

ASIA-PACIFIC

# BUSINESS & TECHNOLOGY REPORT

## INDIA & KOREA A NEW ERA

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Indian  
Commerce  
Minister  
ANAND  
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TWO EMERGING  
ECONOMIC  
GIANTS OF ASIA



Korean  
Trade  
Minister  
KIM  
JONG-HOON





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# Vision for Indo-Korea Trade Relations

BY N.K. GOYAL | President of the Communication and Manufacturing Association of India

Noble Laureate Rabindranath Tagore composed a short but evocative poem in 1929 about Korea's glorious past and bright future. He wrote:

*"In the golden age of Asia  
Korea was one of its lamp bearers,  
And that lamp is waiting  
To be lighted once again  
For the illumination of the East."*

Historical and cultural contacts between the two peoples date back to ancient times. According to "Samguk-Yusa" or "The Heritage History of the Three Kingdoms," written in the 13th century, a princess from Ayodhya came to Korea and married King Kim Su-ro and became Queen Hur Hwang-ok in the year 48 AD [former President Kim Dae-jung, former President Kim Young-sam and former Prime Minister Kim Jong-pil trace this ancestry]. The enduring philosophy of the Buddha, which has influenced the lives and thoughts of the people of the two countries, has also provided a strong link. The rationale for a close relationship between India and South Korea has been reinforced in modern times by political and economic imperatives.

Gimhae, the city where the Indian princess from Ayodhya landed and married Kim Su-ro, signed an MOU establishing a sister-city relationship with Faizabad-Ayodhya. A monument in memory of the princess was erected in March 2001 at a site donated by the Ayodhya administration. Busan and Mumbai signed an MOU on mutual cooperation in 1977. Gyeonggi Province signed an MOU for mutual benefit with the State Government of Maharashtra in March 2007. Seoul has a sister-city relationship with Mumbai and has expressed interest in establishing a sister-city relationship with Delhi. And twinning between Pocheon & Jaipur and Incheon & Kolkata is at an advanced stage.

India played an important role in

Korea after the end of Japanese colonial rule in 1945. India was the chairman of the nine-member UN Commission set up to hold elections in Korea in 1947. The successful general elections held for the first time in the South in 1948 led to the establishment of the Republic of Korea on Aug. 15, 1948. During the Korean War (1950-53), both warring sides accepted a resolution sponsored by India and cease-fire was declared on July 27, 1953. India contributed a medical unit and 60 para-field ambulances to the UN multinational force during the war. Also, India, in its capacity as the Chairman, led by Lt. Gen Cariappa, of the Neutral Nations Repatriation Commission [NNRC] contributed significantly to resolving the humanitarian issues arising out of the war, which

## S. Korea is the 4<sup>th</sup> largest investor in India in terms of actual inflow of FDI.

received all-around appreciation.

In the post-Cold War era, the ROK's move to broad-based political and economic relations as well as political liberalization and the democratization of its society have boosted India-South Korea relations by creating common ground with India's economic liberalization and 'Look East Policy.' Exchange of high-level visits and consistent Indian support for the peaceful reunification of the two Koreas has strengthened bilateral relations.

During the visit of President Dr. A.P.J. Abdul Kalam, the first by any president of India to the ROK, the signing of a Joint Ministerial Statement on the Launching of a Joint Task Force to develop a Comprehensive Economic Partnership Agreement (CEPA) be-

tween the two countries was held. Two other Agreements viz. Agreement on Cooperation in the fields of Science and Technology and Agreement on Cooperation and Mutual Assistance in Customs Matters were also signed during the visit. An MOU on Scientific and Technological Cooperation between the Department of Science and Technology and the India and Korea Industrial Technology Foundation (KOTEF) was also signed separately.

Bilateral CEPA negotiations have formally concluded and the CEPA has since been signed. Some of the highlights include the fact that the CEPA binds South Korea to phase out or reduce tariffs on 90 percent of Indian goods over 10 years, while India is to eliminate tariffs on 85 percent of South Korean exports within the same period, which is longer than what is written in other FTAs South Korea has signed. In addition to tariff reduction, South Korea will be able to move into various industrial sectors of the Indian economy, such as food processing, textiles, garments, chemicals, metals and machinery. The deal also opens the service and investment sector, with India accepting South Korean company inflows in its telecom, accounting, medical and advertising markets, as well as allowing South Korean financial firms in the investment market. With respect to rules of origin, both countries agreed on the allowable level of foreign contents to be up to 65 percent. South Korea expects massive inflows of information technology (IT) workers, engineers and English teachers as both sides agreed to allow temporary migration of professional workers.

Two-way trade between India and South Korea has gathered momentum recently, making South Korea the 12th largest trading partner for India. In the last four years alone, trade volume has gone up more than two and half times. As against a target of US\$10 billion, bi-

Year	Exports to India	Imports from India	Total turnover	Growth (%)
2001	1.41	1.11	2.52	8.8
2002	1.44	1.25	2.69	4.7
2003	2.853	1.232	4.085	55.2
2004	3.632	1.850	5.482	34.2
2005	4.597	2.112	6.709	22.4
2006	5.532	3.640	9.172	38.4
2007	6.600	4.624	11.224	22.35
2008	8.977	6.581	15.558	39.00
2009 (up to June)	3.646	1.590	5.236	(-43.47)

Source: Korea International Trade Association (KITA)

lateral trade is expected to exceed \$16 billion in 2008.

South Korea is the 4th largest investor in India in terms of actual inflow of FDI into India. During the first three quarters of 2008, for which data is available, 164 investment proposals from 52 Korean companies for a proposed total investment of \$243 million approved. The cumulative investment from South Korea in India has been \$1.46 billion in terms of actual flow from 382 Korean companies for over 900 projects.

The ROK's investments in India have largely taken place in the transportation industry, energy (power and oil refinery), electrical equipment (including computer software & electronics), chemicals (other than fertilizer), commercial, office & household equipments, metallurgical Industries and food processing industries. Major South Korean companies active in India include Hyundai Motor, Samsung Electronics, LG, Lotte Group and Doosan Heavy Industries. Now, major South Korean companies like Samsung, Hyundai and LG are expanding production facilities in India and smaller companies are focusing on technical collaborations. The Lotte Group acquired Parry's Confectionery Chennai in 2004. Samsung Electronics opened a mobile phone plant in the state of Haryana in March 2006. Samsung Engineering has opened its Global Engineering Centre in New Delhi.

Tata Motors Limited, India, acquired Daewoo Commercial Vehicle (DWCV), of Gunsan, South Korea, for a total price of 120 billion won (approximately \$102 million or Rs. 4650 million) in March 2004. Aditya Birla group acquired over \$600 million worth of a stake in Novellis Korea in the field of aluminum. Additionally, during the first three quarters of 2008, over 70 Indian investment proposals were made.

Bilateral trade between India and Korea has gathered momentum during the last few years. Compared with 2001 when total bilateral trade turnover was \$2.52 billion (Indian exports to South Korea were \$1.11 billion and Indian imports from South Korea were \$1.41 billion), the total trade has increased by more than six times since then and as per the ROK's figure, stands at \$15.5 billion at the end of 2008. During the last three years, the trade between the two countries has shown an increase of more than 100 percent. During 2007, the bilateral trade crossed the landmark of \$10 billion, well ahead of the target set to be achieved by the two countries in 2008.

A remarkable feature of South Korea is its transformation from a developing country in the 1950s to a high-in-

come country with a substantial per capita income today. The economic reforms of the 1990s in India were influenced by East-Asian successes and South Korea was among the chief countries to have an impact on Indian policymakers' thinking process. Though consular relations between India and South Korea were set up in 1962, it was in 1973 with the establishment of formal diplomatic ties that a new chapter was opened in the history of Indo-Korean cooperation.

Both India and Korea contribute significantly to the world GDP. Korea is among the few Asian countries that are counted among the developed countries of the world; India, too, has a growing stature and increasing role in international affairs.

In addition to the above, studies have also revealed that the two countries could set up joint collaborations in the sectors of infrastructure – power, ports, telecommunications, shipbuilding & ship repair, petrochemicals, automobile ancillary, electrical & electronics, office equipment, banking & financial services, software and iron & steel.

Out of 44 contracts awarded for a National Highway Development Project, nine were won by Korean companies in collaboration with Indian companies or independently.

The vision statement includes the prospective areas of growth for Korea and India are shipping and port development, infrastructure development, tourism and hospitality industries, agro food industries in addition to auto, communication and IT industries, which are already present in India. At the SME level, the following areas could be suitable for joint ventures, technology transfer and 100-percent investment:

- Automobile components
- Digital contents of animation & gaming
- Pharmaceutical products
- Software application & hardware engineering
- Textile/garment apparel industry
- Mechanical tools
- Small and medium-sized machinery
- Food processing industries

With respective governments backing the business community positively and with the growing amount of globalization and liberalization, not only Korean companies are making their presence felt in India, Indian firms too are establishing themselves in Korea, and this is a positive sign of growth of the economies of both the nation. **A-P**



# Tata Daewoo on the Rise

DR. OH HWA-SEOK

In 2004, employees at Daewoo Commercial Vehicle heard good news that they would have a new owner after months of uncertainty sparked by the bankruptcy of its parent company Daewoo Motor Co.

But their excitement turned into confusion when they found out that the new owner is Tata Motors, a company based in India, which they had considered a lesser developed country. Tata was something they had never heard about before.

"A lesser known company tries to buy us to snatch our advanced technology."

"It is out of the question to sell our company to India, they are inferior to us."

A wave of disappointment overran Daewoo unionists who had welcomed a divestiture plan for job security. They argued it was better not to sell than to be under a company nobody knows about.

The argument was understandable, given its sister companies were successfully sold to household name companies – a passenger car affiliate to General Motors Co. and a bus manufacturing arm to Youngan Hat Co., both the world's leader in their respective field.

The management, however, decided to sell the truck maker to Tata Motors

because there was no other choice left. They explained to employees that Tata Group is India's largest company with a time-honored tradition in employee benefits and social responsibility. Some persisted, showing complaints about the deal. But it went through.

After the birth of Tata Daewoo Commercial Vehicle (hereafter Tata Daewoo), the new company was back on track to roll to victory, calming the jitters of its Korean workers. Over the four years from 2004, exports jumped about five times to 4,280 units from 874 units, revenues more than doubled to 673.1 billion won from 292.3 billion won and operating profit grew more than eight times to 59.2 billion won from 7 billion won.

Tata Daewoo exports trucks to more than 40 countries including the UAE, Algeria and South Africa, as well as domestic sales in India. In 2006, it was honored with a government award to celebrate \$100 million in exports of heavy-duty trucks. In 2008, it achieved a \$200 million milestone in exports. Employees grew to 1,281 from the 806 registered at the start of the new company.

Tata Daewoo is the only one showing a stable and steady growth among the three business arms that Daewoo Motor Co. sold. GM Daewoo is facing a liquidity crisis after it posted billions of dollars in losses, and Daewoo Bus is reportedly in management trouble. Tata Daewoo workers who knew little about the Indian company are grateful for the acquisition. Loyalty to their company became strong.

Then, how did Tata Daewoo overcome the crisis and succeed within such a short period of time? The key was tripartite cooperation between Tata Motors, new management and employees.

First, the acquirer Tata Motors has performed operations with a 'humble attitude.' Tata Motors is one of 82 affiliated companies owned by India's largest conglomerate. It has represented India's industry for more than a century by producing everything "from iron to consumer goods." But what made it more famous is not the business size but its commitment to social responsibility and ethical business, leading to

great respect from the Indian people.

Tata Motors is India's biggest automobile company and the world's fifth largest commercial vehicle manufacturer (truck and bus). Last year, it surprised rival carmakers by unveiling 'Nano,' the world's lowest priced four-passenger car costing just \$2,500. Tata Motors acquired the entire equity of Tata Daewoo, but it never behaved as if it were an occupation force. It appointed a native Korean as CEO and it respected the Korean business style and corporate culture, while slowly integrating its strength of trust and ethical management into the whole organization.

For example, Tata Motors presented a mid- and long-term development plan to Daewoo Commercial Vehicle employees during the acquisition, by promising more investments in R&D, facilities and plants. That eased some concerns that it might exit from Korea soon after garnering advanced technologies. Afterwards, Tata realized most of its plans as promised. Employees showed trust towards management and had their morale heightened. Its decision to maintain the old Daewoo brand in Korea and in 10 overseas markets, including Algeria, pleased the employees.

Attention also should be paid to the company's drive for business excellence through the Tata Business Excel-

**Then, how did Tata Daewoo overcome the crisis?**

lence Model. It is different from the Western model that usually focuses only on efficiency. Tata's model is not only about profit-seeking, but it considers the growth of both the company and the community. This is well echoed in Tata Daewoo's vision, which is 'To be the most admired commercial vehicle company of Korea.' It aims to achieve a parallel growth of customers, shareholders, suppliers, employees and the community based on ethical business

principles. It details a mission for each stakeholder as follows.

1. **Shareholders:** To ensure the company's growth and enhance shareholder value by consistent profitable operation
  2. **Customers:** To achieve customer satisfaction by providing products and services that exceed customer expectations
  3. **Vendors & Channel Partners:** To ensure sustainable growth through mutually beneficial long-term relationships based on trust
  4. **Employees:** To provide an exciting work environment of equal opportunity, hope and pride by promoting motivation



## **tion and morale**

5. **Community:** To be an environment-friendly and socially responsible company

The second key success factor is the appointment of excellent management staff and 'strategic management.' President Chae Kwang-ok is behind the success of today's Tata Daewoo. He took office as a court-appointed manager to supervise the company, which was hard hit by the foreign exchange crisis in the late 1990s in Asia. The trade union, who wanted job security more than anything else, gave him full support to keep afloat through a divestiture plan. Mr. Ravi Kant, then managing director of Tata Motors, who led the acquisition work of Daewoo Commercial Vehicle, named Mr. Chae as new CEO of Tata Daewoo instead of

appointing an Indian manager.

Chae, known as a leader with charisma, joined the efforts to help Tata Daewoo get over the crisis. He directed the launch of new models almost every year and dared to enter the mid-sized truck market. But many were concerned that entering the mid-sized truck market was imprudent as the market was then controlled by Hyundai & Kia Motors, Korea's No. 1 automaker. Nevertheless, he continued his push with his own firm belief.

Tata Daewoo's 'hidden card' was to produce 'a mid-sized truck like a large-sized one,' a model as spacious and safe as a large-sized truck, but with a medium-sized load carrying capacity. This was the outcome of management innovation to minimize expenses in

benefited much in government subsidies, a 5-year exemption from pollution-related payments and a discount in gas exhaust inspection fees and the use of a public parking lot. With the benefits, it was able to lower retail prices, benefiting its customers. About 80 percent of the low-pollution heavy-duty trucks sold in 2008 were produced by Tata Daewoo.

Influenced by Tata Group's management philosophy, Tata Daewoo has also focused on developing environmentally-friendly low-emission trucks, as it is always keen to resolve environmental and global warming issues. It started to commercialize conventional low-emission trucks powered by compressed natural gas (CNG) and also completed the development of eco-friendly trucks that use clean fuels such as liquefied natural gas and liquefied petroleum gas.

The LPG-fueled truck, first displayed at the exhibition of the 2008 World LPG Forum, received much attention from domestic and overseas participants. Being recognized for these efforts, Chae was given the award of 'Businessman for Korea' from the Hankook Ilbo Daily and the award of 'Korean CEO' from the Economic Review, both in 2007. The Hankook Ilbo Daily said it selected Chae since "he is a businessman who has contributed to Korea's economic development and raised Korea to new heights with his excellent leadership, management innovation and vision."

design and investments.

