. It is a complex and challenging subject and I thank all for valuable contributions, presentations, and insights into the sector, which were highly appreciated by the audience,” wrote IEA Head of TCB Assen Gasharov.

Asia’s electricity demand will increase by another 150% by 2035, making it essential to manage it sustainably from generation to use and capitalize on potential renewable energy resources to minimize the use of fossil fuels that cause adverse climate change. There is also a need to liberalize the electricity sector to make it competitive and incorporate technological changes for greater efficiency. These will require a conducive policy environment and private-sector support. Governments in Asia need to develop national and regional road maps and policy frameworks promoting investment in advanced technologies for electricity generation, transmission, and distribution; and commercialize renewable energy sources such as wind, solar, hydro, bio-



Soaring sky-high: participants at Bangchak Solar PV Farm.

mass, and geothermal. Therefore, energy/power ministries should work with electrical utility companies/agencies in exploring opportunities for sustainable electricity generation and supply.

The objective of the course was to provide inputs on the latest advances in the electricity sector and electricity generation, transmission, and distribution technologies, including renewable energy and smart grids, focusing on market reform in the sector, interregional energy market coordination, and renewable energy market issues and grid integration. A site visit to Bangchak Solar PV farm (36 MW) was made to provide participants first-hand information on solar energy. 🌀



## Bioaugmentation and the use of biocultures: applied industrial microbiology in coal substrates

The need to find viable energy alternatives, combat climate change, and secure an energy future is essential for all sectors today. There are many proven solutions in renewable energy being implemented, such as wind, solar, and wave energy. Numerous research projects are underway in establishments around the world on topics ranging from new ideas in renewable energy to finding alternate uses for current energy resources such as oil and coal. One such project on alternative energy is currently ongoing in Queensland, Australia.

The research has developed microbe formulations that are expected to promote the production of methane gas in commercially relevant quantities when coupled with standard wastewater treatment technology for treating coal (above ground and below), coal seam gas wells, shale oil, and other associated coal waste streams. Essentially, a wastewater treatment system is a condensed form of the natural ecosystem's ability to assimilate waste. Nature simply cannot deal with the quantities and concentrations of waste emitted by business, manufacturing, and industry today, requiring specialized wastewater treatment plants to reduce the impact on the environment and reduce pollution.

### Reliance on bacteria and enzymes

An essential part of the treatment process involves bacteria, enzymes, and nutrients within the system. Each species of bacteria has a specific role to play in breaking down waste until the resulting effluent can be introduced to the environment with as little impact as possible. Bacteria are single-celled forms of life, and some species are more resilient than others. The most abundant species are not necessarily the most efficient at breaking down waste streams. Our research has shown that certain types of bacteria that may not be abundant naturally can be artificially increased. As these colonies increase over time, they take over the more indigenous populations and potentially make the process perform more efficiently. This has the benefit of being able to increase recoverable by-products and produce a far cleaner final discharge than the more indigenous population of bacteria.

These single-celled organisms grow and, after reaching a certain size, they divide into two. This is termed "reproduction by binary fission," with both of the new cells adapting to the physical properties of the substrate being treated and becoming identical to each other. Every time a cell splits into two, we have a new generation. If an adequate food supply is present, the cells will keep dividing and growing.

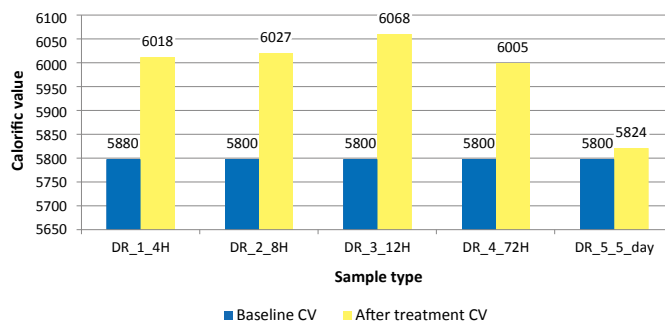
As the population of bacteria grows, producing enzymes, the cells adapt to the waste stream in which they have been introduced. The actual bacteria do not change, but their enzymes adapt to suit the waste. This means that after introducing bacteria specific for the substrate, they will become better at digesting the waste with time.

