

Report on Singapore Mission

September 13, 2010
GRIPS Development Forum, Tokyo

The GRIPS Development Forum, together with researchers and officials from Vietnam and Ethiopia, visited Singapore from Aug. 29 to Sep. 3, 2010 to study Singapore's experiences in productivity improvement and skills upgrading as well as organizational aspects of industrial policy formulation and implementation. Findings of this mission will be provided to concerned officials in developing countries including Ethiopia and Vietnam¹. We also gathered information on Singapore's international cooperation in the industrial sector of developing countries. The mission had meetings with government ministries and agencies, research institutes and universities, and Japanese organizations such as JCCI, JETRO, and JICA. It also visited a Japanese manufacturing company operated by Singaporeans.

The mission members consisted of Prof. Kenichi Ohno, Prof. Izumi Ohno, Ms. Sayoko Uesu (GRIPS Development Forum); Prof. Daniel Kitaw (Addis Ababa University); and Ms. Nguyen Thi Xuan Thuy, and Ms. Truong Thi Nam Thang (Vietnam Development Forum). In addition, Mr. Le Mang Hung and Mr. Nguyen Quang Vinh (Ministry of Planning and Investment, Vietnam), and Ms. Kumiko Kasai (JICA expert/SME policy advisor in Vietnam) joined the mission (see attachments for mission schedule, places visited, and information collected). We would like to express our deep appreciation to all organizations and individuals who kindly received us and shared valuable information with us.

The main findings of the mission are as follows.

1. The current situation surrounding productivity

In recent months, productivity improvement has been resurrected as a high-priority national agenda in Singapore. As the Singaporean economy came out of the global recession, the government sees an opportunity to restructure the economy and maximize growth capability in the post-crisis era which is characterized by rising China and India. The government formed the high-level Economic Strategies Committee (ESC) chaired by the Finance Minister in May 2009 with tripartite participation of government, labor unions, and industry².

¹ This mission was commissioned by the Japan International Cooperation Agency (JICA) to compile information on industrial policies in selected East Asian countries for the use of other developing countries. Visits to South Korea and Taiwan are also planned in the near future.

² The ESC was formed as one of the many *ad hoc* mechanisms for shaping economic future and long-term development visions of the country. Under the committee headed by the Finance Minister and comprising of 25 members, eight subcommittees and several working groups were formed. Each subcommittee was co-chaired by the representatives of the public and private sectors. For formulating key policies the

The ESC submitted a final report to Prime Minister Lee Hsien Loong at the end of January 2010, which was officially launched on February 1, 2010. Envisioning “high-skilled people, innovative economy, distinctive global city,” the ESC Report recommended a drastic shift from factor-driven to productivity-driven growth. It set an annual productivity growth target of 2-3% and an average GDP growth target of 3-5% in the next ten years, and presented seven key strategies to achieve these goals. The main thrust of the ESC Report was endorsed by the Prime Minister and reflected in the FY2010 budget (starting from April 1).

One of the seven key strategies is “growing through skills and innovation.” To oversee and drive the national effort to boost productivity and skills upgrading, the government established the National Productivity and Continuing Education Council (NPCEC) in April 2010 (see Section 3).

While the Singaporean economy grew by an average 5% per annum over the past decade, productivity gains have declined in recent years³. According to the ESC Report, the country’s productivity levels in manufacturing and services are only 55 to 65% of those in the US and Japan. In the construction sector, the productivity level is only one-third and one-half of Japan and the US, respectively. According to many whom we interviewed, this apparent low productivity in a country renowned for well-educated people and excellent policies was caused by the existence of low-skill foreign workers and the old generation of Singaporeans who received little education in the past, both of which bring down average productivity. In terms of sectors, low productivity is observed in construction, SMEs, and certain services such as retails, restaurants, and tourism.

Over the past decade, Singapore has become increasingly dependent on foreign workers, including both highly skilled professionals and low-skill workers, which now account for about one-third (or 1 million) of the entire workforce. Low-skill foreign workers compete with relatively less educated Singaporeans on the job market. The ESC Report points out the need to manage (i.e., gradually reduce) the country’s dependence on low-skill foreign labor and support continuous education and training of low-wage Singaporean workers. The Report also emphasizes the importance of productivity growth to sustain high wages and high living standards which Singaporeans have come to enjoy, and urges the government to encourage enterprise innovation, investment in technology, and training to create better and more high paying jobs.

Singaporean government does not produce five-year or any other regular plans.

