



A·P·O *news*


MONTHLY NEWSLETTER OF THE ASIAN PRODUCTIVITY ORGANIZATION

First Web-based APO e-learning program

In yet another venture into harnessing the information and communications technologies for training and development, the APO launched its pioneer Web-based e-learning training course on "Transition to ISO 9001:2000 QMS: A Paradigm Shift," 8–26 September 2003. Its objective was to enable participants to understand the key requirements for implementing the ISO 9001:2000 Quality Management System in the transitional phase and the ways to develop and strengthen quality management practices in their organizations. Twenty-seven participants from 12 APO member countries took part in the program.

The key advantage of e-learning is that it can be carried out by anyone, anywhere, at any time so long as the person has access to a computer that is linked to the Internet. The multiplier effect that this methodology generates is tremendous. It makes training cost-effective and productive. This probably prompted John Chambers, CEO of Cisco, the foremost information technology provider today, to comment: "The biggest growth in the Internet, and the area that will prove to be one of the biggest agents of change, will be online training, or e-learning." As described by the American Society for Quality, e-learning is Web-based courses taken over the Internet. Some courses are designed to be completed with the guidance of an instructor, while others can be completed on your own time, at your own pace, and from anywhere you have Internet access.

The methodology followed in the first APO e-learning program was as follows: The expert facilitating the program uploaded the first set of reading materials onto a dedicated site on the APOnet, the APO extranet system, on the first day of the training course. Participants were each issued a username identification and password to enable them to enter the site to access the materials. They were given three days to study the materials and to submit questions, comments, and suggestions on the discussion board. At the end of the session, participants were asked to complete an assignment. With this, the first module was completed. On the fourth day, the second set of materials was uploaded and participants again had three days to study them, seek clarifications, and undertake an assignment. This same pattern was repeated for the third, fourth, and fifth modules. On the last day of the project, a formal test was conducted. The test was sent to participants at a prior agreed time convenient to each and they were given three hours to complete it. Participants were graded on the results of their assignments (40%) and their performance on the final test (60%). The top 10 participants will be invited to attend the APO "ISO 9001:2000 Series Auditors/Lead Auditors Course" to be held in Malaysia in March 2004.

The expert who designed and conducted the program was Sanjeev Kumar, systems manager in MECON Limited, India. He commented that course members participated actively and enthusiastically in the program. "The fact that they undertook this training in addition to their normal office work speaks volumes for their keen interest in the subject and their commitment to its study." When asked for her comments on the program, Antoinette Virtucio, a participant from the Development Academy of the Philippines, said: "I found Web-based e-learning convenient and efficient as it provided flexibility in the schedule to read course materials, do exercises, and participate in the discussions. It also allowed me to take responsibility for my own learning. After attending the APO program, I was able to achieve my purpose of acquiring knowledge on ISO9001:2001 QMS to make better contributions in my organization's preparation for certification." 

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"Production is not the application of tools to materials, but logic to work."

Peter F. Drucker

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Attitudes toward work and productivity

Europe provides world leadership in productivity. That at least seems to be the conclusion from hourly figures: Belgium, France, Ireland, and the Netherlands all outperform the USA when productivity is measured in terms of value added per hour worked. Yet on the broader basis of output per worker, the USA is still the world leader.

“Perhaps the most significant aspect, which is prominent in Scandinavia, is for all those involved in a specific workplace to collaborate with their colleagues to redesign it continuously in the light of the changing requirements of their customers.”

This discrepancy—if that is the correct word since Europe enjoys more leisure—has brought about a number of discussions on alternative policy options in Europe. For Europe is confronted with the increasing problem of fewer working-age people having to pay for the income of a continuously growing body of unproductive pensioners. Although it is certainly no cause for complacency, rising labor productivity can ensure that the declining workforce produces ever more goods and services. This is thanks on the one hand to the continuing application of Taylor’s approach to ordering work by breaking down tasks into individually timed actions—now steadfastly applied in the bulk of unskilled brawn (and indeed brain) jobs that Europe has grown of late: health careers, security services, seasonal agricultural workers, delivery services, and call centers, among others.