Research has confirmed this process on mined coal in a laboratory under controlled conditions. Studies on methane-producing bacteria within coal seams is occurring worldwide, and the leaders appear to be private-sector enterprises in the USA. The duplication of research programs in different countries may be unnecessary since microbes available for purchase and approved by regulatory

authorities can be combined to create gas from coal. The fundamental disconnect in conventional research on microbial energy-producing processes occurs because the microbe consortia essentially "cannibalize" and successively "eat" each other, leaving only the methanogens that are last in the chain. These methanogens are "starved" and need organic acids produced from long-chain hydrocarbons such as coal to continue making methane effectively.

### Lateral transfers of knowledge

By concentrating on the upstream, facultative bacteria that produce methanogen "food," current research requires only minimal capital and few scientific staff. Progress occurred primarily because of lateral transfers of knowledge gained from decades of work in wastewater treatment. A low-risk process has been developed to show that methane can be produced in coal subjected to conventional wastewater treatment technology. Although a pilot plant has not yet been built, the process should produce high-quality biogas, a solid high in carbon (plus other minerals in the waste stream not biodegradable), and recyclable water suitable for onsite purposes. Figure 1 outlines results from preliminary testing performed in relation to the calorific values of the coal substrate prior and after digestion testing.



**Figure 1.** Calorific value (CV) of coal substrate before and after digestion treatment.

The process incorporates two conventional strategies in wastewater treatment: an enhanced two-phase biological treatment process; and bioaugmentation, which is the introduction of natural microbial strains to treat contaminated soil or water using biocultures. When combined, the biogenic process of some elements within a coal substrate and methanogenesis can potentially be enhanced, producing intermediary material that will be digested by methanogenic bacteria to form biogas.

Success has been achieved by working with various designs for wastewater treatment and different strains and formulations of bacteria (bioaugmentation) in different waste (from animal manure to food-processing waste to pharmaceutical and chemical waste streams). The results show that by applying different phases of bacterial growth and discovering how different elements of waste are broken down, there is potential to improve the overall performance of treatment systems, producing recoverable by-products such as biogas, a cleaner substrate, and recoverable water.

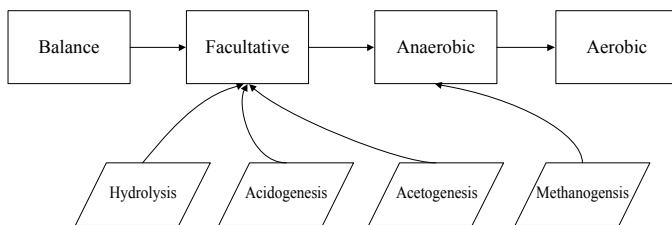
These two basic principles have been adapted to treat coal. Researchers are ap-

plying wastewater treatment principles and bioaugmentation to two types of coal substrate, washed bituminous coal and brown coal. Results have varied and raised questions on the design and application of the process, as well as on the bacterial blends used so far. Further testing is underway.

**How the process works**

The process is derived from wastewater treatment methods that have been used successfully for decades. These same methods can be used to break down any organic-derived substrate to produce by-products such as biogas, biosolids, and recyclable water on a commercial scale. Research involving small-scale testing parameters indicated that the organic content of coal substrates was digested, biogas was produced, and mass reduction or digestion of the substrate occurred.

The adaptation of wastewater treatment principles is the key to the success of biogas production from hydrocarbon sources. Biogenic biogas is produced in a four-step process consisting of hydrolysis, acidogenesis, acetogenesis, and methanogenesis. In conventional anaerobic digestion, the four steps occur within the same space. However, the first three steps are performed at a pH different from that in the fourth and final stage, as illustrated in Figure 2.



**Figure 2.** Simple illustration of the separation of stages. The first three stages occur in the facultative tank, and the fourth stage occurs in an anaerobic reactor.

This causes the different species of bacteria associated with each stage to fight each other, which naturally creates a less efficient ecosystem. The adapted process

separates the first three stages of the anaerobic process into hydrolysis, acidogenesis, and acetogenesis. This is advantageous for two main reasons: 1) the facultative anaerobes that are present in the first three stages no longer have to compete for space with the fourth-stage methanogen bacteria and therefore react far more efficiently and effectively; and 2) the process yields more by-products.