The new truck model sold like hotcakes. It took only 20 months for Tata Daewoo to occupy a 35 percent share in the medium-sized truck market. It was a remarkable event in the history of Korea's truck market that showed unchanged purchase behaviors tamed by monopoly brands for a long time. In April 2007, Tata Daewoo became the first automobile company in Korea that received the ISO/TS 16949 standard certification, which provided recognition of quality of the brand both at home and abroad.

Tata Daewoo ran in high gear. All models of NOVUS Euro 4 tractors and cargo trucks unveiled in 2008 received the low-pollution vehicle certification from the government, from which it



which was not an easy decision. About 250 irregular workers have so far been made regular workers.

Kim Geun-gyu, vice president of Tata Daewoo's trade union, said, "Though Tata is a foreign company, we were able to confirm that it received the disabled to show its commitment through action. It was named as one of exemplary companies last April by the province and was given an award by the government.

Tata Daewoo achieved another milestone on Sept. 14, 2009, when Ratan Tata, chairman of the Tata Group, and 500 participants launched the new range of premium trucks called

Instead of this mutual trust and cooperation, what if the two sides had gone to extremes like the recent case of Ssangyong Motors, where China's Shanghai Automotive Industry Corp. had invested? If that had been the case, Tata Daewoo might not have remained viable.

PRIMA at COEX in southern Seoul and began marketing from October. The new truck is a premium model made after investments of 100 billion won in R&D over a period of five years, including more than two years of component checks, as well as test-runs that exceed 1 million kilometers, or

Tata Daewoo hires people in its vicinity with a vision for the development of the local community. The company is located in Gunsan, Jeonbuk Province, and more than 70 percent of its workforce comes from the city, contributing to job creation in the region. Addition-

ally, it runs a humanitarian program for deserving underserved neighbors and the disabled to show its commitment through action. It was named as one of exemplary companies last April by the province and was given an award by the government.

products in phases with a plan to expand its product portfolio as a global commercial vehicle manufacturer with a wide line-up of models from the current medium- and large-sized trucks to small-sized (1 ton), compact-sized (2.5~3 ton) and even buses for

The Comprehensive Economic Partnership Agreement (CEPA) signed by Korea and India will be in effect from January of next year. It is a free trade agreement that India struck with Korea ahead of Japan or China, through which Korea and India will be able to further cement bilateral economic ties. In this respect, Tata Daewoo is a good example of successful economic cooperation between two countries. **A-P**

The writer is the president & CEO of "India Fortune," Indian Economy Research Institute, Seoul, Korea. He has taught Korean economics at the CEAS (Center for East Asian Studies) in Jawaharlal Nehru University, New Delhi, India.



Korean Trade Minister Kim Jong-hoon and Indian Commerce Minister Anand Sharma shake hands after signing the Comprehensive Economic Partnership Agreement.

# INDIA & KOREA

## *Old Friends, New Partners*

BY CLAIR GO-EUN CHUN

To Koreans, India is like a country out of a fairy tale where all citizens liberate themselves from desire in pursuit of Nirvana. For young Korean students, India is often confused with the Native Americans who greeted Columbus when he first reached the New World.

In Korean history books, India appears in the era of the Silla Dynasty, which dates back to as early as 300 A.D. Prominent monks of the time walked through China to get to India to obtain the wisdom that Buddha had left. India, in this sense, always crosses Korean minds as a mysterious and desire-free land regardless of whatever else happens in the world.

In modern times, India has changed its image from a land of spirit to a battlefield of economic development that embraces such ideas as markets, nuclear weapons, economy, capital and trade, all of which are characteristics of capitalism. It does not mean that India is traveling toward the wrong destination; that is the case with China where Mao declared a heaven without materialism. But one thing is crystal clear from the Korean perspective – India is no longer a country whose people believe that desire is the dust of life, but a country where people believe that it is the fuel of life.

Today, India comes closer to us because we think that it is heading in the same direction of prosperity and satisfaction. This is true despite the fact that some critics point out that Korea, exhausted by hard work, tries to pursue what India has long kept. This long-kept secret is the ability to be free of mind. India thinks the same of Korea, and jumps into the tram heading for "being rich."

Whatever the situation the countries are facing today, it is great to see that India and Korea signed a CEPA, or Comprehensive Economic Partnership Agreement, in early November. The agreement is the most cooperative the two have ever been since the Silla Dynasty. It is obvious that it will boost exports and imports between the land of morning calm and the land of meditation.

According to the agreement, the two governments will scrap or reduce tariffs on 11,054 imports from India by Jan. 1 next year, when the CEPA is ratified by Parliament. More specifically, it will lift tariffs on naphtha, ferrochrome, soybean oil and non-alloyed pig iron from next year. Korea imposes a 1 percent tariff on all naphtha imports, but imports from India will have a zero percent charge under the agreement. Naphtha makes up 60 percent of all Korea's imports from India. In return, India will lower the current 12.5 percent tariff on Korean auto parts to 1.5 percent within eight years. And the 10 percent tariff on Korean diesel for jets will be down by half within 10 years. Tariffs on Korean ships and hot-rolled steel will be also scrapped within five to eight years.

Korean entrepreneurs and export companies showed their high interest in trade with India by attending an explanation meeting about the CEPA sponsored by the Ministry of Strategy and Finance. With 250 companies participating, the government explained why it had signed the agreement and how Korea can maximize the benefits that the agreement will provide in the future.

The CEPA, for the Korean side, is kind of a key to open the door to India whose economy is booming and whose population's purchasing power is climbing. It surely is a new market for Korea, whose economic structure totally depends on trade rather than on domestic consumption. The population of 1.1 billion in India means a lot to Korea.

India is one of the fastest growing markets for Korea, with its trade volume growing as much as 39 percent on average annually. When the CEPA goes into effect next year, Korea expects that the volume will double every year. KOTRA, a helping hand for Korean exporters, unveiled a list of promising



items for Indian markets: IT, equipment for construction, vehicles, construction and nuclear power plant-related technology.

Korean businesses also showed their interest in insurance and telecommunication markets upon which bans on foreign investment have long been imposed to protect the domestic Indian market. Nine items, such as industrial boilers, valves, steel, diesel engines, tires and paint, are included on the list too. As a whole, 4,495 items will enjoy the bright colors of the agreement.

On the Indian side, the same amount of benefits will be given in trade. India, the fourth largest country in terms of GDP, will have a chance to export its commodities to Korean markets. In order to expand its trade volume, India desperately needs new markets just like Korea, whose trade volume is the 13th largest in the world. The CEPA, strictly speaking, is not a Free Trade Agreement (FTA). But it surely has set a springboard for the two partners to move toward an FTA. Experts said that it would be just a matter of time for one because the world continually pulls down barriers as far as trade is concerned. Each country is eager to pursue FTAs so that each can seize opportunities and expand trade even with political rivals. No countries can survive in trade if they keep their doors locked and repeatedly say "no" to knocks from the outside.

To help Indians understand why Korea sticks to the FTA, it is natural to say that Korea has no choice but to sell something to buyers from the outside. After the Korean War from 1950 to 1953, Korea suffered the world's poorest environment in terms of food and industry. Ashes from the war-torn land gave nothing to the Korean people whose country was the poorest around. They had to sell anything they could. As early as the 1960s, Korea had nothing to make and no machines to make it with. That's why they sold hair. Women cut their hair to make money for daily necessities. And then the country sold its labor to Germany. General-turned-President Park Chung-hee cried together with nurses who had gone to Germany to make money when he visited there, because they had to endure such hard conditions outside of their homeland to survive.

That is when President Park, portrayed both as a dictator and a national hero, declared that the whole country should focus on exports. Everything was second to exports. Jung Joo-young, founder of the Hyundai Group, was a Park in business. To Park and Jung, nothing was impossible. It is a famous story that Jung sold ships before he built any shipyards.

Today's glory in Korean business is deeply rooted in the export-first drive by the government. Korea, with only 50 million people, is now the 13th largest country in trade volume. They call it The Miracle on the Han River.

The CEPA is not only for monetary trade but also for the trade of spirit. We can import the spirit that India has long shown in religious ways while India can import the can-do spirit of Korea. It will expand the horizons of the two in terms of exchange of human resources and culture. Trade is the fuel of a country and its neighbors. Korea is ready to be one of India's sincere neighbors. We hope that the CEPA will open the hearts of the young generation. Let everyone be more open for mutual well being. **AP**

Clair Go-eun Chun, resident reporter at the Ministry of Knowledge Economy, focuses exclusively on governmental policy directions and CEO interviews



# Energy Security of India and Cooperation with South Korea

BY PROF. RAMCHANDRA PODA

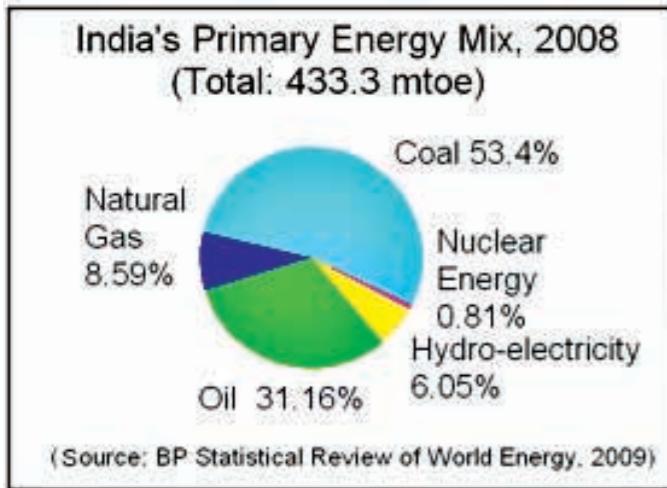
Energy plays a most dominant role in the economic growth and security of any nation. India is facing an acute energy scarcity, which is hampering its industrial growth and economic progress. Future economic growth crucially depends on the long-term availability of energy from sources that are affordable, accessible and environmentally friendly. India is heavily dependent on fossil fuels, which contribute heavily to greenhouse gas emissions. The diversification of fuel resources will reduce CO<sub>2</sub> emissions. If India fails to protect its environment, not only its economic growth would be impeded, but it would also pose serious health hazards.

## Present Scenario

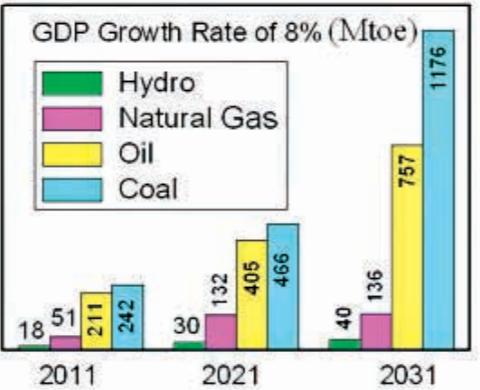
Energy plays the most dominant role in the economic growth and security of any nation. Future economic growth crucially depends on the long-term availability of energy from sources that are affordable, accessible and environmentally friendly. The increase of development activities in recent decades has triggered the increasing demand for energy.

India is a growing giant facing the critical challenge of meeting a rapidly increasing demand for energy. With over a billion people, roughly one-sixth of the world's population, India ranks sixth in the world in terms of total energy consumption and needs to accelerate the development of the sector to meet its growth aspirations.

The current levels of per capita energy consumption in India are extremely low as compared to the rest of the world. In 2008-2009, per capita energy consumption in India was about 530 kgcoe, compared to the global standard of nearly 1,800 kgcoe.



## Fuel-wise commercial energy consumption



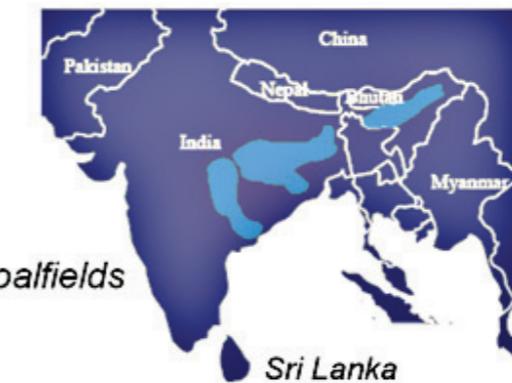
(Source : National Energy Map for India : Technology Vision 2030, ISBN 81-7993-064-5)

Coal contributes about 54 percent of commercial energy in India. Although India is a major producer of coal, it produces only limited quantities of coking coal. As a result, about 59.0 million tonnes (12 percent of total consumption) of coking and high-grade thermal coal was imported from Indonesia, Australia and South Africa in 2007-2008. As well, oil and gas continue to play a preeminent role in meeting the energy requirements of the country. About 45 percent of the total energy needs would be met by the oil and gas sector. However, India produces oil at about 880,500 bbl/day while imports about 2.159 million bbl/day whereas natural gas production is about 31.7 billion m<sup>3</sup> and imports 10 billion m<sup>3</sup>. India imports oil from Nigeria, Saudi Arabia, Kuwait, Iran and Iraq. Also, India's natural gas consumption is growing fast. The demand for natural gas is expected to increase to 400 million standard m<sup>3</sup> (MSCN) per day in 2024-2025 against its production of 100 MSCN per day. At present, India imports natural gas from Algeria, Egypt, Nigeria, Oman, Qatar, the United Arab Emirates, Australia and Malaysia.

India's energy vulnerability is greater in recent years as it becomes an oil and natural gas importer and is likely to increase imports in the future. Its concern over energy security arises from increasing dependence on oil and natural gas products from the gulf region. Overall, India's energy future looks dependent on high-volume imports of oil and natural gas.

## COAL:

### Coal Reserves in India (2008-09)



Source: Ministry of Coal, India; Coal India Management

Coal has been the world's fastest growing fuel and coal use is expected to grow faster than any other fuel far into the future. In 2007-08, 266.71 million tonnes of coal and 20.27 million tonnes of lignite were used for commercial energy requirements in India. As of April 2009, India has estimated coal reserves of 267.2 billion tonnes (Proved Reserves 105.8 billion tonnes, Indicated 161.4 billion tonnes). While estimated lignite resources are 38.93 billion tonnes (Proved: 4.82 billion tones). Extractable reserves of 55 billion tonnes may last for 50 years with the projected level of production. The total production of coal in 2008-09 was 403.7 million tones, while about 59.0 million tonnes of coal was imported from Indonesia, Australia and South Africa. India imported around 51 million tonnes of coal in the year ended March 2009. The country is expected to import 100 million tonnes of coal by 2013. India's coal imports in 2030 are projected to be three times the 2007 level (about 49 million tonnes), spurred by rising imports of both coking and steam coal. India's large electricity plants planned for coastal areas are to be fueled by imported steam coal. At present, India seems to be comfortable with the reserves of this resource. However for the production of clean energy from the coal without endangering the climate, its dependency on imported high-grade thermal coal is likely to be increased from the present 10 percent to 70 percent by 2030. Recently, India has also invested in two virgin blocks in Mozambique.