³ In Singapore, productivity primarily means labor productivity or value-added per worker, reflecting the government’s deep concern with sustaining high wages and high living standards for its citizens. As such, it is affected by technology, capital accumulation, efficiency and waste reduction, systemic innovation, and training adopted by companies. Concerns about Singapore’s recent slowed down in productivity have been also pointed out in *Singapore Competitiveness Report: 2009* (foreword by Michael E. Porter) produced by the Asia Competitiveness Institute of the Lee Kuan Yew School of Public Policy. This report also supports the government’s ongoing effort to move towards an innovation-driven economy.

2. History of Productivity Movement⁴

Singapore was the first country where JICA provided comprehensive technical cooperation called Productivity Development Project (PDP) to transfer Japan's know-how in productivity improvement. At the request of then Prime Minister Lee Kuan Yew, JICA implemented PDP during 1983-1990. Subsequently, Singapore became quite successful in internalization, scaling up, and institutionalization of Productivity Movement. Its experiences should offer useful insight for developing countries which plan to introduce similar projects.

Singapore's interest in productivity dates back to the early days of independence, before the initiation of JICA cooperation. In 1967, the National Productivity Center was established under the Economic Development Board (EDB). In 1972, the Center was upgraded to a separate agency, the National Productivity Board (NPB), and in 1996 was merged with the Singapore Institute of Standards and Industrial Research to become the Productivity Standard Board (PSB). In 2002, PSB's productivity-related functions were transferred to the Standards, Productivity and Innovation Board (SPRING). Separately, the Singapore Productivity Association (SPA) was established in 1973 as an affiliated body of NPB with the purpose of promoting active involvement of organizations and individuals in Productivity Movement and spreading the idea of productivity and its techniques.

Table 1. History of Productivity-related Organizations

Period	Organization	Remarks
1964	Productivity Unit, EDB	1965: Charter for Industrial Progress, Productivity Code of Practice
1967-1972	National Productivity Center (NPC) - Autonomously-run division under EDB	1971: Tripartite Interim Management Committee (to prepare NPB)
1972-1995	National Productivity Board (NPB) - Statutory body, initially affiliated with Ministry of Labor and later with Ministry of Trade and Industry (MTI)	1973-present: Singapore Productivity Association (SPA)
1996-2001	Productivity Standard Board (PSB) - Statutory body, affiliated with MTI	1981-85: awareness stage 1986-88: action stage 1989-90s: ownership stage
2002-present	Standards, Productivity and Innovation Board (SPRING) - Statutory body, affiliated with MTI	

Productivity Movement in Singapore evolved in three stages: (i) awareness stage (1981-85); (ii) action stage (1986-88); and (iii) ownership stage (1989-90s). The awareness stage aimed to create widespread awareness of productivity among companies and workforce.

⁴ This section is based mainly on the information provided by Mr. Low Hock Meng, Executive Director of the Singaporean Productivity Association and the former counterpart of JICA-supported PDP.

The National Productivity Council (NPC) was established in 1981, chaired by the State Minister of Labor and with the participation of about 20 members from government, employer groups, unions and academia, which reviewed productivity efforts and outlined future strategy. Massive productivity campaigns were launched at both national and company levels. November was designated as “Productivity Month,” in which then Prime Minister Lee Kuan Yew delivered annual speeches on productivity from 1981 for seven consecutive years. In the action stage, “awareness” was translated into specific programs to improve productivity at the workplace, by introducing a management consultancy referral scheme, model company projects, training of workforce through the Skills Development Fund (see Section 3), and so on. The ownership stage assured sustainability of Productivity Movement by launching many initiatives to encourage company-level productivity movement. The Singapore Quality Award was introduced in 1994.

Throughout the three stages, NPB played a key role as the secretariat of NPC by providing training and management consultancy, spreading quality control (QC) circles, promoting the concept of productivity, and administering SDF. Key factors for successful scaling-up of Productivity Movement included establishment of institutional mechanisms (including NPC), strong support of key stakeholders (public sector, unions, and employers), and sharing productivity gains among these stakeholders. JICA-supported PDP made important contributions to this movement by sharing best practices, training NPB staff and company workers, and developing manuals.

After PDP was completed in Singapore, NPB and JICA conducted joint training programs in developing countries in Asia and Africa until around 2005. In parallel, under the Singapore Cooperation Program (see Section 5), SPA also provided cooperation to productivity improvement in Botswana from 1991 for about ten years at the request of the President of Botswana to then Singaporean Prime Minister Goh Chok Tong. Based on the experience of PDP, SPA supported promotion of tripartite cooperation among government, labor, and industry, staff training of the Botswana National Productivity Center, and implementation of pilot projects. In its first phase, cooperation produced mixed results as it caused brain drain of trained staff. In the second phase, however, cooperation successfully strengthened the Botswana National Productivity Center which has come to be regarded as a center of excellence in Sub-Saharan Africa. For countries interested in introducing Productivity Movement in Africa and elsewhere, a detailed study of SPA’s cooperation with Botswana should be a useful guide for understanding how technical cooperation should be designed for maximum impact and minimum brain drain.