**Conclusion**

Further research on the viability of coal substrate digestion is ongoing. The next phase will be to refine the process and then build a pilot-scale treatment plant to find the most effective, efficient means to digest coal substrates and obtain viable by-products that can be sold on a commercial scale. On completion of the pilot tests, it is hoped that a method for producing gas from coal and cleaning coal substrates to reduce the carbon footprint of burning them can be adapted worldwide for any coal-based deposits. ☺



*Jonathan Evers has 25 years' experience in the environmental field and applying microbial solutions to waste management problems. His expertise covers such areas as identifying and formulating microbial formulations for waste management, applied industrial microbiology, carbon accounting, greenhouse gas emissions, sustainability, climate change, resource recovery, eco-efficiency, energy use, renewable energy, waste management, and more recently ecological economics. He has a BA in Environmental Management majoring in sustainable development and an MA in Environmental Law. His work in ecological economics of coal seam gas/water disposal coupled with extensive experience in waste management led to his pioneering breakthrough in coal digestion yielding viable by-products. Evers has been a guest speaker for the APO at conferences focusing on technology for mitigating climate change. He is a part-time lecturer at the University of Queensland, Griffith University, and Bond University on climate change, renewable energy technology, and eco-efficiency.*

**56th GBM concludes ..... (Continued from page 1)**

APO Directors made presentations on key drivers of growth in their countries in the next five years. They also shared views on areas where APO programs could contribute better to policy making in their countries. Many directors also strongly encouraged the APO to develop alternative revenue streams to generate income and expand its activities aggressively.

GBM delegates were invited to visit the famed herbal medicine manufacturer Traphaco. Traphaco Chairperson Vu Thi Thuan, who benefited from an APO project as a participant, provided the delegates a fascinating glimpse into how Vietnam has led the way in commercializing traditional medicine and knowledge. A visit to the Vietnam Museum of Ethnology, a valuable center for the preservation of the cultural heritages of 54 ethnic groups in Vietnam, was also enjoyed by the delegates.

Acting APO Director for Thailand Dr. Bondee Bunyagidj announced that the 57th

GBM would be hosted by Thailand and welcomed all delegates to Bangkok next year. Presenting the vote of thanks, APO Director for Fiji Taito Roba Waqa expressed appreciation to the Government of Vietnam for hosting the meeting as well as APO Director for Vietnam Dr. Ngo Quy Viet for his leadership and guidance in making the meeting successful.

In his closing statement, Secretary-General Mari Amano also expressed gratitude to the Government of Vietnam. He thanked Vice Minister of Science and Technology Tran Viet Thanh for attending the GBM and supporting APO activities that improve the productivity of SMEs; outgoing Chair Yamaaranz Erkhembayar, APO Director for Mongolia, for his leadership during his tenure; APO member governments and their NPOs for the support given to the Secretariat; and the Vietnam Productivity Centre and its staff for working with the Secretariat to organize a successful GBM. ☺



# Knowledge management and innovation in public-sector organizations

The APO finalized its public-sector productivity (PSP) program framework at a 2012 workshop in Jakarta with contributions from resource speakers/experts and participants. The PSP framework was circulated to NPOs for comments and then presented to the Workshop Meeting of Heads of NPOs for endorsement that year. The PSP framework calls for public-sector capacity building through training courses such as the one organized in Sri Lanka, 2–6 December 2013, on Knowledge Management (KM) and Innovation in Public-sector Organizations benefiting 24 participants from 14 APO members. Based on original research, the APO published a manual in 2013 containing analyses of public-sector organizations in its members conducted by a team of KM experts from Japan, the ROK, Malaysia, the Philippines, Singapore, Thailand, and the UK which was utilized in the course.

PSP is a key APO priority. The sector is important for direct and indirect contributions to GDP and in terms of business development and employment generation. KM and innovation have been widely applied in the private sector including the service industry for productivity promotion, although their application has been limited in public-sector organizations so far.

The training course aimed to provide basic training in the KM concept and tools, explain the applicability of the KM framework and innovation to public-sector organizations, and enable participants to utilize the KM and innovation framework. Sri Lanka previously implemented a demonstration project on PSP improvement which was completed in 2012. The outcome of that demonstration project was also shared in this course. The participants



Participants visiting the Department of Immigration & Emigration.

made visits to the Department of Pensions and Department of Immigration and Emigration on day 4 to view how various KM- and innovation-related initiatives adopted by them had improved the quality and productivity of their services to citizens.