## OIL:

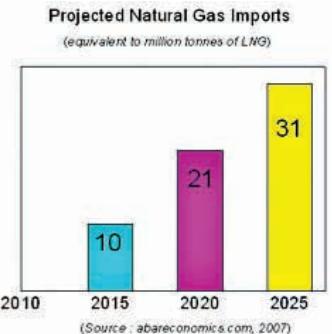
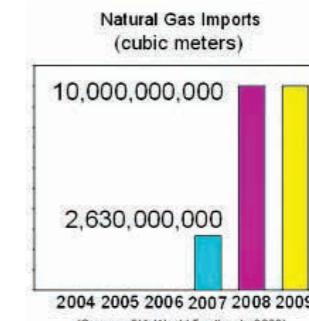
While India has significant reserves of coal, it is relatively poor in oil and gas resources. Its oil reserves amount to 5.9 billion barrels, (0.5 percent of global reserves) with total proven, probable and possible reserves of close to 11 billion barrels. The majority of India's oil reserves are located in fields off-shore of Bombay and onshore in Assam. However, the domestic production is not quite enough to meet the growing domestic requirements. The country's annual demand for oil is expected to increase at an average rate of 2.9 percent over the next quarter century, while domestic production is expected to remain constant. Due to stagnating domestic crude production, India imports approximately 70 percent of its oil, much of it from the Middle East.

Concerned about its growing reliance on oil from the Persian Gulf (65 percent of its energy is imported from the region), India is looking at regions beyond the Gulf for its oil. Indian firms' investment in overseas oilfields is projected to

reach \$3 billion within a few years. In Africa, especially in Sudan, India has invested \$750 million in oil. In Nigeria, it has reached an agreement to purchase about 44 million barrels of crude oil per year on a long-term basis. Additionally, India has also invested in the Syrian Company for the exploration, development and production of petroleum. Sakhalin, in Russia, and Vietnam and Myanmar in Southeast Asia are also potential suppliers to the Indian market. But the most attractive oil domain outside the Persian Gulf is the Caspian Basin where India is trying to befriend the region's leaders and, if possible, gain a foothold. India is also pursuing relations with Kazakhstan, Azerbaijan and Iran.

Import dependency reached 70 percent recently and is growing rapidly. The World Energy Outlook, published by the International Energy Agency (IEA), projects that India's dependence on oil imports will grow to 91.6 percent by the year 2020. The IEA expects India to become the fourth largest net importer of oil in the world by 2025, behind the United States, China, and Japan.

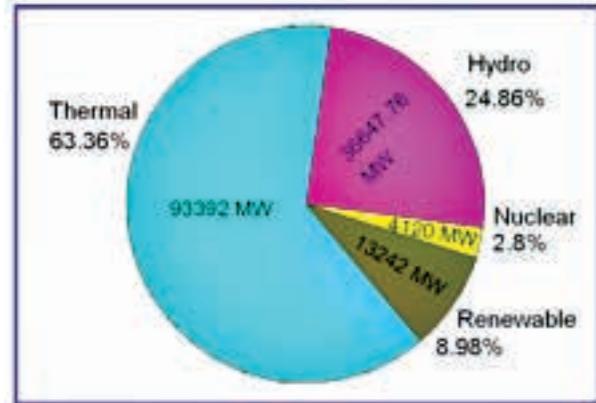
## Natural Gas:



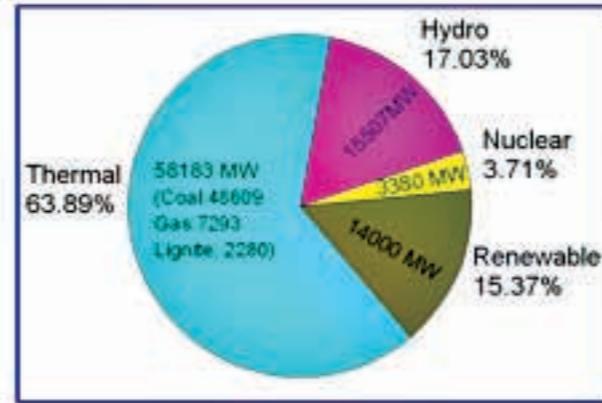
Natural gas is emerging as the preferred fuel of the future in view of it being an environmentally friendly, economically attractive fuel and also a desirable feedstock. Increased focus needs to be given to this potential sector. Natural gas has emerged as one of the most preferred fuels due to its environmentally benign nature, greater efficiency and cost effectiveness. According to Oil and Gas Journal (OGJ), India had 38 trillion cubic feet (Tcf) of proven natural gas reserves as of January 2009. The Energy Information Administration (EIA), Department of Energy, United States Government, estimates that India produced approximately 1.1 Tcf of natural gas in 2007. In 2007, India consumed roughly 1.5 Tcf of natural gas, approximately 100 Bcf more than in 2006. The recent success of the discovery of the Godavari basin in the Andhra Pradesh region has not only improved the energy security of the country by boosting possible gas production by 50 percent, but also raised the prospects of Indian sedimentary basins in the international arena. However, natural gas demand is expected to grow considerably, largely driven by demand in the power sector. Although India's natural gas production has consistently increased, demand has already exceeded supply and the country has been a net importer of natural gas since 2004. Despite major new natural gas discoveries in recent years, India is considering large-scale imports via pipelines and LNG terminals to help meet growing demand.

Natural gas consumption in India is projected to grow to 82 billion m<sup>3</sup> by 2025. India's net imports reached an estimated 353 Bcf in 2007. India imports natural gas via liquefied natural gas (LNG). India's LNG imports in 2006 came from Algeria, Egypt, Nigeria, Oman, Qatar, the United Arab Emirates, Australia and Malaysia.

**Power status on May 2009**  
(Total Installed Capacity : 147402.81 MW)



**Capacity addition during 11th Plan (1007- 2012)**  
(Total Addition : 77070 MW)



#### POWER:

For 8 percent economic growth by 2015, the current per capita energy consumption of 740 kWh (May 2009) will rise to over 1,000 kWh. However, today the Indian economy is constrained primarily by a shortage of physical infrastructure, of which the single most important item is electricity (Economic Outlook for 2009-10, Economic Advisory Council to the Prime Minister, Oct. 2009). Shortage of electric power leads to (i) direct production losses, (ii) inefficiencies in a broad range of areas impacting profitability, and (iii) competitiveness. The 11th Plan (2007-2012) has envisaged an ambitious plan of capacity addition of about 78,000 MW. About 48,609 MW of capacity addition will be from coal-fired power plants. The power sector consumes 78 percent of the country's total coal production. Coal will remain India's primary energy source till 2031-32. Coal use for electricity generation in India is projected to grow by 1.9 percent per year, to 9.3 quadrillion Btu in 2030. As a result, India's coal-fired generating capacity is expected to increase to 142 gigawatts in 2030.

Most of the thermal plants in India use E and F grade coal only with high ash content (35-50 percent) and low calorific value. CO<sub>2</sub> emission per unit of electricity from most thermal power plants have a range between 0.8 to 1.2 kg/kWh and is expected to reduce to 1.02 kg/kWh in 2011-12 and 0.99 kg/kWh in 2016-17 with improved fuel quality.

Power generation, which includes both electricity and heat generation from fossil-fuel combustion, is one of the major sources of CO<sub>2</sub> emissions. The future of human prosperity will depend on how successful we tackle two central challenges, namely (i) securing the supply of reliable and affordable energy, and (ii) effecting a rapid transformation to a low-carbon, efficient and environmentally benign system of energy supply. It is essential to shift to energy sources that can substantially reduce CO<sub>2</sub> emissions compared with fossil fuels rather than concentrating energy-saving efforts on the existing energy portfolio. In this respect, clean energies like renewable and nuclear should be an important alternative. Further, liquefied natural gas is more technically efficient and has a smaller carbon footprint. Diversification of fuel resources will reduce

CO<sub>2</sub> emissions.

In conclusion, issues such as energy security, the use of alternative fuels, and the interchangeability of technology are vital to ensure that the mix of energy sources used in the economy is optimal and sustainable and that adequate quantities of economically priced clean and green fuels are made available to the Indian consumers. Diversification of fuel sources and development of more natural gas and nuclear energy-based power plants and the use of solar energy as opposed to the coal-based capacities that currently exist could be the most suitable model. If India fails to protect its environment, not only its economic growth would be impeded, but it would also pose serious health hazards.

Korea is a strongly developed industrial country with almost no local energy resources, yet it has demonstrated how to manage, maintain and use energy efficiently. For the past few years, Korea has recorded rapid growth in the Photovoltaic Solar industry. The 2nd generation thin-film solar cells have been successfully commercialized. Further, nuclear energy, which emits almost no greenhouse gases or pollutants, is recently receiving keen attention as the most suitable alternative energy source for the high oil price era. The Korean Agency for Technology Standards (KATS) is working to promote the 'Nuclear Energy International Standardization Project.' It aims to turn the Korean nuclear energy industry into a major export industry like semiconductors and automobiles. The bottom line is this: Immense opportunities for Korean Companies and Conglomerates for investment and business opportunities in India in the energy sector are there now, ranging from nuclear to renewable exist. [\[AP\]](#)

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# Renewable Energy Technologies (RETs) and Smart Grids: Potential areas for Indo-Korean collaboration

RAKESH TAORI & HOKYU CHOI

## 1. What is renewable energy?

Renewable energy is the energy generated from natural resources such as sunlight, wind and tide, which are naturally replenished. Contrast renewable energy with fossil fuels, which are non-renewable, i.e.; the latter draw on finite resources that will eventually shrink, resulting in them becoming too expensive or too environmentally damaging to retrieve. On the other hand, renewable energy resources are constantly replenished and will never run out.

## 2. Sources of renewable energy

Examples of renewable energy sources are solar power, wind power, bio fuels, hydrogen, tides and geothermal power.

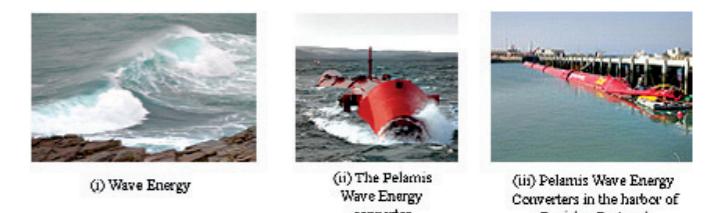
The source of most forms of renewable energy, directly or indirectly, is the sun. To a layperson, sunlight, or solar energy, is the most obvious manifestation of energy from the sun. But how is wind created? The sun's heat drives the winds (which can be used to drive wind turbines). The winds and the heat cause water to evaporate. This water vapor turns into rain or snow and flows downhill into rivers or streams (which can be harnessed to generate hydroelectric power). Sunlight and rain cause plants to grow, which in turn are at the root of "Bio fuels." Hydrogen, the most abundant element on earth, can be found in many organic compounds as well as water. Once separated (from compounds), hydrogen can be burned as a fuel or converted into electricity

makes electricity. The electricity is sent through transmission and distribution lines to a substation, then on to homes and businesses.

(Sources (i) [http://www.hornsrev.dk/Engelsk/nyheder/nyh\\_dec\\_02/uk-dec\\_02.htm](http://www.hornsrev.dk/Engelsk/nyheder/nyh_dec_02/uk-dec_02.htm); (ii) <http://energiaeliana.wordpress.com/>)

Besides the sun, there are other sources of renewable energy. Geothermal energy, for instance, taps the Earth's internal heat. This could be from kilometers deep into the Earth's crust. It is expensive to build a power station, but operating costs are low resulting in low energy costs for suitable sites. Ultimately, this energy derives from heat in the Earth's core.

The energy of the ocean's tides comes from the gravitational pull of the moon and the sun upon the Earth. Moreover, there's the energy of the ocean's waves, which are driven by both the tides and the winds. A temperature difference, created by the fact that the sun warms the surface of the ocean more than the ocean depths, can be harnessed to produce electricity.



**Figure 2: Wave Energy:** it is technically possible to convert a sizeable fraction of wave energy into electricity.

(Source: <http://www.pelamiswave.com>)

Technologies that will facilitate generation, distribution and consumption of clean energy based on the foregoing renewable energies are collectively studied under the term renewable energy technologies (RETs).

## 3. The RET landscape at the end of 2008

The renewable energy landscape looks very promising at the time of the writing of this article. According to the Renewable Energy Policy Network for the 21st Century (REN21) 2009 Update, an estimated US\$120 billion was invested in renewable energy worldwide in 2008 alone. Table 1 lists several indicators of renewable energy, showing dramatic gains from 2004 until the end of 2008.

According to the REN21 2009 update, India and Korea ranked third in "capacity added in 2008" for wind power ca-



**Figure 1:** A turbine uses wind to make electricity. The wind turns the blades, which spin a shaft, which connects to a generator and

**Table 1. Gains from Exemplary Renewable Energy**

Renewable Energy	Gain (2004-2008)	Absolute Value (end of 2008)
Annual renewable energy	4 times	US\$120 Billion
Solar photovoltaic	6 times	16 GW
Wind power	250%	121 GW
Total power capacity (RE)	75%	280 GW
Solar heating capacity	2 times	145 GW thermal
Biodiesel production Ethanol	6 times	12 Billion Liters

pacity and grid-connected solar photovoltaic capacity, respectively. In 2008, India and Korea ranked fifth in the existing capacity of wind power and solar PV, respectively.

#### 4. RETs – An obvious solution for alleviating poverty in developing countries

Developing countries such as India and Africa are significantly energy-starved. At the same time, they are also some of the most populous countries in the world. This combination leads to a tremendous hunger for energy.

Renewable energy can be particularly suitable in such a setting. In rural and remote areas, the transmission and distribution of energy generated from fossil fuels can be difficult and prohibitively expensive. Producing renewable energy locally can offer a viable alternative, and directly contribute to alleviating poverty by providing the energy needed for creating businesses and employment. Renewable energy technologies can also make indirect contributions to alleviating poverty by providing energy for cooking, space heating and lighting. Renewable energy can also contribute to education by providing electricity to schools. For an investment of as little as \$100, a solar panel can be used to charge a car battery, which can then provide power to run a fluorescent lamp or a small television for a few hours a day [1].

At the other end of the spectrum, in developing countries, there is a burgeoning segment of the population that can afford multiple vehicles per family and several air conditioners in a house. This segment of the populace has succeeded in creating what seems like a bottomless pit for energy.

As they modernize, developing

countries can select better technologies and in so doing surpass the typical levels of efficiency of industrialized countries.

#### 5. Smart Grid and RETs

In its most glamorous form, the smart grid represents a major paradigm shift from the 20th century power grids that "broadcast" power from a few central power generators to a bidirectional flow of power and information, fundamentally transforming the way in which power will be generated and distributed.

In contrast to the conventional grid, which broadcasts power to a large number of users, the smart grid is visualized as having the ability to route power in optimal ways to respond to a very wide range of conditions and to charge a premium to those who use energy at peak hours. A smart grid is visualized as delivering electricity from suppliers to consumers using two-way digital technology to control appliances at consumers' homes to save energy, reduce costs and increase reliability and transparency. Such a modernized electricity network is being promoted by many governments as a way of addressing energy independence, global warming and emergency resilience issues.

Generally, bidirectional flows of power and information are part of the vision of a modernized grid that supports RETs, energy efficiency, market efficiency, electric-vehicle readiness, improved power reliability and improved power quality. Smart-grid advocates hope to address these challenges via a new transmission and distribution infrastructure that integrates information and communication technology.

#### 6. Potential for Indo-Korean collaboration on RETs and Smart Grid

Faced with crippling electricity shortages, the Ministry for New and Renewable Energy in India has recently unveiled an ambitious plan for solar energy under the brand name "Solar India" – expected to lead to an installed capacity of some 20GW by 2022. Noting that "the next three to four years will be critical," the Indian Cabinet has approved 1,100MW of grid-connected solar power and 200MW of off-grid installations using both solar thermal and photovoltaic technologies.