3. Current industrial policy measures and organizations

The policy process in Singapore is characterized by: (i) tripartite cooperation among government, labor unions, and industry, and (ii) a multi-sectoral and multi-functional approach involving all relevant government ministries and agencies in good collaboration.

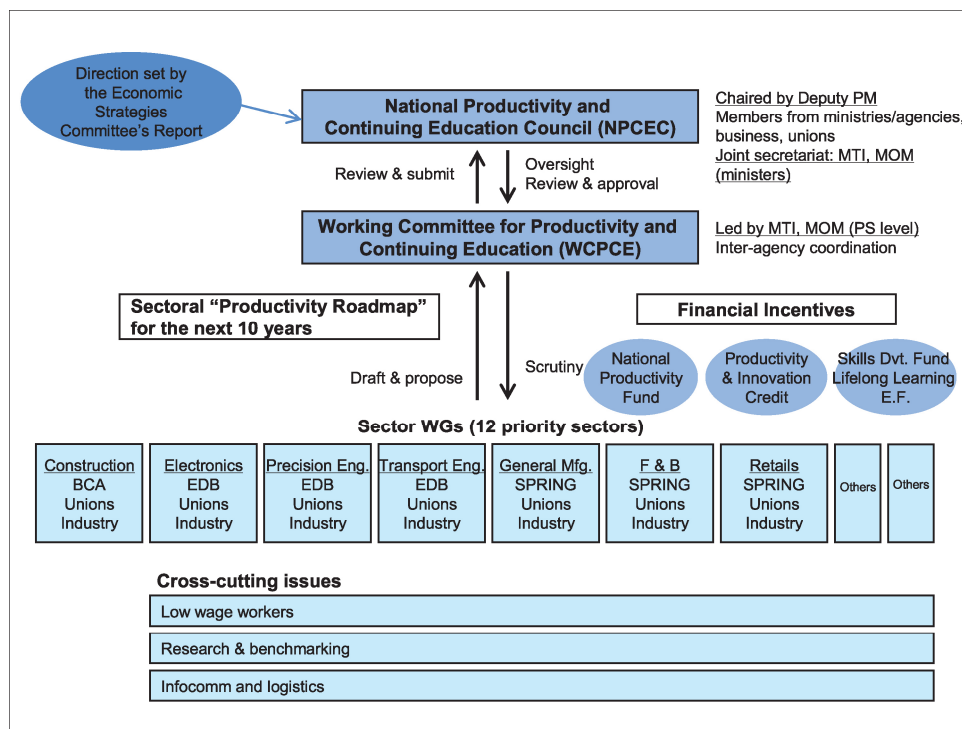
Regarding industrial policy measures, the Singaporean government takes both broad-based and targeted/sectoral approaches. The government offers various incentives to encourage enterprises to adjust and restructure by following (policy-adjusted) market price signals rather than through quantitative quotas or direct subsidies to individuals.

Recent initiatives related to productivity, SMEs, and FDI attraction include the following.

(1) Measures for productivity and continuing education and training

As explained before, the National Productivity and Continuing Education Council (NPCEC) was established in April 2010 to lead the national effort to transform Singapore into a productivity-led economy. NPCEC is chaired by Deputy Prime Minister Teo Chee Hean and its members come from government, business community, and labor unions. Chairpersonship of DPM signifies the high priority accorded to the productivity issue. The Ministry of Trade and Industry (MTI) and the Ministry of Manpower (MOM) jointly act as the secretariat. Under NPCEC two layers of organizations are created including (i) the Working Committee for Productivity and Continuing Education (WCPCE) led by the Permanent Secretaries of MTI and MOM; and (ii) 12 sector working groups and horizontal thematic working groups which are coordinated by responsible government agencies (see Figure 1).

Figure 1. Institutional Mechanism for Boosting Skills and Enterprise Productivity through National Effort



NPCEC has selected 12 priority sectors based on the criteria of the size of contribution to employment and GDP and high potential for productivity gain. Each sector group formulates

a productivity roadmap for the next ten years. These roadmaps are reviewed by WCPCE and submitted to NCPEC for final approval. A ministry or an agency is assigned to oversee each priority sector. For example, EDB is responsible for electronics, precision engineering, transport engineering, logistics and storage, while SPRING is responsible for general manufacturing, food and beverages, and retails. In addition, horizontal working groups are created to work on cross-cutting issues such as low-wage workers, research and benchmarking, and infocomm (ICT) and logistics. As usual, government, businesses, and unions participate in these sectoral and thematic working groups.