“After having observed about 10 training courses and after having been engaged three times by the APO to evaluate its various projects since 2009, I would like to report that the just-finished training course in Colombo was unique and well above the norm in its achievements in many respects,” stated Philippine resource speaker Dr. Serafin D. Talisayon in an e-mail to the APO Secretary-General. The course included continuous feedback from participants and prize-based competitions among them. 🌀

## Green Productivity for promoting sustainable agriculture

Over the past 50 years, global agricultural production has witnessed phenomenal growth averaging 2.3% per year which ensured consistent availability of food for the increasing and wealthier global population. But agricultural practices leading to production beyond the natural system’s potential using synthetic inputs resulted in overexploitation of the environment and natural resources. There are increasing concerns that the agricultural production system during the next four decades may exceed the environment’s carrying capacity. Therefore, there is an urgent need to identify good practices and effective policies to overcome impediments in the development of environment- and producer-friendly agrifood production systems and embrace opportunities to implement policies. Such practices and policies should aim at enabling the food and agriculture sector to ensure global/national food security in the face of increasing food demand, changing dietary preferences, and looming impact of climate change on both agriculture and the environment. The success of future agrifood production systems will be determined by high productivity coupled with good environmental performance, sustainability, and profitability for producers, contributing to the socioeconomic development of local communities in particular and nations at large. Adoption of the Green Productivity (GP) strategy could help in developing such smart agrifood production systems.

To enhance participants’ understanding of the GP concepts, approaches, and technologies and to share best practices in GP in agriculture, the APO, Ministry of Jihad-e-Agriculture, and National Iranian Productivity Organization jointly held a workshop on Best Practices in Green Productivity in Agriculture in Tehran, 7–11 December 2013. Twenty-three participants from government, academia, NGOs, and NPOs of 10 member countries shared their experiences. Seven experts from Japan, the ROK, IR Iran, and India made thematic presentations. Twenty-seven local observers also attended. To observe good practices of GP in agriculture, the participants visited the Caviar Kaviar aquaculture farm and Fadak Olive Agro-industry Co. in Qom province. Both farms are situated in a desert. Fadak Olive Farm is a totally natural, chemical-free farm where agricultural resources are recycled.

After exhaustive deliberations, workshop participants formulated strategic recommendations for enhancing policy frameworks and governance systems including: vision and objectives of national GP strategy; improving natural resource management and implementation framework of GP strategy for agriculture; development, transfer, and adoption of GP technologies for sustainable and profitable farming; and capacity building and community-empowerment initiatives. 🌀

## APO/NPO update

### **Cambodia**

#### **New APO Director**

Name: Ek Sonn Chan

Designation: Secretary of State, Ministry of Industry and Handicraft

Effective date: 27 February 2014

#### **New APO Alternate Director**

Name: Dr. Tung Ciny

Designation: Under Secretary of State, Ministry of Industry and Handicraft

Effective date: 27 February 2014

### **India**

#### **New APO Director**

Name: Amitabh Kant

Designation: Secretary, Department of Industrial Policy and Promotion, Ministry of Commerce and Industry

Effective date: 13 March 2014

#### **New APO Alternate Director**

Name: Harbhajan Singh

Designation: Director General, National Productivity Council and NPO Head

Effective date: 12 February 2014

### **Japan**

#### **New APO Director**

Name: Kimihiro Ishikane

Designation: Director-General, International Cooperation Bureau, Ministry of Foreign Affairs

Effective date: 17 January 2014

### **Pakistan**

#### **New APO Alternate Director**

Name: Arif Ibrahim

Designation: Additional Secretary-II, Ministry of Industries, Government of Pakistan

#### **New NPO Head and APO Liaison Officer**

Name: Dr. Sher Muhammad

Designation: CEO, National Productivity Organization

Effective date: 5 March 2014

### **Thailand**

#### **New APO Alternate Director and NPO Head**

Name: Suwan Riensavapak

Designation: Acting Executive Director, Thailand Productivity Institute

Effective date: 1 April 2014

## Photo news



Secretary-General Mari Amano meeting Vietnamese officials on 14 April, Hanoi (L-R): APO Director for Vietnam Dr. Ngo Quy Viet; Tong Thi Hong Minh, International Cooperation Department, Government Office of Vietnam; Deputy Prime Minister Vu Duc Dam; Secretary-General Amano; Vice Minister of Science and Technology Tran Viet Thanh; APO Alternate Director for Vietnam Nguyen Anh Tuan; APO Secretariat Administration & Finance Officer Yumiko Yamashita.