The mission also includes a major initiative for promoting rooftop solar PV applications. The mission is setting an ambitious target for ensuring that domestic and industrial applications below 80°C are solarized, among other measures making solar heaters mandatory, through building bylaws and incorporation in the National Building Code. In the off-grid sector, the solar mission has set a target of 1,000MW by 2017, but plans to provide solar lighting systems under the ongoing remote village electrification program to cover about 10,000 villages. Some 20 million solar lighting systems are to be deployed in rural areas by 2022. A number of concentrating solar power (CSP) demonstration projects are also planned. In launching India's National Action Plan on Climate Change on June 30, 2008, Prime Minister Dr. Manmohan Singh stated: "Over a period of time, we must pioneer a graduated shift to renewable sources of energy. In this strategy, the sun occupies center stage, as it should."

As mentioned earlier, according to the REN21 2009 Update, South Korea

ranked third in the "grid-connected Solar PV" additions in 2008. South Korea is also well on its way to establishing itself as a pioneer in solarizing its cities. Daegu Metropolitan City was selected as "Solar City" at the Climate Change Workshop in 2008 [2]. With such expertise under its belt, South Korea could potentially serve as a partner to the Indian government in bringing "Solar India" to fruition. This could be achieved either by means of government backed programs or private-public partnerships in both the countries.

In a modern, highly developed economy such as South Korea, a smart grid deployment is likely to include (a) an intelligent monitoring system that keeps track of all electricity flowing in the system, (b) incorporating the use of superconductive transmission lines for reduced loss of power, (c) the capability of integrating alternative sources of electricity such as solar and wind and (d) a smart grid could turn on selected home appliances such as washing machines or factory processes that can run at arbitrary hours when power is least expensive, while turning off selective appliances at peak times to reduce demand.

Korea is quickly moving to nurture smart grid technology as a growth engine of the national economy in the next two to three decades. On Aug. 20, 2009, the South Korean Government inaugurated the tentatively named "Smart Grid Business Corps," charged with initiating collaboration among industry, academia and research circles in building smart grid infrastructure. In another development, the South Korean Minister of Knowledge Economy joined some 200 business representatives and local residents on Aug. 31, 2009 to celebrate the establishment of a test bed for "smart grids" on Jeju Island. Under the government-led project, 6,000 households in the northeastern region of Jeju Island will have the opportunity to test smart grid technology. The purpose of this pilot project is to address energy and environmental issues, promote new growth engines and encourage low-carbon green growth.

Many of the above concepts, which could first be tested and applied in South Korea, can readily be applied in the urban pockets of metropolitan Indian cities such as New Delhi, Mumbai and Chennai – in fact, the two countries could work together.

With smart grids and RETs, both of which target efficient and green

energy generation, distribution and consumption can have a symbiotic relationship when it comes to Indo-Korean collaboration. Both the Korean and Indian governments seem committed to the development of RETs and smart grid technology as part of their efforts to go green. Provided below are some of the collaboration scenarios that the authors envisage:

- One vision of RET encompasses large scale bi-directional flows of electricity to and from regions that have abundant renewable resources. When applied to India, the northwestern deserts in Rajasthan could supply abundant solar energy to Delhi and Mumbai during the day, but could be a net consumer during the night. South Korea has pioneered large-scale infrastructure projects in Southeast Asia and the Middle East, and can play a pivotal role in making the vision of the scorching heat of Rajasthani deserts powering Mumbai and Delhi during the day come true.

- In another example, smart grid and RETs can work together to meet climate change and greenhouse gas emissions reductions. The smart grid addresses climate changes by supporting efficient power transmission, delivering information about consumption that helps customers make wise decisions about energy, enabling the remote control of appliances by customers, and enabling direct load control by utilities companies to reduce consumption during peak demand.

This kind of "peak shaving" reduces the need for new power plants and more importantly reduces the need for some of the dirtiest older plants, many of which are there to primarily provide generation capacity to handle peak demand periods. This kind of smart energy management requires software that resides in a smart meter as well as communication protocols for switches that reside between a home and electrical grid. Large-scale software development projects involving Indian Software development engineers and infrastructure expertise pioneered by Korean firms can be effectively used to bring the above vision from concept to reality.

- The international transmission of power generated by RETs could be constructive for geopolitics pertaining to both nations. A case in question is South and North Korea on the one hand, and India-China, India-Pakistan, India-Bangladesh and India-Nepal, on the other. South Korea's KEPCO is already involved in providing energy to

their northern neighbor. However, if looked at from an RET perspective, the neighbors to India and Korea have abundant renewable energy resources (most notably water), and offer the opportunity to depart from today's asymmetrical buyer-seller relationship to a relationship that yields mutual dependence and alliance. Nations might exchange electricity that derives from various kinds of renewable sources during various parts of the day.

#### 7. Obstacles to RETs and Smart Grid deployments

Smart Grid and RET investments promise to pay off through the years, but initial costs can be high. Both RETs and smart grids will require new practices at utility companies, whose business processes have hardly changed through the decades. In both countries, political will and drive is essential to turn this opportunity into something real. And despite the enthusiasm of technology advocates, both RETs and smart grids face uncertainty with retail customers who may need to change their behavior to adopt new technologies. South Korea can boast speedy technology adoption, but the Indian consumer is a very cost conscious one and poses a real challenge for the adoption of these clean technologies unless immediate financial benefits can be shown.

The largest challenge of all will be to come up with a coherent vision in which these technologies should be driven. Will grid modernization mainly support large capacity projects – large scale wind farms, huge solar arrays spread across large parts of deserts? Or will it be possible to support a large number of small generators to provide a single virtual generator?

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BY MATTHEW WEIGAND

**W**hen one writes about Korea, India or both, there is really only one topic to speak about right now, and that is the ratification of the Comprehensive Economic Partnership Agreement (CEPA). There has been quite a lot of ink spilled and pixels tickled about the partnership between the two countries. After all, it is indeed hard to ignore the elephant in the room. This writer can only see half of the room from this perspective, sitting in the capital of South Korea and having never been to India. But India's technology market is similar to that of China, and the strategy of Korean companies when entering both markets will be similar. That is not to imply that the Indian market isn't already saturated with Korean companies – Korean goods are quite common there. But it is notable to consider the similarities between the Korean approaches to both the Chinese and Indian markets, and extrapolate what will go on in the future.

At the Asia Electronics Expo Shanghai (AEES), the Korean angle was spelled out for all to see. The expo included representatives from five other, smaller electronics expos from Taiwan, Hong Kong, Japan, mainland China and Korea. The Korea Electronics Association, having just finished the Korea Electronics Grand Fair the month before, aggressively carved out a unique niche for itself. Even though there were only 45 Korean companies present among the thou-

sands in total, the Korean delegation made the best use of their available resources. They positioned their designated Korean Pavilion right at the entrance to the first hall of the Expo. They had the most expensive-looking and visually appealing booths. And, if that wasn't enough, they had a stage set up where Korean pop dancers shook their hips, traditional Korean dance performers shook their ribbons, and flashy Taekwondo stunt men and women destroyed an impressive amount of wooden boards. The Korean Pavilion was the highlight of the Expo.

The Korean company representatives also seemed to be very coordinated; almost all of them singing the same tune. They almost unanimously positioned their companies as higher-cost, higher-quality luxury alternatives to what was being offered by other companies from China and elsewhere. They were selling themselves as the high end in a variety of different fields. They did not apologize for being more expensive than their competitors, but tried to sell it as a strength. And it seemed to be working. The Korean Pavilion area of the show was always packed with visitors, and when it was compared with other areas of

# RESERVING HIGH-END NICHE EARLY ON

the show, they looked rather shabby and unappealing. The Korean Pavilion was the trendy, happening, place with the expensive products and the assurance of quality.

Two specific examples that come to mind were Carima and Fils. Carima was showing off 3D printers at the AEES and Fils was showing off its piezoelectric thin film speakers. Both of them were showing off things that simply did not exist in the Chinese market, and most likely do not yet exist in the Indian market either. And both of them were completely swamped with visitors and buyers. Carima demonstrated its 3D printer by printing out toys, gears, and logic puzzles right there at the booth. They were created with a variety of different colors and materials. Fils was showing off its membrane speakers, which were thin enough to see through but complex enough to pass sound through. They were amazing all of the visitors to their booth and made more deals than any one company could possibly fulfill. It was like the visitors were kids in a candy store and all the employees were handing them samples.

It's not hard to imagine that Korean companies will be doing the same thing as they enter into the Indian market. And, of course, Samsung and LG are already employing this strategy. The companies emphasize luxury and extravagance in their cell phone models – the Samsung Omnia was launched for 33,900 rupees in India – approximately US\$700. This is not the action of a company worried about the ability of the market to bear the cost. Korean companies are going to be occupying the high end of the Indian technology markets. This is not in doubt.

## Consequences

In the greater context, India is setting itself up for major economic changes, and Korea is only one of the players here. While it is important that the high end of India's economy is going to be even more saturated with Korean goods, it's not the only economic sector that will soon be affected. India is signing other agreements as well, opening up itself to other Asian nations. While the particulars are moving along slowly, it can reasonably be assumed

that the agreement will be completed within a reasonable amount of time. The India-EU FTA is almost finished, after a last push for cultural trade by Europe. There are also rumors that the country is open to a free trade deal with the United States, and discussion about how difficult it is to open up ties with China, which means that is also being considered. Taken all together, this means that this generation of Indians will see their country opened up, rapidly or slowly, to free trade agreements with most of the outside world. This means that there will be a sudden inflow of goods into the Indian subcontinent.

For the past 40-odd years, India has been focused on itself. The Indian economy has mostly been a story of domestic companies struggling to meet domestic demand. There is nothing wrong with that, and in fact it was a good way for India to grow its own domestic manufacturing and industrial sectors. However, domestic demand has always outstripped domestic supply, which led to anecdotes such as farmers in rural areas having the money to buy bicycles without bicycles available to buy, raising the prices to ridiculous levels. India as a market is ripe for saturation with all types of goods. And an economy of one billion people hungry for the raw goods that the world can supply is enough to make any CEO salivate.

So, as Korean companies take their accustomed stance of offering high-end, expensive luxury items, the rest of the world is also going to take various other stances within the Indian market, jostling and jockeying for position. Of course, domestic companies are also going to be a large factor. This means that, in short order, most or all of the sectors in the Indian market are going to be crowded. Can Korean companies survive in the rarefied air of luxury items in a market transformed? Judging from their success so far in China, one would be inclined to say yes.

## Ripples Heading Out

But this is not the only consideration to have for India's big move towards a more open economy. It cannot be overstated that this is more than 1 billion people we're talking about. Any type of large economic shift of 1/7 of the world's population is going to have far-reaching consequences. You can think of India as a whirlpool just forming in a popular trade route for ships. While the ships were formerly traveling to various different destinations, many of them are diverted towards the whirlpool. To stretch the metaphor a little too far, this would be good for the whirlpool's economy, but bad for the economies of the original destinations of those ships. Goods that had before been given to other countries will, by preference of FTA agreements, be given to India from its trading partners, or to its trading partners from India. This will change the entire balance of power and money in South Asia.

There are some experts who say this will create a net loss for all countries that are not India in the region. Countries that produce the raw materials that developed nations need to create advanced products would experience harder

times due to so many economies holding a preference on particular Indian goods, according to some analysts. In this case, Korea would have dodged a bullet preemptively with its focus on high-end electronics, because the effect of an India-globe FTA would not hinder it. However, as a small drop of water in India's ocean, Korea's economic outlook could still be affected indirectly if India sucks up all the goods, money and business. Korea's customers around Asia might not be able to afford its goods any longer, and India's market might not grow enough to compensate for that. The world is a complex and frequently confusing place, and economic forecasting is unreliable. It may very well be that there are no winners in an open-India future.

## The China Factor

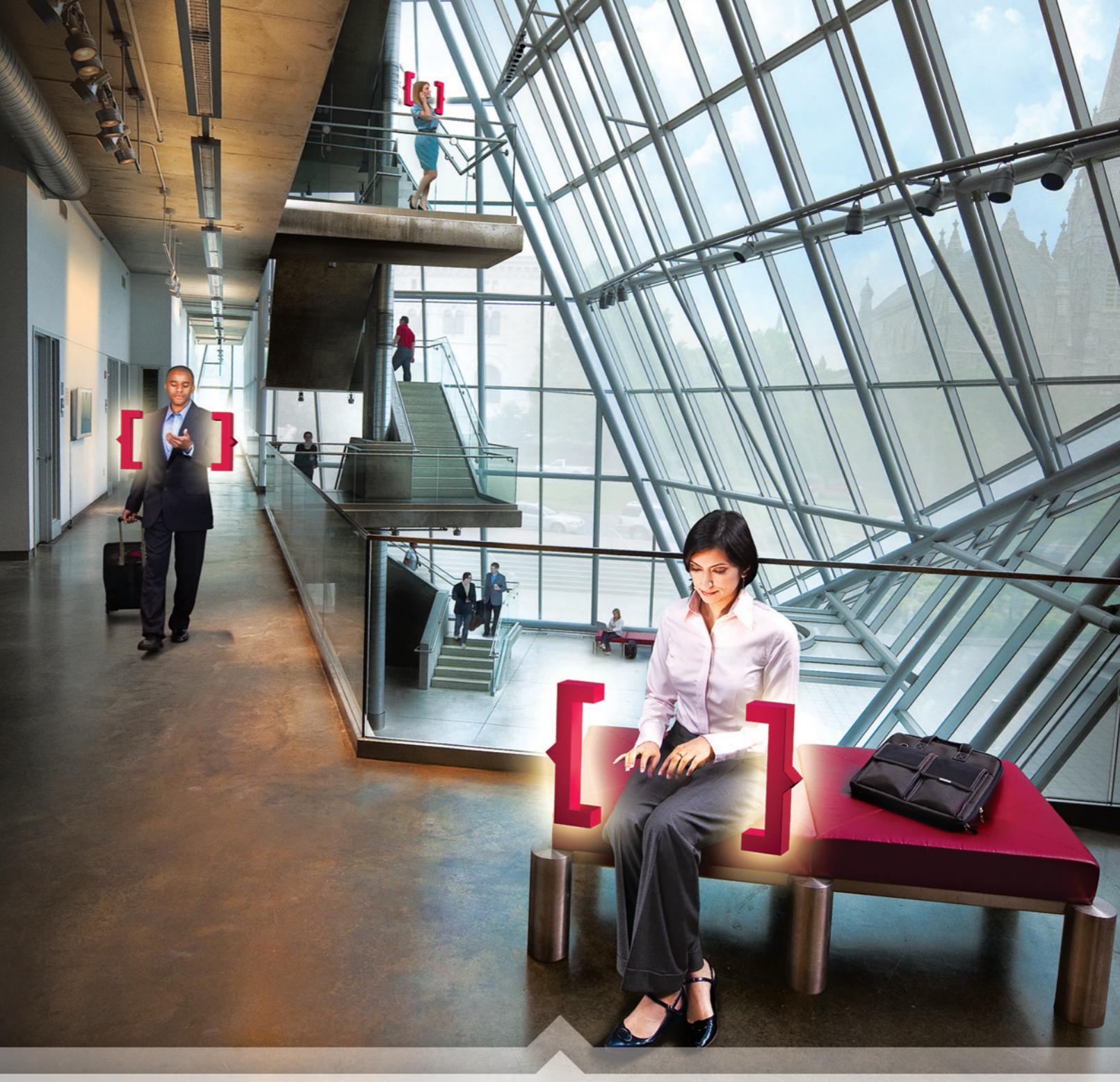
And, of course, there is India's de-facto rival in this region, and the other 1 billion-plus country – China. China is also looking for economic growth, and is also a budding market for every service in the entire world. It is unlikely that the country will sit passively and watch as India sets up free trade agreements north, south, east and west.