Table 2. Major Initiatives on Productivity and Continuing Education and Training (CET)

Policy area	Actions taken
Boosting skills and enterprise productivity through national effort	-Establishment of National Productivity and Continuing Education Council (NPCEC)
Investing in people	-Enhancement of Continuing Education and Training System -Introduction of Workfare Training Scheme -Enhancement of Workfare Income Supplement
Supporting enterprise investments in innovation and productivity	-Introduction of Productivity and Innovation Credit -Establishment of National Productivity Fund -Raising foreign worker levies
Supporting business restructuring	-Introduction of tax allowance to defray acquisition costs for qualifying mergers and acquisitions -Introduction of stamp duty relief for acquisition of unlisted shares
Enhancing land productivity	-Introduction of Land Intensification Allowance

Source: Sanchita Basu Das, *Road to Recovery*, ISEAS, 2010, Appendix IV, pp.190-200.

The government has committed to a total of S\$5.5 billion over the next ten years to support productivity initiatives. This includes S\$3 billion for the National Productivity Fund (NPF) and the Productivity and Innovation Credit (PIC) and S\$2.5 billion for CET. PIC, a new tax benefit scheme, is one of the broad-based supports. Under PIC, any enterprise in any sector is eligible for a fiscal incentive when they invest in productivity enhancement or innovation. Specifically, they are entitled to a deduction of 250 percent of eligible expenditures from their taxable income with a cap of S\$300,000 per activity. Meanwhile, NPF is a targeted support which provides funding for productivity initiatives in specific industries or enterprises only. Under the priorities and guidelines established by NPCEC, sector working groups propose productivity initiatives which are reviewed by WCPCE.

Regarding Continuing Education and Training (CET), the previous system has been expanded to upgrade workforce skills and competitiveness at all levels, by providing multiple skills-based progression paths to complement the academic path, and by reaching out to more professionals, managers, executives and technicians. Furthermore, the government now encourages companies to retain and train workers (especially low-wage workers and older workers) by introducing the Workfare Training Scheme and enhancing the Workfare

Income Supplement Scheme. Companies can also receive financial support for employee training from two sources: the Skills Development Fund (SDF) and the Lifelong Endowment Fund (LLEF)⁵. Until 2008, SDF targeted only low-wage workforce, but more recently the SDF Levy was broadened to cover the entire workforce. While all workers have access to the CET scheme in principle, subsidies from SDF and LLEF are currently limited to Singaporean workers only.

(2) SME development

There are over 116,000 local SMEs in Singapore. SMEs account for 50% of value-added, and 60% of the total employment⁶. Responsibility for SME development rests with MTI's Enterprise Division (policy) and SPRING (implementation). SPRING is an SME development agency and a national standards and accreditation body.

The Singaporean government takes both broad-based and targeted approaches to SME promotion. Broad-based approaches are implemented on a scheme base in collaboration with business chambers and associations. There are five Enterprise Development Centers located at business associations and chambers, where a team of business advisors give face-to-face advice to SMEs on government assistance schemes applicable to SMEs, finance, management, human resources, operations, etc. As part of this advisory service, the Financial Facilitator Program has financial facilitators (composed of ex-bankers, financial consultants, and advisors) who help SMEs to gain access to financing. Targeted approaches are tailored to individual enterprises (which are usually relatively large SMEs). SME managers can contact designated SPRING officers when necessary to seek advisory services and resolve problems.

Singapore does not have the equivalent of Japan's Shindan system (SME Management Consultants System), an institutionalized and state-backed system for training, testing, registering, and renewing certified SME consultants (shindanshi) who advise on management and facilitate SME finance (shindanshi's reports on SMEs' business plans are regularly used by Japanese banks to evaluate loan applications). In Singapore, banks and management consultants work independently, and it is the responsibility of banks' loan officers to assess and decide on loan applications. There is however the Practising

⁵ SDF was established in 1978 as an employer-based funding that provides financial incentives for staff training. Through SDF, employers can enjoy course fee subsidies of up to 90%, though the amount of subsidies depends on each course. All employers must pay Skills Development Levy for all workers up to the first S\$4,500 of gross monthly remuneration at a levy rate of 0.25%, or S\$2 per worker, whichever is higher. The Central Provident Fund collects the levy on behalf of WDA. The levy collected is channeled into SDF, which provides grants to companies that send their workers for training. LLEF was established in 2001 with an initial capital of S\$500 million and with the current total capital of S\$2 billion. Interest earned from this endowment fund can be used to support various lifelong learning initiatives.