Visitors to the Secretariat from the University of Melbourne: Prof. Hamish Coates (2nd L) of the Centre for the Study of Higher Education, Prof. Richard James (3rd L), Director of the Centre for Study of Higher Education and Pro Vice Chancellor of the University with APO Secretariat Agriculture Department Director Joselito C. Bernardo and Research and Planning Program Officer Dr. Jose Elvinia, 4 April.



Educore V.V. Director Hank Kune speaking on future centers at the APO Secretariat, 5 March.



## Taipei a melting pot of exhibitors from around the world

Taipei successfully hosted the APO's Eco-products International Fair (EPIF), 13–16 March, at the Taipei World Trade Center. The 9th EPIF was jointly organized by the APO and Bureau of Foreign Trade of the Ministry of Economic Affairs (MOEA) and implemented by the Taiwan Green Trade Project Office of the MOEA, Taiwan External Trade Development Council (TAITRA), and China Productivity Center.

ROC President Ying-Jeou Ma and Vice Minister of Economic Affairs Jong-Chin Shen attended the event. President Ma commented during the welcome reception that many countries were focusing on green growth as the new engine of economic growth. He added that, "This government is serious in keeping our standards to comply with those of the United Nations... to establish a green economy." At the opening ceremony, Vice Minister Shen stated that for the first time, "The EPIF is using ISO 20121, that is, the event sustainability management system." It reflected the recent efforts and achievements of the ROC to manage its green endeavors in the most effective manner possible.

The exhibition, themed Go Green, Act Greener, focused mainly on the B2B (business-to-business), B2C (business-to-consumer), and B2G (business-to-government) models and exhibited cutting-edge, environmentally friendly eco-technologies, eco-products, and eco-services. Two hundred and seven exhibitors, the most in EPIF history, from all over Asia, Europe, and Central America engaged about 17,500 trade and public visitors.



EPIF 2014 at the Taipei World Trade Center. Photo courtesy of TAITRA.

The EPIF was now especially relevant, according to Chairperson of the Green Productivity Advisory Committee Teisuke Kitayama, who is also Chairman of the Board of Sumitomo Mitsui Banking Corporation, as "Many Asian cities will soon be confronting serious global environmental challenges." Therefore, "All segments from governments to industries to individuals must work together to alleviate environmental degradation by promoting a green economy." APO Secretary-General Mari Amano further commented that, "The pursuit of higher productivity is compatible with the protection of our environment."

When asked how the ROC had collaborated on green initiatives, CEO of

TAITRA Peter Huang gave the example of ROC–Japan cooperation in "research and development on smart grid-related products for Asian countries" which would ultimately benefit the Asia-Pacific region.

Trade visitor Sainen Bhowmick from India, who was interested in solar power and domestic water treatment products, commented, "My goal was to find business partners and help Taiwanese companies expand their businesses to India. I must say that I am very impressed by the quality of the products I found." Dragos Zavarache from Romania visited the exhibition in search of auto electrical devices: "Through one-on-one business matchmaking meetings and subsequent discussions during the fair, I found four high-potential Taiwanese companies to work with."



Business-matching consultation at the EPIF 2014. Photo courtesy of TAITRA.

The launch of the Eco-products Database 2014 was also announced at the EPIF. The 2014 database contains the most numerous listings of eco-products, countries, and firms/organizations since the first edition in 2004. An international conference on Achieving Sustainability to Empower Future Generations took place concurrently with a parade of renowned speakers from the ROC, Japan, ROK, Singapore, and USA. More than 200 participants from across the region attended. 🌱



International Conference on Achieving Sustainability to Empower Future Generations. Photo courtesy of Bureau of Foreign Trade, MOEA of the ROC.