China will most likely either try to create a separate bloc of power composed of countries that are not cooperating with India, or try to compete with India as a market for goods and services. China has a long history of practice in manipulating its neighbors and influencing them for the greater good of China, while India has always been an introspective power. Also, China's cultural links to the rest of Asia are much stronger than those of India. Most of Asia doesn't use a Sanskrit-based alphabets or have Hindi-based vocabularies. That is all Chinese influence.

China and India have not had a very close relationship historically, either. There is little precedence for them cooperating. And their upcoming economic roles as fast-growing economies seeking goods and raw materials put them in ever-increasing antagonism. There has been a lot of ink spilled over that issue as well.

## From Perspective to Focus

In the context of all these global trends, Korea's CEPA with India seems positively minuscule in comparison. Every single Korean citizen could produce 10 cell phones each and ship them all over to India, and that would only supply half of the population, and leave China completely in the cold. Korea's goods and services are like pouring cup after cup after cup of water into two deserts. However, the deserts are paying for the water and are always asking for more. Despite the dour possibilities for India's rise, with its possible harmful implications, and despite China's possible opposition and its long-standing antagonism, Korea only stands to benefit. Unless the two waging giants smash all of Asia to ruins around them in a misguided struggle for dominance, from a Seoul-based perspective life couldn't be rosier. 



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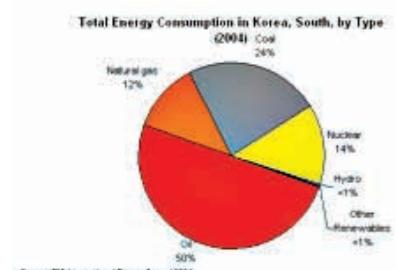


# The Missing Fundamental Step in Korea and India's Quest for Energy Security... and a greener path to greater cooperation

BY TRIDIB K BISWAS, PH.D

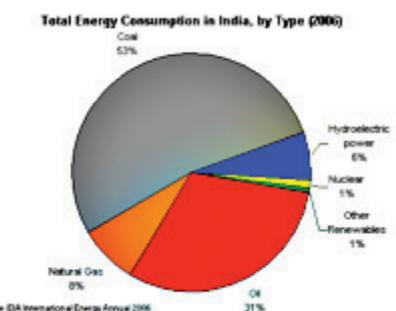
**I**ke most countries these days, the Republic of India and the Republic of Korea are naturally concerned about their long-term energy security. Unfortunately, like most countries, Korea and India also tend to define energy security from a rather narrow perspective, largely as the security of the ensured long-term supply of only hydrocarbon resources like oil and gas. They don't seem to acknowledge that the increased ability to reduce energy intensity per unit of GDP, through reduced waste and increased efficiency and making consumers and industry increasingly reliant on renewable sources of energy, can also ensure long-term energy security. In other words, instead of focusing only on the energy supply, countries should also look at the demand side, not only through short-term demand side management (DSM) programs, but also through long-term strategic policies that are, unfortunately, missing from the energy scenario now.

Given the current outlook on global warming and climate change, it is almost universally acknowledged that the world now needs a completely new operating paradigm that would motivate nations to switch over to renewable sources of energy eventually, and long before the collapse of the global ecosystem.



The two pie charts on this page broadly indicate that the task at hand will be difficult for Korea and India, not to mention other countries. Disregarding India's endowment of hydroelectric resources, renewable energy plays a very small role in both countries, although it has a larger profile in India than in Korea. However, some bold policy initiatives and global cooperation can potentially change this scenario for the better in just a few years.

There is a widespread but erroneous belief that renewable energy is expensive, and often not commercially viable. This is true only if one looks at energy prices from a very narrow perspective, disregarding the fact that



conventional energy from coal, oil and gas are heavily subsidized by the society because users of these forms of energy are not yet charged any environment damage abatement cost in most countries including Korea and India. Most of the renewable energy options cause little or no comparable damage to the environment. Several forms of renewable energy are already viable once the heavy 'subsidies' are withdrawn from the conventional forms of energy.

The fundamental policy issue, therefore, is how various forms of energy should be priced. The basic pricing principle that emerged out of the Earth Summit '92 in Brazil is the full-cost principle of pricing energy. Figure 1 explains this concept graphically. The market price of conventional energy often gives distorted signals about its true economic costs, because of many direct and indirect subsidies at several stages, (e.g., coal price, railway freight, subsidized tariff for power, etc. in India) referred to as social subsidy in Figure 1. Moreover, it does not generally capture the cost of environmental damage caused by carbon emissions resulting from the production and use of conventional forms of energy. The full cost of a certain form of energy is

conceptually the sum of its economic costs and the costs of abatement of the environmental damage caused by it. What Figure 1 establishes is that when "full costs" are taken into account, many forms of renewable energy may fare better than conventional energy.

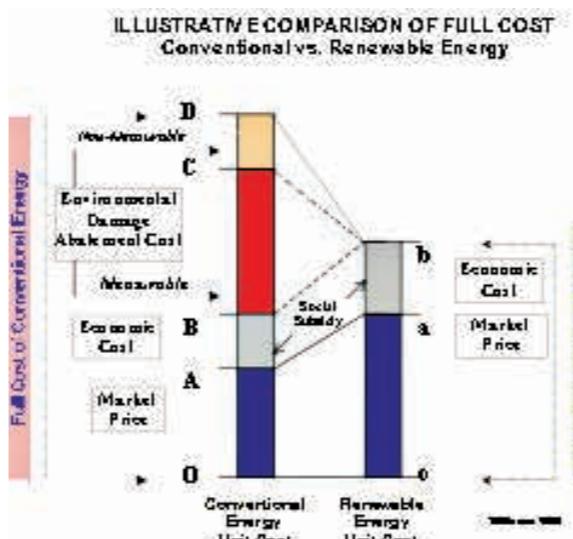


Figure 1

A large part of the environmental damage abatement cost (to society) is measurable but it may be difficult to fully measure this cost accurately. Most of the renewable forms of energy will not cause any significant damage to the environment. So, the economic cost of renewable energy is also likely to be its full cost, which, in the long run, is likely to be below the full cost of fossil fuel-based conventional energy, as is shown in Figure 1.

If the full cost basis is accepted as the guiding principle for pricing all forms of energy, it is very likely that several forms of renewable energy (e.g., wind energy, decentralized solar PV systems, biomass energy) are already economically viable.

However, a very bold policy framework is necessary to make the full-cost principle fully operational. This is what is glaringly missing in Korea, India, and the rest of the world.

**A Suggestion for a Phased-in Application of the Full-Cost Pricing Principle:** A sudden switch to the full-cost principle for energy pricing will, no doubt, cause significant economic disruption. To smoothen the transition, a phase-in period of an appropriate number of years, say, 10, should be considered. All stakeholders should be put on alert by a policy declaration that by the end of this period, tariffs for all forms of energy should reach their full cost level.

The above step would normally be adequate to operationalize the full-cost pricing of energy, once organized markets for carbon trading, such as those in Chicago, Montreal, London, Tianjin, etc., are fully developed. Renewable energy producers will then be earning carbon credits, which they will be able to sell to conventional energy producers who will need them to produce energy. Consequently, the market price of conventional energy will go up and that of renewable energy will go down in real terms.

If the carbon price is set right, either through an iterative process, based on carbon tax or any cap-and-trade arrangement widely promoted now, the market price of energy will approach its shadow prices that include environmental damage abatement costs.

During the phase-in period, an additional policy action will be necessary. As long as renewable energy is offered to a utility by any private generator at lower than the "avoided full-cost of conventional energy" of the utility, the utility should be encouraged to buy it through appropriate incentives. Extending the same principle, utilities should be encouraged to conserve energy as much as possible, because a kWh saved is as good as a kWh generated. Toward the end of the phase-in period, when the switch-over point is reached, i.e., when renewable energy becomes cheaper than conventional energy, no further policy action will be needed to promote renewable energy. It would be economically viable on its own.

Korea and India have verbally announced a green growth strategy without committing themselves to any detailed long-term plan. Most of the policy discussions on the pricing of energy in India have been from a narrow perspective whether there should be import parity based pricing or trade based pricing, and not on any kind of parity on the basis of the full-cost pricing principle.

By adopting the long-term policy focused on the de-

**The two pie charts broadly indicate that the task at hand will be difficult for Korea and India, not to mention other countries.**

mand side, along with the short-term adjustments for the proposed phase-in period, as prescribed above, Korea and India can show effective leadership in the global arena.

With the above objective in mind, there are several areas where Korea and India can gain from cooperation, particularly under the recently signed Comprehensive Economic Partnership Agreement (CEPA) between both countries. The areas where the capabilities and needs of the two countries match are: (i) R&D in energy generation, transmission and usage, leading to lower energy intensity per unit of GDP, (ii) improvement in efficiency of renewable energy technologies such as solar PV.

As the world gradually switches to renewable energy options, the zero-sum game of conventional energy will no longer be relevant, because in the world of renewable energy, one country's use of more energy (say solar) will not reduce energy available to others. Consequently, the geopolitics of oil producing countries will no longer rule the world. **A-P**

*Prof. Tridib K Biswas, first (Acting) Dean of SolBridge International School of Business, Daejeon, South Korea, has been an international expert on infrastructure policy and pricing issues for over thirty years, having worked on consulting projects in North America, Europe, Asia, Africa and the Caribbean.*

# The Success of Korean Firms in India



BY ANURADHA SHUKLA

**S**outh Korea and India are at the threshold of a major collaboration to boost trade between the two countries and take it to new levels. The Comprehensive Economic Partnership Agreement signed initially in August 2009 is a free trade deal that is expected to give both the countries more access to each other's markets.

The highlight of the deal is that import duties between South Korea and India will be reduced or eliminated. The deal signed by India will be implemented from January next year according to reliable sources.

Dr. Lakhvinder Singh, president of the Indo-Korean Business and Policy Forum feels optimistic about the mutual growth of the two countries. He said that the total economic relationship between the two countries grew by 31 percent last year alone. Business relationships are set for further growth driven by India's GDP growth rate of 8 percent, fully averting the global economic crisis.

The IFC Innovations in Emerging Markets states that Korean companies like LG and Samsung are progressing well in the Indian market. Korean companies seem to have invested time and money to make their products suitable for the Indian market. Samsung's cell phones even provide Hindi language menus, and their washing machines

are especially designed to wash delicate saris. LG has placed itself well as a leading brand in microwaves, TVs and refrigerators.

The trade deal will further benefit Korean companies such as Hyundai Motor Co. and LG Electronics, which will get greater access to the huge population of India. Import duties on 85 percent of Korean goods like auto parts, tankers, machinery parts, synthetic rubber and electronics will be phased out over the next decade.

"South Korea is looking to expand its presence in India with its vibrant economy and 1.2 billion population," said Myong Jin-ho, a researcher at the Institute for International Trade in Seoul.

Bilateral trade between India and South Korea rose 39 percent last year to \$15.6 billion. South Korea exported \$3.6 billion worth of goods to India, and imported \$1.6 billion worth of goods in the first six months of this year. South Korea's duty cuts will in-

clude 90 percent of Indian exports including polycarbonates, leather, industrial diamonds, gasoline and corn.

Other agricultural goods, finished automobiles, fisheries and textiles have been excluded from the ambit of the deal. It is expected that the new cuts in duties will see an immense increase in Korean exports to India and also in imports over the next decade according to the Korea Institute of Industrial Economics and Trade.

The deal when implemented will expand job opportunities for Indians in the fields of information technology, engineering, management consulting, machinery, telecommunications and scientific research.

## Hyundai India

Hyundai operates an auto plant at Sriperumbutur near Chennai in South India. The company sold more than 200,000 vehicles in India last year. Hyundai is a major auto manufacturer in Korea and it gets 55 percent of its sales from emerging markets such as India and China where demand for cars did not slow down despite the global economic crisis.

Hyundai ranks second in car manufacturing in India but ranks first as the largest exporter of cars from the subcontinent. Indian skills and workmanship work in tandem with Korean design and technology resulting in fine cars for the international market. The Hyundai plant produces 120,000 cars

and 130,000 engine and transmission systems annually. The company even plans to expand its export market to cover 95 countries by this year end.

Hyundai markets 54 variants of passenger cars including the Santro in the B segment; the Getz Prime, i10 and the premium hatchback i20 in the B+ segment; the Accent and the Verna in the C segment; the Sonata Embla in the E segment; and the Tucson in the SUV segment. Its total sales of 489,328 vehicles in 2008 marks a 49.6 percent increase over the previous year. Its overseas sales grew by 92.5 percent, which is an impressive sales figure.

Having spent a decade in capturing the Indian market, Hyundai also has a wide dealer network to serve India across its length and breadth. The company also opened another manufacturing facility in 2008 incorporating state-of-the-art manufacturing facilities with optimized testing capabilities. With several awards safely in its kitty for its passenger cars, Hyundai, the largest car exporter from India, is here to stay.

## LG Electronics and Samsung

LG Electronics, the third-largest maker of liquid-crystal-display televisions in the world, has plants in India where it manufactures consumer appliances and personal computer monitors.

Sales figures of LG and Samsung were 35 percent and 50 percent higher respectively in India in 2008 compared to figures in 2007 despite the global slow down. Both companies expect to achieve their targets with a revenue growth of around 30 percent. Within a span of 10 years, LG and Samsung have established themselves firmly in the Indian white goods market, surpassing European majors and Indian companies.

The two companies hold a market share of \$6 billion in the consumer durables, electronics and appliance market. LG holds the dominant brand position for televisions, microwave ovens and washing machines. Samsung is a favourite for the number two position.

The success story of these two companies in India will reveal what their competitors lacked. The Indian market could not accept the high prices associated with technologically advanced Japanese brands like Sony and Panasonic. Indian companies, on the other hand, lacked in the latest tech-

**The company sold more than 200,000 vehicles in India last year.**

nological offerings giving companies like LG and Samsung the lead in white goods.

Also, LG and Samsung were successful owing to the fact that both companies focused largely on the customization of their products for the Indian market. LG's fridges have smaller freezers as most Indians are vegetarians and use the freezer for making ice only. LG designed washing machines that gave instructions in the local language and Samsung incorporated 'sari' wash cycles in its machines.

"The other players in the consumer electronics space consider India a market for transactions, which is a short-term, unsustainable strategy," said Abraham Koshy, professor of marketing at the Indian Institute of Management, Ahmedabad. "On the other hand, LG and Samsung believe this is a market in which to do long-term business. Both have made a full commitment to India."

Pankaj Gupta, practice head (consumer and retail) at consultancy firm Tata Strategic Management Group (TSMG) said that in any customer-facing business, the product, brand and distribution decides the business' success.

In the durables industry, after-sales service and product innovation are also key factors. These two companies invested in R&D facilities so as to offer new products at attractive prices. LG was more successful with a better approach, making it number one and ahead of Samsung. However, both LG and Samsung woke up too late and lost to Finland-based Nokia in the mobile phone market.

## Dong Yong Construction and POSCO

Korean companies have a strong foothold in India not only in the white goods and automobile sectors, but also in the construction field. Dong Yang Construction India is a subsidiary of

Dong Yang Construction Co. Ltd. of South Korea.

Dong Yang Construction India constructs and maintains steel plants, builds roads, designs environment friendly buildings and builds plants that produce renewable energy. Dong Yang India is also involved in the construction of tunnels, flyovers, highways and power plants. Dong Yang built the POSCO steel plant in Korea.

POSCO-India Private Limited is yet another example of Indo-Korean collaboration. The company is a subsidiary of POSCO, the world's fourth largest steel producer based in Korea. The company set up a 12 MTPA greenfield steel plant near Paradip in Orissa state. The steel plant is equipped to produce 12 million tons of steel annually.