⁶ In Singapore, an SME is defined as a company with: (i) less than S\$15 million fixed asset investment (for manufacturing), or (ii) less than 200 workers (for non-manufacturing and services). The government plans to revise this definition next year to align with international norms which use revenue-based definition.

Management Consultant (PMC) Certification Scheme, which gives formal endorsement on the quality of management consultants (authorized by SPRING, WDA, and International Enterprise Singapore). This system is modeled after the UK's Certified Management Consultant System. About 200 consultants have so far been qualified by the Certification Board. Although more information is needed, a quick look at the training and examination modules of the PMC Certification Scheme indicates that this scheme focuses primarily on project management, finance, laws, and applications for government incentives, and less on production management on the factory floor (which is covered by Japan's shindanshi).

(3) FDI attraction

MTI's Industry Division (policy) and EDB (implementation) are responsible for FDI attraction and industrial development. The two work closely to attract FDI, foster "industry verticals" (suppliers of intermediate inputs), and enhance business environment. Singapore generally ranks very high in the ease of doing business. It has consistently held the top position among nearly 200 countries in the World Bank's *Doing Business* Reports from 2007 to 2010.

EDB is a one-stop agency for FDI marketing as well as the hub of industrial development, especially in transport engineering, electronics, precision engineering, chemicals, biomedical sciences, logistics, healthcare services, education services, infocomm and media, professional services, and consumer businesses. It also promotes new areas of growth such as clean energy, environmental technologies, bio-technology, and digital media.

In attracting FDI, EDB also combines broad-based approaches with targeted approaches. In addition to improving business environment generally, it offers targeted, company-specific support and incentives based on individual negotiations. This is called the "Queen Bee" approach where inviting the queen bee (an anchor firm) automatically brings a large number of other bees into the country (similar to the "Canon effect" in Northern Vietnam). A good example in this regard is the attraction of world-class aerospace firms such as Rolls-Royce, Pratt & Whitney, ST Aerospace, to the Seletar Aerospace Park which was transformed from a secondary airport with an area of over 300 ha, which prompted arrival of related maintenance and repair services.

4. Nanyang Polytechnic

Nanyang Polytechnic (NYP) is one of the five national polytechnics in Singapore. It was established in 1992 and now has about 78,000 students. NYP provides both Pre-Employment Training (PET, for students) and Continuing Education and Training (CET, for current workers). Regarding PET, seven schools of NYP run 47 full-time courses for three-year diploma in engineering, information technology, business management, interactive and digital media, design, chemical and life sciences, and health sciences. CET at NYP offers formal diploma courses, customized courses, and degree programs with

overseas universities. The government provides full funding for administration and operations of NYP (minus tuition fees collected). Meanwhile, NYP is free to use its revenue from services provided to industry for any activities or investments.

NYP has a strong link with industry. This includes: (i) preparing suitably trained graduates to meet the manpower needs of industry; (ii) practice- and application-oriented training; (iii) “industry attachment” (internship) for students; and (iv) collaboration with industry and development agencies such as SPRING, Infocomm Development Authority, etc. NYP carries out many industrial projects on a commercial basis in R&D, product design and development, and innovative solutions for industry, as well as teaming up with EDB to support start-up technopreneurs. Such collaboration is “win-win” for both industry and NYP, because industry can benefit from reduced cost and risk for R&D and start-up investment and because NYP can have ample opportunities for staff capability development and student training in frontline technology in addition to earning money. Industry is represented in NYP’s Board and Advisory Committees and participates in course development and review. NYP’s reputation is firm and long standing among Singaporean manufacturers. It cannot accept all cooperation applications from industry because it receives too many.

NYP is also active in international cooperation. NYP International provides consultancy services including a World Bank Project in TVET reform (China) and cooperation with the Suzhou Industrial Park Institute of Vocational Technology (China). It also conducts training programs for management staff and specialists of TVET institutions around the world.

In Singapore, manpower policy is formulated through close collaboration between concerned official bodies and educational institutions. The National Manpower Council (NMC), a ministerial council headed by the Minister of Manpower, identifies the country’s human resource needs in the medium to long run and maps out strategies to meet these needs. Various government ministries and agencies, including MTI, the Ministry of Education (MOE), and EDB, participate in NMC. Based on demand projection and skills mapping, NMC sets numerical targets for specific skills required by the country and decides on the number and type of students to be graduated from universities and polytechnics over the next four to five years. MOE provides funding to educational institutions for establishing new courses if that is judged necessary. EDB may also provide additional funds to relevant industries (e.g., aerospace) for upgrading its workforce.