On the other, “globalization” means that Europeans can benefit from the far lower labor costs in Asia to outsource an increasing number of manufactured items (notably to China) and information technologies (notably to India). Skilled foreign workers can be brought in to fill shortages in

jobs where the welfare state can, because of pay scales, only with difficulty attract locals. It would seem that continental Europe’s unemployed, with their relatively high state benefits, are mentally and physically unable to fill vacancies for monotonous jobs, although migrants evidently can.

Not that everyone is happy with these approaches: unions decry Taylorism’s “one best solution” as well as exporting jobs and the maintenance of “indecently low” pay scales, particularly in the public sector. Yet the jobs in question are often monotonous, back-breaking, or brain-numbing—the very jobs that European governments have been striving to reform over the last three decades.

This is but one manifestation of how the welfare state, in its various manifestations, has given rise to changing attitudes toward work which have depressed productivity increases. Job security and rigid employment conditions can mean that a jobholder can only be fired at considerable cost to the enterprise and/or the state. Yet structural change is always necessary for enhancing productivity. When it is artificially dampened in a market economy, the outcome in the end is all the more brutal.

Two other changing attitudes toward work are also impacting on workplace productivity: the “work/family balance” and “stress.” As more women have joined the workforce they have demanded more rights for leave for their nurturing duties and their continuous learning requirements. To counteract the downsides, various forms of flexible “work organization” have emerged as a means of productivity enhancement. For the way we work and the time we work do not have to be the same for everyone all the time.

Perhaps the most significant aspect, which is prominent in Scandinavia, is for all those involved in a specific workplace to collaborate with their colleagues to redesign it continuously in the light

of the changing requirements of their customers. To this end, companies strive to have their workforces understand who their customers, internal or external, are and remain in continuous contact with them. This stance gives new meaning to training and learning: no longer are they useful adjuncts to working life but essential elements for continuously raising its satisfaction and productivity.

“A second element to improve the match between a workforce and its customers is to implement more flexible working time, weekly, monthly, and annually.”

A second element to improve the match between a workforce and its customers is to implement more flexible working time, weekly, monthly, and annually. In August 2003 France experienced the deadly result of government fiat rigidly reducing the working week to 35 hours for all, including the medical profession: some 14,000 old persons died in a heat wave largely because the medics, having accumulated overtime, had had to take their vacations in August. In neighboring countries with similar climatic conditions but no such laws, no such tragedies occurred. Other recent productivity-poignant aspects of greater flexibility in working time to meet consumer demand better include Germany’s shop opening hours for evenings and Saturdays, although not yet Sundays. And for a growing number of jobs, distance working is becoming ever more feasible. Distance working could be particularly important in light of a growing barrier to productivity: the prevalence of stress.

In 2002 the UK lost 33 million working days due to occupational disease, of which stress is the biggest cause. This was more than 60 times the number of days lost through strikes. The incidence of stress has trebled since 1996 and the number of



days lost has doubled. Other countries in the EU note similar phenomena.

Such figures suggest that the workplace has become twice as demanding in less than a decade. But perhaps more employees are finding “stress” a convenient label to justify taking time off work. Even the rise of stress awareness programs might be exaggerating the scale of the problem by encouraging over-reporting—an indication of which could be that the highest levels of stress are found in the public sector. However, private companies are taking stress seriously as an obstacle to productivity by increasingly not only training their managers in how to tackle it and providing structured assistance but also using workplace development approaches, especially greater worker autonomy, as a powerful means of coping.

All this is happening in the centennial year of Taylor’s unveiling of what Peter Drucker termed “the most powerful as well as the most lasting contribution America has made to Western thought”: productivity science. Clearly, Taylor’s basic “one best solution” is still widely used in less-skilled jobs, but for an “information economy,” which Europe strives to be, its future application is limited. ☺

Anthony C. Hubert is President of EuroJobs, an organization he established to promote efforts to raise the quality of working life and productivity in Europe. He was formerly Secretary-General of the European Association of National Productivity Centres. He writes regularly for this column.

From the SECRETARY-GENERAL’S schedule

October 2003

1 October

APO Secretary-General Takashi Tajima hosted a welcome luncheon for participants of the APO Seminar on “Entrepreneurial Skills Development of Small Farmers/Farmers’ Groups for Agribusiness” held in Tokyo, Japan, 1–8 October.