POSCO-India will leverage India's huge growth potential, human resources, open policy and vast natural resources to create an ideal environment for investment. This bi-national project is expected to not just develop an integrated steel plant, but also develop mines and related infrastructure in the region. Korea's advanced technology and India's stable iron ore supply from captive mines will lead to economic development in the state of Orissa.

The government of India is promoting the consumption of steel so that the steel industry will drive economic growth. To make India a steel superpower, POSCO-India will contribute 12 million tons per annum from its greenfield project, said company sources.

The collaboration between India and Korea does not end here. Besides automobiles, consumer durables and construction projects there is a burgeoning demand for other goods. India imports automobile parts, jet fuel, wireless phones, ships, fixed phones, hot-rolled steel, paper, cold-rolled steel, electronic goods and cargo ships from Korea.

From India, South Korea imports Naphta, ferro-chrome steel, soy and vegetable oil, non-alloy steel, rape-seed oil, cotton thread, butadiene, corn or feed for livestock, sesame seeds and alloy steel.

This necessitates a huge presence of Korean companies in India and vice versa. The cities of Gurgaon, Chennai, Pune, Bangalore and many others play host to Korean executives who have moved in with their families and whose children go to Indian or international schools and even speak the local language. **A-P**

# Maritime Security Cooperation



BY SHYAM PALIWAL

**M**aritime security cooperation in South East Asia is still in the early stages of development. The interests of various stakeholders in maritime security generally overlap, but sometimes are in conflict too. Not only have incidents of piracy and ship hijacking in the waters between the Persian Gulf and the South China Sea increased, but they have become more technologically sophisticated, with modern weapons and gunboats being used, and their link to Al Qaeda groups is becoming increasingly manifest. The Indian Navy and Coast Guard are fully convergent with this threat and have been engaged in discussions and exercises with the navies of the United States, Australia, Japan, Singapore and others to deal with the emerging challenge.

Being an export-dependent economy and dependent on energy imports from the Persian Gulf, the ROK cannot shy away for too long from discussing with India the potential for cooperation in the field of maritime security. India is emerging as a competitive destination for the ROK's export-oriented foreign direct investment (FDI). There are three motives that have shaped Korean interest in India: resource seeking, market seeking and efficiency seeking. Initially, Korean companies invested abroad in resource rich areas. This was followed by foreign markets seeking FDI. In the course of time and in some countries, Korean FDI sought local efficiencies in terms of labor productivity, infrastructure and so on to be able to then use such places as production bases for export to third markets.

Till recently only China met all three objectives, and so has attracted huge Korean FDI, as it also has for similar reasons from Japan. However, more recently, India has also become an attractive FDI destination on all three counts for Korean companies, even though it still lags behind China in terms of the quality of infrastructure and the productivity of investment. Hyundai, LG and Samsung find their India operations profitable, however more reform and better infrastructure is required.

If Korean FDI in India was only of the domestic market-seeking type, the ROK need not engage India in a dialogue on high seas security. However, with both resource-seeking and efficiency-seeking FDI coming to India, the ROK must worry about the safety of ports, coastlines and, more importantly, the sea lines of communication. India does engage the

APEC member nations in a dialogue on maritime security through the Council for Security Cooperation in Asia-Pacific (CSCAP) where the ROK is also a member. However, the ROK must directly engage India in a dialogue going beyond questions of economic reform and trade liberalization and encompassing national and maritime security given the emerging terrorist threat and the 11/26 incident.

This also underscores the need for India to be actively engaged with APEC on economic issues. APEC membership entails the further pursuit of trade and investment liberalization. A logical consequence of India's "Look East" policy should be its greater integration into all forums of the APEC region.

Our concept of security has broadened. It now includes considerations of environmental security,

safety, food security and human security, as well as of resource security. In the oceans, relevant threats include illegal unregulated and unreported fishing, ocean acidification, sea level rise, pollution, loss of marine biodiversity and habitats and marine natural hazards. Safety and security can also be closely related, again particularly in the maritime domain. Climate change and its implications are now regarded as having significant security dimensions.

An important quality of non-traditional security is that the main threats are of a shared nature and are not direct threats to the interests of any one nation. Dealing with these threats invites a cooperative response. Maritime energy security is one of the most important elements needed to ensure stable energy supplies for the fast growing Asian economies. Major user states must contribute to the security of choke points such as the Strait of Hormuz and the Malacca Strait. India and Korea can play an important role in maintaining the security of these strategic sea lanes.

Almost all the traded goods between India and Korea pass through the Malacca Strait. This strait is of more strategic significance to Korea as the energy supplies from the Middle East pass through these straits. Piracy in Malacca has shown a gradual decline in these past few years. This decline is the result of efforts ashore by the local law enforcement authorities in Malaysia and Indonesia. Piracy, which was an acceptable vocation within local communities until recently, has lost its appeal to the local youth. This is in great contrast to the lawless situation in the Gulf of Aden where the recent success of pirates has lured the local Somali fishermen into becoming pirates.

India has played an active role in fighting the menace of Piracy in Gulf of Aden. Its warship was instrumental in the sinking of one pirate mother ship. The Indian Navy actively protects the Indian-owned tonnage passing through the Gulf of Aden by escorting ships laden with goods through these treacherous areas. Seoul, on the other hand, is realizing that it is a major maritime power with strategic interests as well as pressing economic challenges. Moreover, the ROK has come under greater pressure from the United States to assume a greater security profile and play a more active role in maritime security in her own national interest.

India and Korea can have greater maritime cooperation by following the five point agenda. Firstly, the Indian and Korean navies can conduct joint exercises involving search and rescue,

anti-submarine warfare and anti-terror tactics. Both navies should conduct more flag-showing visits to build stronger and more influential relationships. To mark the beginning of a strong relationship, a large naval exercise needs to be conducted between both countries in the Indian Ocean region.

Secondly, Indian ships can help escort Korean tonnage passing through the pirate-infested Gulf of Aden and the waters of the Seychelles, and the Korean naval vessels should come to the assistance of Indian interests in the Pacific region. These roles will be mutually beneficial and will relieve the Korean Navy of the duty to guard its tonnage in the Indian Ocean and the Arabian Sea.

Thirdly, both countries can establish joint maritime centers at choke points and specifically can play an active role in the Strait of Hormuz and assist American warships operating in the region to secure the energy supplies for both countries. The Strait of Hormuz is of significance to both countries as they have a large requirement of energy to meet the demand from a fast growing economy. A Memorandum of Understanding should be signed for establishing such a center and the United States can be a party to such an understanding given the close relations that both countries enjoy with the Americans.

Fourthly, both countries can cooperate in the area of training maritime personnel. As Korea has a great tradition of shipbuilding and has the best technical knowhow in the area of ship design and assembly, it can train the manpower from Indian shipyards such as the one at Kochi and Vishakhapatnam. In return, India has a great seagoing tradition and has the largest pool of seagoing officers in the world. Korea can utilize this resource to develop its own ship management and operational capabilities. Moreover, there is a requirement for more exchange programs between training establishments between both countries. Southern Naval Command at Kochi regularly accepts personnel from various Southeast Asian nations.

Fifthly, there is vast potential for Indo-Korean cooperation in the modernization of their conventional naval forces with state-of-the-art technologies from each other and from friendly countries like the United States and Israel. Both countries have to cope with the objectives of the industrially-advanced Western countries in general, and the U.S. in particular, of maintaining long-term exclusive control over

sophisticated technologies. It is against this background that there are very good prospects for Indo-Korean collaboration in developing their respective indigenous defense industries. India, which has a vast pool of scientists and engineers, a thriving high-tech industry, and an advanced and promising modernization program, can play an important role in the South Korean modernization of its conventional naval forces.

With regards to military relationships, personal military-to-military relationships are the first steps in building trust. These personal relationships are very useful in the day-to-day military interactions between countries. Indeed, in those moments when disaster or crisis demands the most from us, our relationships may yet pay the highest dividend. Navies need to know how to

### A prime example of this is in the Straits of Malacca.

work together before a crisis or disaster hits. These efforts confirm that there need be no contradiction between defending our country's sovereign rights and sailing together against the common threats to our welfare.

A prime example of this is in the Straits of Malacca, as discussed above, where patrols by Indonesia, Malaysia, Singapore and Thailand have drastically reduced piracy.

The Economic Community of Central African States is another example. These nations agreed to work together on patrolling waters of mutual interest and to monitor an operations center in Cameroon. Making this international cooperation more effective is important for the future. Information sharing and the pursuit of maritime domain awareness remain focuses for partner nations.

Our goal should now be to bridge the regional security awareness initiatives in support of yet broader awareness and partnerships. Besides information-sharing, we must also work toward greater interoperability. There are many ways to improve our interoperability and lessons learned of how to work together. Those lessons start again at the

personal level.

Senior level partnerships are important, but it is on the decks of ships where the partnerships pay off. Both India and the ROK need to encourage the interaction of their young sailors, noncommissioned officers and officers. These kinds of contacts have a lasting impact and help in building trust. In an age of instant communication and imperfect translation software, we have unparalleled opportunities to ensure that the naval chiefs a generation from now will have known each other since their earliest days at sea, regardless of distance or language differences. This kind of personal knowledge of each other helps develop better understanding and respect for each other.

Training together and exercising together remain the best ways to facilitate this communication. However, there is still a greater need to facilitate and expand this communication. The time spent in learning and improving interoperability is time well spent when real issues such as maritime piracy are faced. The presence of navies from all over the world in the Gulf of Aden is truly unprecedented and very much needed for a security challenge that affects such a large ocean area.

The common use of the high seas has been a driver of international cooperation and institution-building for centuries. Today, in the early years of the 21st century, I am convinced that our new partnerships – informal as well as formal, local as well as global – are writing a new chapter in the development of the Asia Pacific region.

The objective of the India-Korea alliance is not to form a military alliance or contain any one country. But it will ensure that not just one country is able to dominate the critical sea lanes of communication. It will construct a new balance of power in the region that will help both countries in establishing a strong foothold in the region and thus ensuring growth and prosperity. As for India and Korea, it is high time that we must rediscover the forgotten history of this sub-continent's maritime links with the Indian Ocean and the Pacific region, that has reached out as far as the Korean peninsula. A-P

*The writer is a Master Mariner with 11 years of experience in the International Shipping Industry. He is the member of Company of Master Mariners of India (CMMI). At present he heads Moim Consulting in Busan, South Korea.*

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# Higher Education in India: Concerns & Strategies

BY DEBKUMAR MUKHERJEE

**E**lementary education, being the foundation of the pyramid in the education system, has been accorded high priority since the post independence period in India. Two programs, which were implemented in the beginning of the 21st century through the Sarva Siksha Abhiyan (SSA) and the Midday Meal Program (MDM), played important roles in increasing the gross enrollment ratio in the 6-14 age group. While the SSA aims to achieve universal elementary education of satisfactory quality by 2010, the MDM supports it by way of enhancing the attendance of children mainly from the educationally backward minorities and simultaneously improving their nutritional status.

Owing to a substantial increase in the number of students completing the elementary stage, there is a surge in demand for both secondary and higher education in the country. The Central Advisory Board of Education (CABE), the highest advisory forum on education in the country with the union minister of Human Resource Development (MHRD) as chairman, and education ministers of all states and eminent educators as its members have laid down certain norms based on which each state has developed a perspective plan for universal secondary education. Major recommendations contained in the report of the CABE committee can be found from the annual report published by MHRD, Government of India. After the successful completion of elementary (class I-VIII), secondary (class IX-X) and higher secondary (class XI-XII) education a student enters the broad spectra of higher education of his or her choice often through competitive examinations.

India has the third largest higher education system in the world, next to only China and the United States. Before independence, access to higher education was very limited and elitist, with enrollment of less than a million students

in 500 colleges and 20 universities. Since independence, the growth has been very impressive. India now possesses a highly developed higher education system that offers facility of education and training in almost all aspects of human creative and intellectual endeavors.

The institutional framework consists of Universities established by an Act of Parliament (Central Universities) or of a State Legislature (State Universities), Deemed Universities (institutions which have been accorded the status of a university with authority to award their own degrees through central government notification), Institutes of National Importance (prestigious institutions awarded the said status by Parliament), and Institutions established by State Legislative Act and colleges affiliated with the University (both government-aided and unaided).

## STATISTICS AT A GLANCE: (Period 2007-08)

1. Total number of universities: 416
  - a) State Universities- 251
  - b) Central Universities- 24
  - c) Deemed Universities- 103
  - d) Institutions established under state legislation- 05
  - e) Institutes of National Importance- 33
2. Number of colleges: 20,677
  - a) UGC accredited under 2f 6,680
  - b) UGC accredited under 2f and 12B- 5,797
  - c) Under UGC purview- 14,000
3. Number of students enrolled in colleges and universities: 11.6 million
  - a) In Colleges- 10.1 million (87.06%) [7% of the total population in the relevant age group 17-23 yrs]
  - b) In Universities- 1.5 million (12.94%)
  - c) Women's enrollment in Higher Education: 4.71 million (40.6%)
4. Faculty strength (Regular): 0.51 million
  - a) In Colleges: 0.43 million (84.32%)
  - b) In Universities: 0.08 million (15.68%)

Source: MHRD annual report 2007-08

The University Grants Commission (UGC) is a statutory organization established by an act of parliament in 1956 for the coordination, determination and maintenance of standards of higher education. The UGC provides financial assistance to eligible colleges and Universities which are included under Section 2(f) and declared fit to receive central assistance (UGC grant) under Section 12(B) of the UGC Act, 1956 as per approved pattern of assistance under various schemes. Apart from providing financial assistance, the commission advises the central and state governments

on the measures that are necessary for the development of higher education. Grants from the UGC and state governments (through the Directorate of Public Instructor) facilitate the creation, augmentation and upgrading of infrastructure and improvement of facilities for the promotion of quality teaching and research.

Despite several initiatives, India's ranking in the higher education sector is far from satisfactory and a recently published list shows that only two Indian institutions have made it onto the list of the top 200 globally accredited institutes. Recent statistics show that East Asian countries like South Korea, Hong Kong and Japan have made tremendous progress in the field of science and technology during the last 7-8 years. The unplanned growth of higher education coupled with a lack of resources affected the quality of education in India in the past. The government has been largely blamed for this debacle and there are several factors that have compounded this miserable state. Lack of innovation and sticking to a redundant curriculum, a widening gap between the educational system and the ultimate professional performance, lack of funds in the system, lack of emphasis on research and social sciences, poor salary structures for teachers and researchers and no quality monitoring in the education system are prime reasons for such a dismal state of affairs.

The Plan Allocation for Higher Education, which went up to 28 percent in the 5th Plan period, has been slowly going down in subsequent plans and has reached only 6 percent of the total Plan expenditure during the 10th Plan period. The gross enrollment rate (GER) for higher education, which has risen from 0.7 percent in 1950-51, 1.4 percent in 1960-61, and 8 percent in early 2000, is still very low (about 10 percent) compared to the world average of 23.2 percent, and an average of 54.6 percent for developed countries, 36.3 percent for countries in transition and 11.3 percent for developing countries. According to the available official statistics, the expenditure on R&D in the field of Science & Technology as a percentage of gross domestic product (GDP) was 0.8 percent during the year 2005-06 in India. For perspective, countries spending the most on S&T as a percent of their GDP were Israel (5.11 percent), Sweden (4.27 percent), Japan (3.11 percent), South Korea (2.95 percent), the United States (2.77 percent), Germany (2.74 percent) and France (2.27 percent). Among other countries, China (1.54 percent), Russia (1.74 percent), U.K. (1.88 percent) and Brazil (1.04 percent) have spent more than India.