5. Singapore’s international cooperation in the industrial sector

In 1992, the government established the Singapore Technical Cooperation Program (SCP) to share the country’s development experience and public sector expertise with developing countries. SCP is administered by the Technical Cooperation Directorate (TCD) of the Ministry of Foreign Affairs (MFA), which is responsible for planning and executing various training courses, seminars, workshops, and study visits in collaboration with domestic

agencies and foreign partners. In FY2009, about 300 such activities were organized, and the number of SCP participants reached a record 6,729.

SCP is implemented in various channels including: (i) bilateral training programs, (ii) joint training programs or third-country training programs, (iii) Initiatives for ASEAN Integration (IAI) Centers; and (iv) small island developing states technical cooperation programs. Bilateral training programs are offered directly by Singapore to developing countries on a government-to-government basis, in the areas where Singapore has strength. Examples of FY2010 training courses include private sector growth and FDI attraction (executing agency: Civil Service College) and technical and vocational education and training (TVET) programs for principals and instructors (executing agency: ITE Education Services). Since 1997, JICA has managed the Japan-Singapore Partnership Program for the 21st Century (JSPP21) with TCD/MFA. This included the joint training program on productivity management in the Southern African Development Community (SADC) countries which was implemented during 1997-2004.

Apart from SCP, the Singapore Cooperation Enterprise (SCE) provides fee-based technical cooperation which does not fall within SPC's responsibility. SCE was formed by MTI and MFA in 2006 to respond to growing foreign requests to tap on Singapore's development experiences. It mobilizes expertise accumulated in the country's public agencies and retired civil servants and politicians on a project basis. SCE does not receive financial support from the government and charges fees for technical cooperation on a cost-recovery (non-profit) basis.

The Singaporean government sees complementarity between ODA-based SCP and fee-based SCE, and uses them strategically. On a government-to-government basis, SCP is used as an entry point to share Singapore's development experiences with developing countries in general, which can lead to more specific country-tailored cooperation projects conducted by SCE. Meanwhile, SCE can work with both government and non-government clients in developing countries.

A good example is the ongoing cooperation with Rwanda. President Kagame has a strong desire to learn from Singapore, a small and resource-poor country which, despite these handicaps, achieved impressive economic growth by building human capability. Cooperation started with SPC-managed bilateral training programs, which subsequently developed into various projects supported by SCE (e.g., workforce development and public sector capacity building, and social security fund reform). Currently, SCE implements cooperation projects in China as well as other countries in Asia, Middle East, and Africa.

6. Other visits

The mission visited the Center for Strategic Futures in the Strategic Policy Office, under the

Prime Minister's Office. Detached from daily administrative works, this center conducts long-term scenario planning from national and global perspectives and analyses chances and risks that may affect Singapore's future. Their exercises are inputs to setting broad policy directions and determining Singapore's future positioning. Similar divisions also exist in different ministries to conduct scenario planning exercises in respective areas. These "future divisions" work closely with research institutes, universities, and other stakeholders to collect information and facilitate vision-sharing. Singapore does not produce regular national development plans (there was only one Five-Year Development Plan in the 1960s). Instead, it does long-term vision formation and strategic planning through *ad hoc* and task-based committees and councils (such as the Economic Strategies Committee and the National Productivity and Continuing Education Council mentioned above) and scenario planning by "future divisions." Being a small and open economy, the government considers it vital to retain flexibility and ability to quickly respond to changing global environment. Flexible strategic planning is possible thanks to high institutional capacity of civil servants who are clean, purposeful, and able to translate policies into actions. The small size of Singapore and its unique politics may also facilitate information sharing among all stakeholders without political capture and serious conflicts of interest.

We exchanged views with the management team and faculty members of the Lee Kuan Yew School of Public Policy at the National University of Singapore. At their invitation, Kenichi Ohno gave a public seminar on "Industrial Policy in Africa: What and How East Asia Can Teach." The mission also visited the Institute of Southeast Asian Studies and exchanged views with its researchers.

The mission also visited Yokogawa Electric Asia Pte. Ltd, a Japanese company producing made-to-order equipment for factory automation such as distribution control systems, transmitters, measurement instruments, and power supply units. The mission met with the management team as well as toured the factory. Yokogawa started its Singapore operation in 1974. Since the late 1990s, Yokogawa Singapore has been run by Singaporeans only. The company introduced QC circles in the early 1980s, and there are currently 14 active QC circles with the participation of about 90% of the workforce. We were impressed with the strong commitment of both management and workers to quality, cost reduction, and continuous improvement. Yokogawa Singapore won the 2010 Manufacturing Excellency Award (EDB Award), and became the first among Japanese companies operating in Singapore to receive this honor.