3 October

Received Mr. Ad de Raad, Deputy Executive Coordinator of the United Nations Volunteers Program, who paid a courtesy visit to the APO Secretariat.

9 October

Received Dr. M.R. Ramsay, President, Ramsay International Productivity Education and Research Foundation, and APO resource person, who was invited to speak to the APO Secretariat staff members on “Economic Productivity Measurement and Universal Productivity Atlas.” Dr. Ramsay and his wife were on holiday in Tokyo at that time.

10 October

Received Mr. Low Choo Tuck, Director, External Relations, SPRING Singapore, who paid a courtesy visit to the APO Secretariat.

20–21 October

Attended the 5th Nikkei Global Management Forum in Tokyo, a joint event of the Nihon Keizai Shimbun, International Institute for Management Development, and Asia/Pacific Research Center. The theme of the forum was “Management Strategies to Create and Enhance Corporate Value.”

27–30 October

Attended the APO Study Meeting on “Regional Industrialization and Development” held in Toyama Prefecture, Japan, 26–31 October, which was also graced by Toyama Prefecture Governor Yutaka Nakaoki. Both gave opening statements at the inaugural session.



Mr. Tajima speaking at the opening session of the study meeting. Seated (R) is Governor Nakaoki

31 October

Received Dr. Nguyen Huu Thien, APO Director for Vietnam, who paid a courtesy visit to the APO Secretariat.



New APO publications



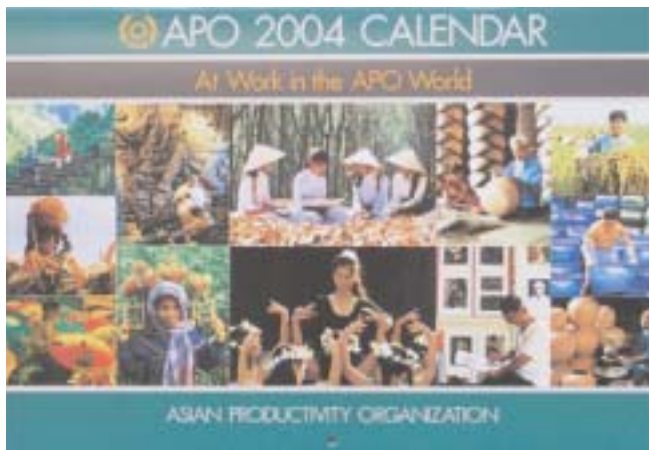
AQUACULTURE MANAGEMENT

APO-TFRI 275 pp. June 2003 ISBN 92-833-2345-9

Asia is one of the earliest cradles of aquaculture in the world. Fish farming has evolved in the region for thousands of years. The industrialization of aquaculture began in the 1960s. Today, Asia dominates aquaculture production, accounting for 91.3% of total world output. It is hardly surprising therefore that it is the highest seafood-consuming region in the world. With projected higher economic growth and increasing population, the aquaculture industry in Asia is set to expand further. However, there are certain issues that need to be dealt with if the industry is to continue to prosper.

Short-sighted, profit-driven strategies to increase production have given rise to many serious environmental and socio-economic problems. Unrestrained use of water, land, and other natural resources and the lack of proper aquaculture management have led to land subsidence, deterioration of groundwater, emergence of diseases, and destruction of coastal ecology. In addition, Asian countries' membership in the World Trade Organization has implications for the industry which must be carefully studied and responded to.

To address these issues, the APO organized a seminar on "Aquaculture Management" in the Republic of China, in December 2001. More specifically, the meeting was to discuss recent developments, issues, and problems in aquaculture production and management and to formulate plans and strategies to manage them. This publication, jointly published by the APO and the Taiwan Fisheries Research Institute, is a report on the findings of the seminar. It also provides the full text of six resource papers and 14 country papers presented at the meeting. It is useful to aqua-farmers and researchers on aquaculture.