The central government is conscious of the need to raise both the enrollment rate and access to higher education to all who are deserving irrespective of class, caste, religion, gender or economic status. In the last plan period (10th five year plan, 2002-2007) the enrollment rate has gone up from some 6 percent to 10 percent and in the 11th Plan (2007-2012) it is proposed to raise it to 15 percent. Thirty



new central universities, eight new IITs, 20 new IIITs and seven new IIMs, and several high grade medical institutes are proposed to be established during the 11th plan period, and one degree college would be established in each district of the country. The prime minister has invited private sector participation in this venture. The National Commission for Higher Education and Research (NCHER) has been introduced as the apex regulatory body in education.

There are proposals for improving access to quality higher education to disadvantaged groups in the population (Moily Committee and Sachar Committee reports). Prime Minister Dr. Manmohan Singh in his Independence Day speech on August 15, 2007 said, "We will also ensure that adequate numbers of colleges are set up across the country, especially in districts where enrollment levels are low. We will help states set up colleges in 370 such districts. The University system, which has been relatively neglected in recent years, is now the focus of our reform and development agenda. We will set up 30 new central universities. Every state that does not have a central university will now have one. In order to promote science and professional education, we are setting up five new Indian Institutes of Science Education and Research, eight new Indian Institutes of Technology, seven new Indian Institutes of Management, and 20 new Indian Institutes of Information Technology. These will generate new educational opportunities for our youth. I am sure that, working together, we can ensure that at least a fifth of our children will go to college as compared to one-tenth now."

The success stories of the initiatives of the government in this field have already received both national and international recognition and are believed to be the foundation stones of the higher education system. A number of innovative schemes have also been in operation in the Higher Education sector, some promoted by the University Grants Commission, others by the Technical Education Division of the Ministry of Human Resource Development and the All India Council of Technical Education. The Indian Council of Agricultural research and several other Departments of the Central Government dealing with Science and Technology have come forward to play a proactive role in improving the sad state of affairs. AP

In recent years, the Indian Higher Education System has become fully aware of the need for quality. Organized and focused efforts are needed to achieve this goal. Careful distribution of resources is mandatory to achieve quality and excellence along with access and equality. The UGC has taken upon itself this onerous task and has succeeded in maintaining the quality of education. It has launched many schemes, which have made some impact in the system:

1. Innovative Programs including Emerging Areas
2. International Cooperation
3. Identification of Universities and Colleges with Potential for Excellence
4. Networking of Universities and Colleges
5. Faculty Improvement Program
6. Schemes for strengthening research
7. Program for the development of Engineering and Technical Education
8. Program for the Development of Management Education
9. Program for the Development of Computer Education and the Upgrading / Augmentation of Computer Facilities
10. Accreditation System

The Higher Education sector ensures the quality of the educational process with the help of accreditation agencies established for the purpose. The main agency which accredits universities and colleges in general education is the National Assessment and Accreditation Council (NAAC) established by the UGC in 1994, whereas a similar function is done for technical education by the National Board of Accreditation (NBA) set up by AICTE in 1994, and for agricultural education by the Accreditation Board (AB) set up by ICAR in 1996. NAAC proposes to introduce the

India Education Index (IEI) for ranking institutes based on academic, research performance and other parameters. The outcome will help in the international comparison of institutes. NAAC has entered into an MOU with higher learning institutes of the United States, Taiwan, Norway, Kuwait and with the Commonwealth of Learning (COL) to facilitate collaborative work on quality assurance in higher education institutions (HEIs). Not only the institutions, but also the college and university teachers will be evaluated by a performance-based appraisal system recently declared by the Ministry of Higher Education. The teachers during their career advancement scheme will draw enhanced salaries based on academic performance indicators. This would definitely boost the level of research and the number of publications in HEIs.

Another significant move by the Government of India to reform policy that hinders financing by private and foreign corporate bodies may soon enable huge investments into Indian higher education. Currently, it is not possible for non-profit companies under article 25 of the companies' registration act to set up an institution and get university status and recognition from the UGC. There is also renewed hope for a bill to be passed in the Indian Parliament allowing foreign universities to set up campuses in India. An open economy framework in the educational sector is likely to allocate resources efficiently and bridge the gap between demand and supply of skills. Taking into consideration the education minister Kapil Sibal's 100 day action plan, laws to regulate entry and operation by overseas entities and the willingness of big industry houses like Ambanis in HEIs in India will get the necessary thrust to compete globally. [A-P](#)

*The writer is an assistant professor in the Dept. of Chemistry at Kyung Hee University, Seoul, South Korea.*

<b>Details regarding Indian degree colleges (figures as on June, 2009)</b>	<b>Number</b>
Total number of degree colleges (science, humanities, commerce, law, business, Medical, music, nursing etc)	20,677
Number of colleges under UGC purview	14,000
Number of colleges recognized under section 2(f) of UGC Act	6,680 (47.7%)
Number of colleges recognized under section 12(B) of UGC Act	5,797 (41.4%)
Number of colleges actually funded by the UGC	6000 (43%)
Number of colleges accredited by the NAAC	3934 (28%)
Number of colleges accredited by the NAAC and scoring above 70%	3,343 (24%)

*Figures in parentheses are w.r.t to 14,000 colleges under UGC umbrella.*

<b>Current Quality Status of Universities in India (as of June 2009)</b>	<b>Number</b>
Total number of university level institutions	416
Total number of universities under UGC Purview	317
Number of universities actually funded by the UGC	167
Number of universities accredited by the NAAC	148
Number of universities accredited by the NAAC and scoring above 60%	148

# FUTURE PROSPECTS of India-Korea Relations

BY KIM BONG-HOON

**A**s the businesses of India and South Korea "discover" each other, the political leadership of the two countries has noticed the potential mutual advantage of forging a closer bilateral partnership like an FTA. Accordingly, Korea and India need to move to a more close relationship.

Both South Korea and India have agreed that the special relationship envisaged should be "comprehensive" in its scope, going beyond a mere free trade agreement, covering the entire gamut of economic cooperation, including trade in goods, trade in services, investment and other key areas. Therefore, the two sides settled on the name Comprehensive Economic Partnership Agreement (CEPA).

It was during the state visit of the President of India, Dr. Abdul Kalam, in February 2006 that an official announcement was made. Negotiators from both sides took a positive approach with due regard to the balance of interests and each other's concerns and sensitivities. Delegation-level negotiations concluded in Seoul in September 2008. India officially accepted this CEPA in December 2008, while Korea officially accepted it in October 2009.

## The major objectives of this CEPA according to the agreement are as follows:

- (a) Liberalize and facilitate trade in goods and services and expand investment between Korea and India.
- (b) Establish a framework conducive to a more favorable environment for their businesses and promote conditions for fair competition in the free trade area
- (c) Create effective procedures for the implementation and application of this Agreement
- (d) Improve the efficiency and competitiveness of their manufacturing and services sectors and expand trade and investment between the Parties and establish a framework for further regional and multilateral cooperation to expand and enhance the benefits of this Agreement throughout Asia, and thereby, to encourage the economic integration of Asian economies.

Based on the existing bilateral trade between the two countries, Korea pledged to eliminate or reduce custom duties on 90 percent of Indian goods. In return, India agreed to liberalize tariffs on 85 percent of Korean exports. In deference to each other's sensitivities, there is to be an exclusion



list and a sensitive list to take care of domestic concerns on either side.

According to duties reduction, we can assign goods by categories E-0, E-5, E-8, RED, SEN and EXC.

For example, Category E-5 means duties on originating goods provided for in the items in a Party's schedule shall be removed in five equal annual stages beginning on the date this Agreement enters into force, and such goods shall be duty-free, effective January 1 of year four.

Category SEN means duties on originating goods provided for in the items in a Party's Schedule shall be reduced for Korea by 50 percent of the base rate in eight equal annual stages beginning on the date this Agreement enters into force, and such goods shall remain at 50 percent of the base rate effective January 1 of year seven; for India, by 50 percent of the base rate in 10 equal annual stages beginning on the date this Agreement enters into force, and such goods shall remain at 50 percent of the base rate effective January 1 of year nine.

India is trying to provide incentives for financial services in India. For example, India shall give favorable consideration to the application for the establishment of branches by Korean banks, provided that they meet India's requirements relating to the establishment of bank branches. Favorable consideration shall be given to up to 10 applicants over four years.

Korea facilitates the temporary entry of 163 professions on a comparable basis and to establish transparent criteria and streamlined procedures for temporary entry, while recognizing the need to ensure border security.

A few examples of the 163 professions are Computer Hardware Design Engineers, Mobile Circuit Developers, Refrigerator Engineers, Construction Machine Engineers and Researchers and Assistant English Teachers for primary and secondary schools.

Already, Korean companies like LG, Hyundai and Samsung are hugely popular household names in India. With the CEPA, we can look forward to many more such success stories, bringing the two nations closer.

The CEPA will bring more Korean companies to India for investment and Indian companies like TATA Motors will expand their investments in Korea. Also, we expect that human capital will move more bilaterally between Korea and India. [A-P](#)

*The writer is the CEO of MAXtin Business Advisory and is based in Seoul*



# CHAKRAA:

## *An Indian Success Story*

BY S P SINGH

In 1999, Prince Jacob and his wife Shanti arrived in Korea with a dream – to be the first to offer authentic Indian food in the Seoul area. They started out simply, offering a place for friends to come when they wanted home-cooked Indian food. As the customer base began to grow, the Chakraa chain was born. “As Koreans are not used to strong Indian flavors, we have to make some small changes, but we kept the food completely authentic,” said Jacob.

Back in 2001 there were some troubles that the restaurant faced, not the least of which was finding the correct spices. But the couple refused to compromise on the taste of the food, and were able to track down what they needed. “Since then, the Korean food industry has come a long way and now almost every spice is available here,” explained Jacob. “Things have improved for the better very quickly.”

There are five Chakraa restaurants in Korea now: four



branches in Seoul and one in Songtan near Osan Airbase. This network of restaurants is run by a staff of 25 chefs, managers and waiters. To ensure the authenticity of the food, everything is made in one central location, overseen by Jacob and Shanti, and shipped out to each restaurant on an hourly basis.

Currently, the couple is trying to find new areas in which to expand their hospitality business and is inviting potential franchisees who are interested in opening Chakraa restaurants in Korea and abroad. They have also expanded their delivery services and are delivering food to Indian workers working at various locations all over Korea. This has become

**Both Prince Jacob and Shanti feel that Seoul has become their home.**

much easier since the company created a website to order food online. Now, with just a few clicks of a button anyone can have fresh Indian food delivered to them.

“Now that the Comprehensive Economic Partnership Agreement, or CEPA, has been signed between the two countries, I expect that our clientele will grow considerably,” said Shanti. “As a result of this agreement, we are expecting a large number of new customers to come to Korea from India.” She was referring to one of the parts of the CEPA between South Korea and India that will allow Korean firms to hire Indian language and IT professionals. “Seoul is becoming an ever more cosmopolitan city, and we are an established part of that,” Shanti said. The couple is proud of the contributions they have made to making the Seoul metropolitan area into a better, more tasty place.

After 11 years in the restaurant business in Korea, both



Prince Jacob and Shanti feel that Seoul has become their home. They feel as though they are taking part in the latest chapter of a very long, historical relationship between the two countries. Korea and India share a common religion and some common blood, since some two thousand years ago when an Indian princess from the Indian kingdom of Ayodhya became Queen Huh of the Karak dynasty in Korea, near what is now Gimhae. Through the years, some Korean folk songs have also mentioned Indian traders in their lyrics. With such long-standing ties, the string of five restaurants of truly authentic Indian cuisine in Seoul is to be expected. Chakraa is fulfilling destiny. A-P

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# India-Korea COOPERATION IN EDUCATION

BY CHANDER WANCHOO

**A**lthough India and Korea are separated by a vast continental landmass, they share multiple common denominators like oriental values, moral attributes, social interactions and family values to name few. In recent times, when all nations have experienced a direct or indirect impact of the economic downturn, Asia is looking promising to lead the world out of this recession and is poised to become the next global power continent. It becomes very important for countries of this continent to leverage each other's strengths, to secure a long lasting global leadership. Education is one such sector in which India and Korea have great potential for working together and benefiting from each other's experience and wealth of knowledge.

On the education front, India has a long history of formal, informal, reserved (on caste and society), organized and process oriented education systems. The Gurukul system of education is the oldest education system on earth. The guru (teacher) will teach or mentor the shishiya (students) either individually or collectively; and most of the time away from the home. Having a guru is quite prevalent in Indian society, even in modern times people refer to their mentors as their gurus or godfathers who have lead them to the path of success. The credit of identifying education as one of the growth pil-

lars goes to early leaders of India who steered India towards independence through identifying and establishing some quality educational institutes like the Indian Institutes of Technology (IIT). The history of IIT dates back to 1946, just before independence, and Pandit Jawahar Lal Nehru, the first prime minister of India, in the first convocation address for IIT Kharagpur in 1956 said, "Here in the place of the Hijli Detention Camp stands a fine monument of India, representing India's urges, India's future in the making. This picture seems to me symbolical of the changes that are

coming to India."

South Korea with its Confucian heritage has had a long history of providing formal education; though there was no state-supported system of primary education, the central government established a system of secondary schools in Seoul and the provinces during the Joseon Dynasty.

There are many other similarities between the two countries, with one key being both achieved independence almost at the same time, but the success and growth of South Korea is quite impressive. India, being the world's largest democracy, had its own set of challenges and it took extra time to get the world's attention, but in last decade and a half it gracefully converted its challenges into opportunities by leveraging its strong education system, cultural diversity, high adaptation and the strength of its skilled manpower's ability to communicate in the global language – English.

The Indian education system is renowned across the globe with a high respect for its engineers, doctors, academicians, scholars – primarily all those who have access to the Indian education system. Of late, Silicon Valley and Indian IT resources have become synonymous, as no global IT provider or consumer can ignore the capabilities and skill set of Indian engineers. As global trade and economies expands and boundaries shrink, this competitiveness will further pave the way for India's progress, as it has been thriving in recent times and will continue to do so.

At the same time, South Korea also has a fundamentally strong education system. Here you can see kids returning home late at night after attending schools and academies all day, and then start the routine again the next day and so on for six days a week. Few corporate and businesses houses provide children's education benefits as part of the salary, which in other ways is a mechanism to contain attrition and attract skilled resources. Recently, CNN reported that Korean schools have the maximum number of working days among the major economies and school systems. In general, for Korean parents the top priority is to educate their kids to the best of their abilities, and the society at large understands the importance of education in the global economy. This is coupled and supported by government policies with continuous improvements and multiple steps to promote both basic and higher education in the society.

There are many synergies in the two distinct cultures, one being the education system, which both countries should leverage. One of the key opportunities for South Korea can be to upgrade its competent workforce on global communication skills, standards and business processes and provide global opportunities to its citizens to pioneer the next wave of its global expansion. India has a competent and competitive education system with all necessary, proven expertise and credentials. In the last decade, it has matured its processes to support global business across the world. For example, if you are in the United States and need help fixing your computer, help with telephone banking, directions or for that matter anything that needs a phone call, it is highly probable someone in India will pick up your call (across time zones) and answer your question. India has gained a considerable market share in IT and business process outsourcing, knowledge processing across industry domains and is marching ahead to capture a much higher global footprint along with the market share. This could provide other business opportunities in which Korea can elevate its skill set and be the service provider in R and D and knowledge management across the key and high-value industry domains as it already possesses excellent processes in automotive, high-tech, manufacturing, green technology and more. AP

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**THERE ARE MULTIPLE AREAS IN THE EDUCATION DOMAIN WHERE INDIA AND SOUTH KOREA CAN COLLABORATE AND LEVERAGE EACH OTHER'S EXPERIENCE.**



**I. PHYSICAL OR ON-PREMISE EDUCATION** – This model essentially entails that the Korean workforce or people exploring education can go to India and get themselves updated across the basic or advanced education.