Attachments

1. Mission schedule
2. Organizations/persons visited
3. List of information collected

Mission Schedule (29 Aug.- 3 Sep. 2010)

1. Mission Members

Kenicni Ohno	Professor, National Graduate Institute for Policy Studies (GRIPS), Tokyo, Japan
Izumi Ohno	Professor, National Graduate Institute for Policy Studies (GRIPS), Tokyo, Japan
Sayoko Uesu	Research Associate, National Graduate Institute for Policy Studies (GRIPS), Tokyo, Japan
Daniel Kitaw	Associate Professor, Dept. of Mechanical Engineering, Addis Ababa University, Ethiopia
Nguyen Thi Xuan Thuy	Researcher, Vietnam Development Forum (VDF) / GRIPS-NEU Joint Research Project, Hanoi, Vietnam
Truong Thi Nam Thang	Researcher, Vietnam Development Forum (VDF) / GRIPS-NEU Joint Research Project, Hanoi, Vietnam
Le Manh Hung	Director, The Assistance Center for SME - North Vietnam (TAC Hanoi), Enterprise Development Agency (EDA), Ministry of Planning and Investment (MPI), Vietnam
Nguyen Quang Vinh	Senior Official, SME Development Division, Enterprise Development Agency (EDA), Ministry of Planning and Investment (MPI), Vietnam
Kumiko Kasai	SME Policy Implementation Advisor / JICA Expert, SME Development Division, Enterprise Development Agency (EDA), Ministry of Planning and Investment (MPI), Vietnam

2. Mission Schedule

DATE				TIME	ACTIVITY
1	Aug	29	Sun	PM	Arrival
				PM	Short introductory meeting
				AM	Institute of Southeast Asian Studies (ISEAS)
2	Aug	30	Mon	PM	Lunch meeting with mgt. team and professors at Lee Kuan Yew School (LKYS) / NUS
				PM	Prof. Hui Weng Tat, LKYS
				PM	JICA Representative Office at LKYS
				PM	Public lecture at LKYS
3	Aug	31	Tue	AM	Manpower Planning and Policy Div., Ministry of Manpower (MOM)
				AM	Industry Division, Ministry of Trade & Industry (MTI)
				PM	Japanese Chamber of Commerce and Industry (JCCI)
				PM	Industry Skills & Planning Office, Workforce Development Agency (WDA)
				PM	Dinner with Prof. Khuong Minh Vu (LKYS)
4	Sep	1	Wed	AM	Human Capital, Planning, Strategic Planning, Energy & Chemical / Japan Desk, Economic Development Board (EDB)
				AM	Technical Cooperation Directorate, Ministry of Foreign Affairs (MFA)
				PM	Nanyang Polytechnic (NYP)
				PM	Prof. Pang Eng Fong, Singapore Management University (SMU)
5	Sep	2	Thu	AM	Enterprise Development, Research & Enterprise Div., Ministry of Trade and Industry (MTI)
				AM	Center for Strategic Futures, Public Service Div., Prime Minister's Office (PMO)
				AM	JETRO Singapore Representative Office
				PM	Combined Session with Productivity Programme Office, SPRING and Singapore Productivity Association (SPA)
6	Sep	3	Fri	AM	Plant Visit to Yokogawa Electric Asia Pte Ltd
				PM	
7	Sep	4	Sat	AM	Departure

Note:

Among eight members, Kenichi Ohno, Izumi Ohno, Sayoko Uesu (GRIPS Development Forum) and Nguyen Thi Xuan Thuy and Truong Thi Nam Thang (Vietnam Development Forum) are the members of the JICA-commissioned study mission.

Organizations/Persons Visited

The Government of Singapore

Organization	Name	Position
Ministry of Trade & Industry (MTI)	Gaurav Keerthi	Senior Assistant Director, Industry Division
	Tan Hual Tze	Senior Assistant Director, Resource Division
	Cheong Wei Yang	Deputy Director, Industry Division
	Benjamin KW Koh	Deputy Director, Research & Enterprise Division
Ministry of Foreign Affairs (MFA)	Koh Tim Fook	Director, Technical Cooperation Directorate
	Denise Cheng	Assistant Director, Technical Cooperation Directorate
	Mindy Low	Technical Cooperation Officer, Technical Cooperation Directorate
Ministry of Manpower (MOM)	Jane Lim Hui Chen	Deputy Director, Manpower Planning & Policy Division
	Jo Law Jiu Rong	Assistant Manager, Manpower Planning & Policy Division
Economic Development Board (EDB)	Kimberly Quek	Director, Human Capital Division
	Matthew Lee	Head, Planning
	Vincent Kwek	Assistant Head, Planning
	Andre Heng	Senior Officer, Energy & Chemical/Japan Desk
Workforce Development Agency (WDA)	Anil Das	Senior Director, Industry Skills & Planning Office
	Chai Yee Yuen Lionel	Assistant Director, Industry Skills & Planning Office
	Hee Gin Siang Kelvin	Senior Manager, Industry Skills & Planning Office
Public Service Division, Prime Minister's Office (PMO)	Aaron Maniam	Head, Center for Strategic Futures / Deputy Director, Strategic Policy Office
	Bernard Toh	Economist
Standards, Productivity, and Innovation Board (SPRING)	Woon Kin Chung	Executive Director
	Desmond Choo	Manager, Productivity Programme Office
	Loo Ya Lee	Manager, Productivity Programme Office
Singapore Productivity Association (SPA)	Low Hock Meng	Executive Director
	Chew Poh Hong	Senior Manager, Marketing & Public Relations