The APO has just issued its calendar for 2004. Measuring 52 cm by 37 cm, attractively designed, and printed in full color, it features people engaged in different callings under the theme "At Work in the APO World." The APO is making 50 copies available free to readers of the *APO News*. If you are interested in receiving one, kindly send your request, giving your name and mailing address (preferably by fax at 81-3-5226-3957 or by e-mail at ipr@apo-tokyo.org) by 12 December 2003. If demand exceeds expectations, recipients will be selected by lucky draw on 15 December.

For order and inquiry on APO publications and videos, please contact the Information and Public Relations Department, Asian Productivity Organization, Hirakawa-cho Dai-ichi Seimei Bldg. 2F, 1-2-10 Hirakawa-cho, Chiyoda-ku, Tokyo 102-0093, Japan. Phone number: (81-3) 5226-3927, Fax: (81-3) 5226-3957, e-Mail: ipr@apo-tokyo.org

COMMON SENSE TALK



"Even if at first you do succeed, you will still have to work hard to stay there."

Richard C. Miller

"Production is not the application of tools to materials, but logic to work."

Peter F. Drucker

"I have not failed 700 times. I have not failed once. I have succeeded in proving those 700 ways will not work. When I have eliminated the ways that will not work, I will find the way that will work."

Thomas Edison

"When a fish rots, it starts from the head."

Fijian proverb

"Many attempts to communicate are nullified by saying too much."

Robert Greenleaf

"The problem is not that there are problems. The problem is expecting otherwise and thinking that having a problem is a problem."

Theodore Rubin

"The measure of success is not whether you have a tough problem to deal with, but whether it's the same problem you had last year."

John Foster Dulles

"If we could sell our experiences for what they cost us, we'd all be millionaires."

Abigail Van Buren

"Some regard private enterprise as if it were a predatory tiger to be shot. Others look upon it as a cow that they can milk. Only a handful see it for what it is—the strong horse that pulls the whole cart."

Winston Churchill

Developing entrepreneurial skills of small farmers

A seminar on “Entrepreneurial Skills Development of Small Farmers/Farmer’s Groups for Agribusiness” was held in Japan on 1–8 October this year. Eighteen participants from 15 APO member countries took part. The seminar objectives were to assess the present situation of rural entrepreneurship development programs in APO member countries and to explore ways to develop additional entrepreneurial skills of small farmers/farmers’ groups to promote agribusiness in rural areas. A wide range of topics was covered in the seminar, including: Rural entrepreneurship programs in Asia; Agribusiness support program for farming villages in Japan; Beyond growing and selling in agribusiness: the Singapore way; Successful agribusiness: the case of the farmers’ market; and Productivity management tools for agribusiness development.



Participants of the seminar

Lively International Cooperation Festival



APO booth at the festival

The APO hosted a booth at the Tokyo International Cooperation Festival 2003 in Hibiya Park, 4–5 October. The festival featured presentations on the theme “Our Happy World Village” by about 200 governmental, non-governmental, and international organizations as well as various embassies in Tokyo. The APO booth was designed to give the Japanese public an understanding of the mission and activities of the APO. Fine weather and a carnival atmosphere attracted thousands to the festival.



p-TIPS

Just as you must break away from the pack to win a race, a company must break away from the competition by delivering more value to customers faster, proposes former president and CEO of several service industry corporations and now performance improvement expert and distance runner Charles L. Fred in *Breakaway*. Today, he contends, speed is equal to quality for consumers and rapid delivery outweighs price considerations. “The ability of people to deliver more value to customers in a shorter period of time” enables the desired break-away.

“Speed to proficiency” is the most competitive weapon when scale, automation, and capital are subordinate to a well-trained workforce. Therefore Fred recommends establishing a proficiency threshold (a benchmark), accelerating the accumulation of experience (allowing training to be actualized to deliver value by putting into practice what was learned), and measuring time required to achieve proficiency and its benefits (evaluation of training results).

Six themes should be adopted by organizations aiming for a breakaway:

1) Make proficiency an organizational priority. Utilize a measurement system

Breakaway (Picking up the speed of value delivery)

for evaluation/reevaluation.

- 2) Be impatient with wasted activity. Determine what employees already know, then encourage trial and error while they turn information into value delivery.
- 3) View employees as consumers of learning. Let them choose how/when/where they learn (talking with customers and others, browsing the Web, etc.).
- 4) Stress simplicity and flexibility. Once the proficiency threshold is reached, move it up. Emphasize specific problems.
- 5) Innovate to learn. IT converts passive workers waiting to receive information into proactive learners who satisfy their own curiosity.
- 6) Cultivate candor. Subject training to scrutiny just like other operations. Encourage employees to identify gaps/inefficiencies in training efforts.

Leaders must guide this breakaway process. Managers must view training as boosting the bottom line and learn continuously themselves. They should remember that change will only be faster in future, requiring ever faster service provision. Getting up to speed now may stimulate additional competitive advantages that others cannot duplicate, creating the desired breakaway.

— Productivity and economic growth — in the Pacific

A traditional feature of the APO Governing Body Meeting (GBM) is a special presentation by a guest speaker from the host country. At this year's GBM, the eminent presenter was the Governor of the Reserve Bank of Fiji, Mr. Savenaca Narube. He spoke on "The Quest for Productivity and Global Competitiveness in the Pacific Island Economies." We bring you highlights of his speech.

Governor Narube stressed that productivity, along with technology, innovation, and education, are key factors in Fiji's vision of reaching an economic growth rate of 5% per year. To achieve this in an increasingly borderless and market-oriented international economy, it will have to sharpen and sustain its competitiveness in delivery speed, supply dependability, product quality, and performance reliability. "It is the productive capacity of the country's resources and how they are utilized that will determine its economic growth path over time."

According to the Governor, Pacific island countries like Fiji are faced with the following challenges: 1) small land size and population; 2) a very open economy that is not diversified; 3) underdeveloped markets; 4) vulnerability to global developments and globalization; and 5) buffeting by natural calamities, like cyclones. "I firmly believe that Fiji and the Pacific must not sit back and hope that someone else will do something to address these issues. We must ourselves stand up and do something. And high in that action list should be productivity."

Fiji's productivity growth has been estimated to average around 1% over the last eight years. The other Pacific island countries are not likely to have done much better. As mentioned by Governor Narube, there are a number of geographic and socio-economic factors that account for this. One is the laid-back work culture that is prevalent in the Pacific. "I don't know if this is the result of the soft breeze, bright skies, and lush environment that grace our islands, but I do recognize that this complacency must change," said the Governor.

Another contributive factor is the lack of skills in the workforce, caused in part by the steady outflow of skilled emigrants from managerial, professional, technical, and clerical occupations. Lack of proper tools and modern and appropriate technologies has compounded the situation, which is

made worse by the isolation of the Pacific from the rest of the world.

Governor Narube proffered the following advice on how Fiji could raise its productivity performance:

First, make raising productivity a national target with the support of all stakeholders. In this regard, the trade unions were singled out by the Governor for their lack of support for the movement. He said, "I understand their concerns that other issues should be on the drawing board as well, but embracing the productivity concept and its benefits should be a straightforward matter."

Second, institute reforms that would bring efficiency and innovation into systems, procedures, and work processes. Third, undertake reforms at the micro or firm level. Fourth, harness new technologies that become available, like information and communications technologies. Fifth, usher in a new work culture that promotes innovation, employee empowerment, and teamwork. Sixth, avoid excessive regulation and rigidity that usually stifle the transformation of innovations into applicable technology. Seventh, the government should provide a secure system of private property rights, including the protection of intellectual capital. Eighth, the government should focus on education and training and make them available and accessible to all. Ninth, establish a dedicated organization that is tasked with productivity promotion, training, and consultative services to both the private and public sectors. This condition has long been met in Fiji by the establishment of the Fiji National Training Council in 1973, which was renamed the Training and Productivity Authority of Fiji earlier this year (*see story in the August 2003 issue*). And finally, develop a cohesive labor-management partnership to bring about a win-win situation for all concerned in the push for higher productivity and greater economic growth.



Governor Savenaca Narube

In wrapping up his presentation, Governor Narube had this to say: "I have always said that if we can raise productivity by 1% per year, the growth dividend would be significant. And it is one of the easiest ways to raise growth." 🌀

APO/NPO update

New telephone number and e-mail address for NPO, Bangladesh

Tel. of Liaison Officer: 880-2-7169249
e-Mail address: npobd@gononet.com

New NPO Head for Singapore

Mr. Loh Khum Yeah, Chief Executive, SPRING Singapore, was designated as the new NPO Head and concurrently NPO Alternate Director for Singapore w.e.f. 15 October 2003, in place of Mr. Lee Suan-Hiang.