Universities / Research Institutes

Organization	Name	Position
Lee Kuan Yew School (LKYS), National University of Singapore (NUS)	Stavros N. Yiannouka	Executive Vice-Dean
	Eduardo Araral	Assistant Dean (Academic Affairs) & Assistant Professor
	Charles Adams	Visiting Professor
	Darryl S. L. Jarvis	Associate Professor
	Hui Weng Tat	Associate Professor
	Khuong Minh Vu	Assistant Professor
	Wong Kang Jet	Director of Strategic Planning
	Toby Carroll	Research Fellow
Institute of Southeast Asian Studies (ISEAS)	Omkar Shrestha	Visiting Senior Research Fellow
	Sanchita Basu Das	Research Fellow, Researcher for Economic Affairs, ASEAN Studies Centre
	Aekapol Chongvilaivan	Fellow, Regional Economic Studies
Nanyang Polytechnic (NYP)	Edward Ho	Deputy Principal/Development
	John Tan	Deputy Principal/Technology
	Cher Thon Jiang	Director/Office for International Students
Singapore Management University (SMU)	Pang Eng Fong	Professor

Japanese Organizations in Singapore

Organization	Name	Position
Japan International Cooperation Agency (JICA)	Takaaki Oiwa	JICA Senior Fellow/JICA Representative in Singapore
	Michiyo Morohashi	Project Coordinator
Japanese Chamber of Commerce and Industry, Singapore (JCCI)	Junichi Azuma	Secretary General
	Masamitsu Okada	Management Consultant for Japanese Enterprises
	Wendy Hwee	Coordinator
JETRO Singapore Representative Office	Shigeki Maeda	Managing Director
	Eiji Hisatomi	Deputy Managing Director
	Masamichi Yamaguchi	Senior EPA Advisor

Japanese Company in Singapore

Organization	Name	Position
Yokogawa Electric Asia Pte Ltd	Lai Ah Keow	President
	Chua Seng Kian	General Manager, Head, Manufacturing Center
	Clement Yeo	General Manager, Production Control Centre
	Yvonne Tong	Assistant Manager, Managing Director Office

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Nanyang Polytechnic	PPT: Nanyang Polytechnic NYP network, 2010, Issue 44 & 45 DVD: Prospectus 2010-2011	
Economic Development Board	Annual Report 09/10 Revolutionising Electronics Nanotechnology in Singapore Singapore - The Biopolis of Asia Precision Engineering PPT: Singapore Story	
Ministry of Manpower	<i>Heard Work: Stories of How EDB Steered the Singapore Economy from 1961 into the 21st Century, 2002</i>	Lead Author: Chan Chir Bock / EDB Singapore
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Workforce Development Agency	Achieve more with less through SME-PRO DVD: Annual Report 2008 Success, A Career Kit for PMETs The Key to Building Capabilities, an Employer's Handbook Workforce Skills Qualifications System	
Economic Strategies Committee	Report of the Economic Strategies Committee: High Skilled People, Innovative Economy, Distinctive Global City, February 2010.	
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Institute of Southeast Asian Studies	Sigapore Competitiveness Report 2009 <i>Road to Recovery - Singapore's Journey through the Global Crisis, 2010</i>	Sanchita Basu Das / ISEAS
Japanese Chambers of Commerce and Industry	"FDI, Financial Constraints, and Productivity: Firm Level Study in Vietnam" "Learning by Exporting and High-tech Capital Deepening in Singapore Manufacturing Industries, 1974-2006" Salary Survey Report 2010 (Japanese) Personal data on Mr.Okada	Shandre M. Thangavelu, Christopher Findlay, Aekapol Chongvilaivan Aekapol Chongvilaivan
Others	Construction Productivity and Capability Fund (CPCF) Construction Engineering Capability Development (CED) Programme <i>Pioneers Once More - The Singapore Public Services 1959-2009, 2010</i>	Chua Mui Hoong / Straits Times Press