New e-mail address for NPS, Sri Lanka

e-Mail address: nposl@sltnet.lk

New APO Liaison Officer for Thailand

Dr. Boondee Bunyagidj, Advisor to the Executive Director, Thailand Productivity Institute, was designated as the new APO Liaison Officer for Thailand w.e.f. 6 October 2003, in place of Mrs. Supanee Taytiwat.

Tel.: 662-619-5500 ext. 111
Fax: 662-619-8099
e-Mail address: apo_liaison @ftpi.or.th



p-Experts deputed by the APO

REPUBLIC OF CHINA

Dr. Yao Chin Lin, Director, Innovation and Incubation Center, Yuan Ze University, Republic of China, was deputed to serve as chief resource person in the seminar on Business Incubators for SMEs, 15–19 September 2003.

Dr. Makoto Sato, Professor, Faculty of Law, Kumamoto University, Japan, was deputed to conduct a seminar on Development of Leisure Farming—Japanese Experience, 16–19 September 2003.

FIJI

Mr. Ab. Rahim Yusoff, Director, National Productivity Corporation, Malaysia, was deputed to provide consultancy/advisory services in the National Convention on Quality and to conduct training on Quality Improvement through the Seven Quality Management & Planning Tools, 13–22 October 2003.

Dr. Hsin Rau, Associate Professor, Department of Industrial Engineering, Chung Yuan Christian University, Republic of China, was deputed to provide technical expert services in the designing and conducting of an Industrial Engineer Training Program, 10–15 November 2003.

INDIA

Mr. John D. Tracey-White, Consultant, UK, and **Mr. Edward Seidler**, Senior Officer, Agricultural Management, Marketing and Finance Service, FAO, Italy, were deputed to serve as resource persons in the seminar on Development of Efficient Agricultural Marketing Infrastructure, 11–17 November 2003.

INDONESIA

The following were deputed to serve as resource persons in the seminar on Information and Communications Technology for Improved Agricultural Productivity and Competitiveness, 8–12 September 2003: **Ms. Clare O' Farrell**, Officer, Communication for Development, FAO, Italy; **Dr. Robert T. Raab**, Director, Asia-Pacific Regional Technology Centre, Thailand; **Dr. Ajit P. Maru**, Research Officer, International Service for National Agricultural Research, the Netherlands; and **Dr. Seishi Ninomiya**, Head, Grid Computing Team, National Agriculture Research Organization, Japan.

The following were deputed to serve as resource persons in the seminar on Role of Women Entrepreneurs in Agribusiness, 20–24 October 2003: **Dr. Somjate Sirivatanapa**, Director, Chiangmai Taveekun Ltd., Thailand; **Ms. Shahuren Ismail**, Director, Best Practices Management Division, National Productivity Corporation, Malaysia; and **Ms. Guillermina Tapia Gabor**, President, Philippine Small and Medium Development Foundation, Philippines.

JAPAN

The following were deputed to serve as resource persons in the seminar on Entrepreneurial Skills Development of Small Farmers/Farmers' Groups for Agribusiness, 1–8 October 2003: **Dr. Wen-Chi Huang**, Associate Professor and Chair, Department of Agribusiness Management, National Pingtung University of Science and Technology, Republic of China; **Dr. David Kahan**, Senior Agricultural Management Officer, FAO, Italy; and **Mr. Too Peng San**, Managing Director, The

Orchid People Pte. Ltd., Singapore.

Prof. Takayuki Matsui, Faculty of Economics, Toyama University, Japan, was deputed to serve as resource speaker in the study meeting on Regional Industrialization and Development, 26–31 October 2003.

REPUBLIC OF KOREA

The following were deputed to serve as resource persons in the study meeting on Women and SOHO, 7–10 October 2003: **Ms. Isabelita Sy Palanca**, President, The Mother Company, Inc., Philippines; **Dr. Tomoyo Kazumi**, Associate Professor, Department of Business Administration, Takachiho University, Japan; and **Ms. Shamala Devi Narayanasamy**, Executive Director, Venk Management Consultants, Malaysia.

Mr. Ramli Burhanuddin, Assistant Director, Vegetable and Field Crop Division, Department of Agriculture, Malaysia, and **Mr. Lee Kiyau Loo**, Secretary-General, Green Productivity Association, Malaysia, were deputed to provide technical expert services in the workshop on Green Productivity and Eco-Business Development, 19–24 October 2003.

LAOS

Mr. Yasuhiko Tsutsumi, Representative, Pete Consulting Engineering Associates, Japan, was deputed to provide consultancy services on Model Company Building, 3–13 November 2003.

MONGOLIA

Mr. Lim Keng Cheong, Section Head, Integrated Logistics Management, Institute of Technical Education, Singapore, was deputed to provide consultancy services on Business Strategy Development and Management of International Freight Forwarding Business, 21–25 October 2003.

PAKISTAN

Mr. Arijirajalo Ramachandran, Principal Consultant, Venk Management Consultants, Malaysia, was deputed to serve as resource person in the symposium on Features of Knowledge-based Business Corporations, 7–10 October 2003.

PHILIPPINES

The following were deputed to provide technical expert services in the workshop on Green Productivity Procurement for Greening Supply Chains, Philippines, 29 September–4 October 2003: **Mr. Hiroyuki Sato**, Secretary-General, Green Purchasing Network, Japan; **Prof. Ryoichi Yamamoto**, Center for Collaborative Research, University of Tokyo, Japan; **Mr. Raymond Yuk-ching Leung**, Executive Secretary, Taiwan Environmental Management Association, Republic of China; **Dr. Chang-Woo Lee**, Department of Urban Environment, Seoul Development Institute, Republic of Korea; and **Mr. Lee Kiyau Loo**, Secretary-General, Green Productivity Association, Malaysia.

Mr. Charles Aubrey, Vice-President, Performance Excellence, STAT-A-MATRIX, USA, was deputed to conduct seminars on Six Sigma, 10–14 November 2003.

SINGAPORE

The following were deputed to serve as resource persons in the study meeting on Entrepreneurship and Innovation for Business

Program calendar

Republic of Korea

Seminar on the Impact of Industrial Restructuring: The Korean Experience, 2–5 March 2004.

Malaysia

Training Workshop on Energy Efficiency and Clean Development Mechanism (CDM), 3–7 February 2004.

4th Practicum Workshop on Green Productivity, 1–26 March 2004.

Kindly contact your NPO for details of the above activities, including eligibility for participation. If you need the address of your NPO, it is available from the APO Web site at www.apo-tokyo.org.

Growth, 1–3 October 2003: **Dr. Wen Chao-Tung**, Professor, Graduate Institute of Technology and Innovation Management, National Cheng Chi University, Republic of China; **Dr. Bee-Leng Chua**, Professor, Department of Management, Chinese University of Hong Kong, Hong Kong; and **Prof. Paul Reynolds**, London Business School/Babson College, UK.

The following were deputed to provide technical expert services in the International Symposium on Water Resource Management and Green Productivity, 7–9 October 2003: **Dr. Totaro Goto**, Managing Director, Water Re-use Promotion Center, Japan; **Mr. Santosh Gondhalekar**, Gangotree, India; **Ms. Wendy Nero**, Vice-President, CH2M HILL, USA; and **Dr. Yokito Sugimura**, Director, Management and Operation Department, Water Resources Development Public Corporation, Japan.

SRI LANKA

Mr. Teoh Cheng Hai, Consultant, Total & Quality and Environment Management, J.M. Juran Sdn. Berhad, Malaysia, was deputed to provide technical expert services in the Green Productivity Promotion Mission, In-country GP Training, and GPDP Proposal Formulation Workshop, 3–7 November 2003.

THAILAND

Mr. Teruo Kawamura, Senior Expert on Business Excellence, Japanese Standards Association, Japan, was deputed to conduct a TQM Integration Program, 10–21 November 2003.

VIETNAM

Dr. Melkote Ramdas Ramsay, President, Ramsay International Productivity Education & Research Foundation, Australia, was deputed to conduct seminars on Economic Productivity Quantification for Enhancement of Productivity and Improving International Competitive Capability, 22 September–4 October 2003.

Dr. John Man, Certified Management Consultant, Singapore, was deputed to conduct training on Developing HRM Consulting Services, 29 September–3 October 2003.

Five challenges in water resource management

The United Nations has warned that water could become a growing source of tension and fierce competition between nations. It has also reported that 18% of the world's population is without safe drinking water. If the present trend continues, this figure is likely to rise to 40% and 67% in 2015 and 2025, respectively. To address this issue, the Third World Water Forum was held in Japan in March this year. As a follow-up activity to the forum, the APO organized an "International Symposium on Water Resource Management and Green Productivity" in Singapore on 7-9 October. The objective was to introduce APO member countries to successful cases of water resource management in the region and the world and to enable them to plan for better water resource management.

The symposium was implemented by SPRING Singapore, with support from the Singapore Public Utilities Board and Nanyang Technological University. Twenty participants from 17 APO member countries took part. The guest of honor at the inaugural session was the Singapore Minister for the Environment, Mr. Lim Swee Say. The Minister, in his keynote address, laid down five challenges in water resource management that the world must address to prevent future shortages of safe drinking water.

The first challenge is water resource protection. As less than 1% of the water on earth is suitable for drinking and as water is a limited resource in most, if not all, countries, Minister Lim said that it is important to ensure that water resources are not polluted, for example, by urbanization and industrialization. As prevention is better than cure, Minister Lim pointed out that it is much wiser to prevent the pollution at source.

On the second challenge, which is the use of advanced technology for water treatment, Minister Lim said that with conventional water treatment technology it was not economical to treat rainwater to achieve drinking water standards. This source of water was thus allowed to go to waste. With new membrane technology, however, it is now possible and cost-effective to treat even seawater and wastewater to drinking water standards. The use of such advanced technology will enhance available water resources.

The next challenge is reducing water leakages, which occur in every water supply system. This is a major waste of investment as every drop of leakage has been treated to bring it to drinking water standards. With water as a limited resource,

it is important to ensure that every drop of treated water reaches the customers.

Water conservation is the fourth challenge. The Minister said that in every water usage activity, it is not difficult to see that water is being wasted. The consumers should be encouraged to conserve water, and one way to do this is for water pricing policy to reflect the scarcity of water. The Minister added that the water industry should develop water-saving appliances so that every home can be water-efficient.

The last challenge in water resource management described by Minister Lim is closing the water loop. This means that the water supply system should be designed to collect used water for treatment and recycling. In this way, every drop of water will be used two or more times, and the productivity of water supply will be increased by not just 10% or 20% but by 100% or more.

At the close of the symposium, the participants recommended that the APO undertake a survey based on the five challenges enunciated by Minister Lim to be conducted among its member countries. The survey findings should be reported at the water resource management conference the APO has scheduled for October 2004.

Other speakers at the symposium were Dr. Chizuru Aoki, United Nations Environment Programme International Environment Technology Center, Japan; Santosh Gondhalekar, Gangotree, India; Dr. Totaro Goto, Water Re-use Promotion Center, Japan; Dr. Yokito Sugimura, Water Resources Development Public Corporation, Japan; Wendy L. Nero, CH2M HILL, USA; Dr. Dee Dee Ng, Hyflux Ltd., Singapore;



Minister Lim delivering the keynote address

Dr. Jerry Liu Jianlin, SUT Sakra Pte. Ltd., Singapore; Ng Han Tong and Ong Key Wee, both from the Public Utilities Board, Singapore; Paul Tan, Systems-on-Silicon Manufacturing Co. Pte. Ltd., Singapore; and Prof. Tay Joo Hwa, Nanyang Technological University, Singapore.

Presentations in the symposium were organized around three main themes: Global perspectives on water resource management; Demand management; and Water reclamation. Global perspectives covered the practice and optimization of water demand and supply; strategic water resource management and assessment; watershed management; and integrated urban water management. Demand management dealt with water conservation and the efficient use of water. Discussions under water reclamation focused on seawater reclamation (desalination); Singapore NEWater; waste water recycling; non-industrial water recycling and reuse; and the use of membrane technology. 