**II. ONLINE MODELS** – This could be the at home education system wherein people from India can impart education over the Web at the convenience of the learners.

**III. EXTENDED CLASSES** – You can visualize this model as an extension of an institution in India. In this, a private or a public school can tie-up with an education provider in India where the potential learner (student) will get an opportunity to visit India and spend a few weeks or months as part of the curriculum.

The above models are an illustration and can be refined further based on the mutual business interest and can also be combined for optimal implementations. Overall, there are multiple implicit and explicit benefits for both countries to collaborate in the education sector with some tangible benefits in the key areas of:

**A) QUALITY EDUCATION FOR A LOWER COST** – With India having an ample supply of English speaking resources coupled with a strong education system, it will create enough supply to meet the demand, which in turn will keep costs down with no impact on the quality. In addition, a strong competition on the supply side will push quality further up. This for sure will be a win-win on the both sides, for South Korea it will mean both economic and social benefits like getting more for the same dollar spent, with a huge benefit for lower-middle class earners, who will have an opportunity to get an international or global education.

For India, it will translate to more jobs and the opening of a new market place.

**B) PHYSICAL PROXIMITY** – For an Asian, traveling in Asia is relatively convenient compared to traveling off of the continent.

**C) STRONGER ECONOMIC AND CULTURAL BONDS** – With two countries working closely at the education level, a key resource for business operations, it will implicitly tie a stronger knot between the two countries at both the strategic and operational levels.

*To make any of the above models work Indian policy makers should take the first step and construct a congenial business environment so that entrepreneurs in both countries can leverage this opportunity and pass the benefits to the masses.*

# ARVIND SAXENA

*Senior Vice President,  
Hyundai Motor India Ltd.*

BY DONALD KIRK

**H**yundai Motor broke into the Indian market in the mid-nineties (1996 to be precise) and has since established itself as one of the country's most competitive brands. Arvind Saxena, senior vice president, marketing and sales, Hyundai Motor India Limited, answered these questions exclusively for Donald Kirk, long-time correspondent in Seoul and author of "Korean Dynasty: Hyundai and Chung Ju Yung" and numerous articles on the Hyundai empire:

**Question: What is the size and scope of HMC's Indian operation, how long has it been in operation and what are its future plans.**

**A**nswer: Hyundai Motor India Ltd (HMIL) was set up in 1996 when the factory construction started and the first car (Santro/Atoz) rolled out in September 1998. Today, HMIL has a capacity of producing 600,000 units per year and it operates two plants within the same premises situated in Sriperumbudur, approximately 35 km from the southern city of Chennai.

HMIL enjoys a market share of around 21 percent today and it hopes to grow this to around 23 percent over the next year or so. It exports about

50 percent of the production to over 100 countries from India. The models exported are Atoz, i10, i20 and the Accent. HMIL has been designated as the small car production hub, which means all cars below the i20 will be produced only in India. This year, HMIL expects to sell around 560,000 units overall (both exports and domestic sales combined).

**What are some of the difficulties encountered in setting up such an enormous operation in India and have your projections been fulfilled?**



els high as well as maintain quality.

Within six months of starting our operation we became the No. 2 car manufacturer and the largest car exporter - a position we still hold today. Hyundai products are very popular in the Indian market and the i10 is one of the largest selling cars here in India.

**What type of cars are most competitive in the Indian market - and do you plan to diversify with other types of vehicles, including the large limousines and upscale models that do well elsewhere?**

India is primarily a small car market but HMIL is the only manufacturer that offers a full model range starting from the compact Santro to the premium Sonata and the SUV Tucson. Since compact cars account for over 75 percent of the market, HMIL will continue to focus on this segment while maintaining its presence in other segments as well.

There haven't been too many difficulties. The state government has been very co-operative in terms of granting permits, etc., but there are some infrastructural shortcomings like the lack of good road connectivity to the port and a railroad connection from the factory to the port, which has still not come up. But, otherwise, we do not have any major problems.

Chennai is conveniently located with access to the port, which helps us export our cars, and also the national highway, which again facilitates domestic distribution.

**What are the advantages of operating in India, and what is the response in the vast Indian market to Hyundai cars?**

India is a huge market for small cars and this helps us achieve economies of scale as we produce a large number of compact cars both for domestic and overseas markets. India also has a vast and skilled manpower pool, which helps us keep our production lev-

**What advice would you have for others considering going into business in India?**

India is a price sensitive market and at the same time it values quality, reliability and performance. If you do not have capable products that meet the aspirations of the people, then chances are they will not succeed. As for HMIL, we have always offered the latest in technology and the best in design products, which are contemporary. At the same time we offer our customers a great value for money proposition and this we feel is the main reason for our phenomenal success.

**What type of bureaucratic issues does one encounter, and what does a prospective manufacturer have to do to get into business in India?**

Numerous licenses and permits that were once required earlier for doing business in India have mostly been done away with. There is a fair and transparent procedure in place and it is not that difficult to meet the rules and regulations here. Once one fulfills the eligibility requirements there isn't much that gets in the way of doing business here. The state government in Tamil Nadu where we are located have been very helpful and provided us with all the assistance that we required.

**How does the Indian market differ from other large markets, including South Korea, the United States and Europe? What distinctive features does one find in the Indian market?**

As we said earlier it is primarily a small car market, which is growing in double digits every year, so there is vast potential. However, it is a value-conscious market and only the latest in terms of technology and design can hope to succeed. It is a very competitive market and it is increasingly becoming so.

**What manufacturing problems are distinct in India due to weather, transportation?**

Transportation or distribution at times takes a longer time because of weather conditions like heavy rains, which happen during the monsoon season, but normally it is well organized and we do not face any continuous problems.

**How about the Indian work force - how well trained and qualified are Indian citizens to work at skilled, high-level jobs, and what about assembly line workers? Do**



**you face union problems? How do wages there compare with elsewhere in the world or with other manufacturers in India?**

There is no dearth of skilled manpower and most Indians are computer savvy and technically trained and speak English. But on the shop floor we have recently started facing some union related problems, which again are politically motivated and encouraged by outside unions. Wages as compared to developed nations are less, but within the Indian automobile industry HMIL workers are the highest paid.

**Who is your main competitor in India? What competition do you anticipate in the near or long-term future?**

The main competition comes from Maruti Suzuki and Tata Motors. The Indian automotive industry is growing fast and, consequently, it has attracted all the major automobile manufacturers. Most of them are already present and companies like Nissan and Volkswagen are just setting up their operations. All producers of compact cars will be in direct competition with HMIL and with more companies coming in competition will only get tougher.

**How would you compare India with other large markets? Is it an advanced country or a developing country? Are Indians taking to the roads in ever-increasing numbers, and where is the market going from here?**

India is a developing market, and when we started out it had a very low car ownership base. Even today it is one of the lowest with eight out of every 1,000 Indians owning a car. So potential for growth is tremendous and in the coming years we see the market

expanding considerably, as with growing incomes more and more Indians take to the roads.

**Are you manufacturing vehicles or models that are unique to India and not sold elsewhere? Do they have different names from models seen in Korea, North America and elsewhere? How can HMC compete with that new extremely small Indian car we've been hearing about?**

India is a compact car market, so most of the production is skewed towards small cars, but most of the compact cars we manufacture here are sold in many markets, so in that sense there is no product differentiation in terms of technology or design. Yes, sometimes they are named differently as in the case of Santro, which is called Atoz in many markets, but the i10 and the i20 are named the same. HMIL will not compete with the ultra low-cost cars that have been made or will be made, because HMIL does not believe in competition at price points. It will continue to build quality compact cars that can meet the safety and emissions requirements in any part of the world.

**How do HMC people like living and working in Chennai? Do you have plants and operations elsewhere in India? Is there any particular region of India where you do better than elsewhere? Why Chennai - why not Mumbai or Delhi or Kolkata or some other huge urban center?**

We have the manufacturing operations only in Chennai, but we have regional offices across the country and the marketing and sales office in New Delhi. Hyundai is represented through a 281-strong dealer network covering almost the entire country and Hyundai cars sell well across the nation. A-P



# EMERGING INDIAN GLOBAL LEADERSHIP IN CLIMATE CHANGE NEGOTIATIONS

BY HARISH KUMAR

**A**s the curtain falls on the two week long Copenhagen Climate Summit, it is perhaps time for reflection. As UN Secretary General Ban Ki-moon put it, the Copenhagen Accord "lays a good foundation" to further build on it. It sought to capture the positives, thus far, to further evolve consensus.

Importantly, in the run up to the Summit, most major nations had announced their approaches. The Indian Environment Minister Jairam Ramesh informed the Indian Parliament on Dec. 3 that India would cut its carbon intensity by up to 25 percent.

Some critics have been quick to denounce this as insignificant. However, to be fair, the India case needs to be viewed in perspective. India helped salvage Copenhagen by being part of the Copenhagen Accord.

Carbon intensity denotes the proportion of the use of fossil fuels per unit of GDP. The base year for the Indian case is 2005. The closer the base year, the stiffer the target becomes as nations progressively strive to attain energy efficiency. For example, India has already reduced its carbon intensity by 17 percent since 1990. To give credit where credit is due, India has been ambitious in taking 2005 as the base year, whereas 1990 would have been more convenient.

When we discuss the emission levels, it needs to be borne in mind that India's emissions are but a fraction of the global figure – just about 4 percent (while the Indian population is 16 percent of the world), or one fourth of the global average. This needs to be seen in comparison to 20 percent for the United States and 16 percent for China.

If you take per capita emissions, then the differences are even starker. India emits about 1.1 metric tons of carbon dioxide per annum, while the corresponding figures for the



Indian Environment Minister Jairam Ramesh

United States are more than 20 metric tons, and for OECD countries the average is above 10 metric tons. If we accept that all citizens of the world have an equal right to the global resource of the atmosphere, per capita emissions shall become central to the discourse on climate change.

Building global consensus on climate change is a complex task. The approach, logically, should be to build on what has been collectively agreed to in the past. For example, a concept that was agreed to at the United Nations Framework Convention on Climate Change (UNFCCC) is the historical responsibility of different nations. This is to say that climate change takes place because of the cumulative buildup of greenhouse gases in the earth's atmosphere. This has happened over the two centuries since the start of the Industrial Revolution. The British Environment Secretary conveniently says to developing countries, "Do not do as we did, but do as



## What does India expect from the continuing talks?

*we say," because we did not know any other way or the environmental damage we were causing. But fortunately, the countries with historical responsibility are also the affluent countries, which can afford to share the burden now. This naturally needs to be taken into consideration, and need not be reopened.*

That is why the UNFCCC had determined that various nations have common but differentiated responsibilities towards addressing climate change. In climate change theology, this is an important mantra.

Accordingly, the Kyoto Protocol has categorized nations into Annex I countries and the rest. India contends that this differentiation needs to be maintained and cannot be undone.

Thirty-seven industrialized countries labeled Annex I in the Kyoto Protocol committed to reduce their greenhouse gas emissions for a 15-year period from 1997 to 2012. The time has come now to review these commitments. Unfortunately, most of the Annex I countries have actually increased their emissions, let alone cut them.

The United States stayed out of the Kyoto Protocol under the Presidency of George Bush, who believed that environmental restrictions would undermine its competitive edge. Unfortunately, a linkage that is against the spirit of the UNFCCC is sought to be made that the United States cannot pledge to cut its emissions unless and until major emitters also join the effort. This has had the effect of obfuscating the issue, rather than dealing with it on merits or equity.

Uninformed sections of the media

routinely lump India among the major emitters, although it is marginal in terms of emissions. With a per capita annual emission of 1 metric ton per annum, which is one fourth the global average, how can we call India a major emitter or a free rider, as Indian Prime Minister Dr. Manmohan Singh had questioned rightly during his intervention in the G-8 summit in 2008.

Ever since, preparatory deliberations on climate change had come to be called Major Economies Meetings, which were originally conceived as Major Emitters Meetings.

Dr. Manmohan Singh offered an interesting formulation. He said, "India is determined that even as we pursue our economic growth and development, our per capita emissions will not go beyond those of the developed countries."

But this convergence idea is also a challenge to the developed countries. "The quicker you reduce your emissions, the greater the incentive for us to follow." In other words, the Prime Minister of India had long set the ball rolling way back in August 2008, setting sights high for Copenhagen.

India set forth the principle of the need to strike a balance between development and environment. Obviously, the developmental imperative cannot be held hostage to the environmental concerns. In India, about 600 million people still live without access to modern energy sources. Can we tell them that they will not have electric power or running water lest hell should break loose due to anthropogenic excesses elsewhere? Is it fair and civil?

Even while putting forth its point

of view, at home, India has launched several domestic adaptation and mitigation measures on a voluntary and systematic basis. Prime Minister Singh launched the National Action Plan in July 2008. This includes eight National Missions in the areas of solar energy, the extensive deployment of renewables, the use of clean coal technologies, boosting energy efficiency, the adoption of green building codes, large scale reforestation efforts and the promotion of agriculture. As part of the action plan, many of the mitigation efforts in sectors such as energy, transport, industry, agriculture and forestry will have specific quantitative and time-bound domestic goals. What is more, the National Action Plan also provides for mid-term review and deadlines. India, of course, can do much more if international cooperation in terms of finance and environmentally-friendly technology is forthcoming.

India not only joined international efforts constructively, but also hosted a major international conference on technology cooperation for climate change in New Delhi in October 2009 to highlight its sincerity.

India seeks a rather pertinent distinction between survival emissions and lifestyle emissions. If we provide basic energy services to the rural poor in India that will inevitably result in higher emissions. But can this be equated to higher emissions as a result of high speed limits, or no speed limits at all, on highways in Europe?

Indians by nature are frugal and recycling and refraining from waste is innate to Indian traditions and ethos. India recycles over 70 percent of its waste, while this figure is only 30 percent in the United States and less than 50 percent in Germany.

What does India expect from the continuing talks? India would like to see an outcome that is rooted in equity; respect the provisions and principles of UNFCCC, in particular the common but differentiated responsibilities, and also historical responsibilities. The outcome should ensure that developing countries can pursue accelerated development to provide basic amenities to their citizens and also that the developing nations have the requisite resources to cope with the challenges of climate change. India hopes that the resulting mechanism will provide for financial resources and access to technology that will enable the upgrading of India's national effort. What is certainly not acceptable is trade protectionism or an environmental tax in the garb of environmental concern. □-P

The writer, based in Boston, keeps an abiding interest in climate change as it involves us all. He is a senior architect of IT software and is a Director of Snovasoft.



# A Small Republic in Korea Nami Island

**S**ituated 63km from Seoul in the middle of the Han River, the island looks like a leaf floating gracefully on top of Cheongpyung Lake. There are more than 300 different kinds of trees and 2 million tourists visit the island every year. Among them are 200,000 foreign visitors from all over the world – India, Thailand, Singapore, Taiwan, Japan and China. This unique island is called ‘Nami Island.’

The Island has an area of 460,000 square meters and a circumference of 6 km. Nami Island was named after General Nami, a brave name from Korean history who courageously fought in battles and died at the age of 26. In 1965, thousands of trees were planted by Mr. Minn Byeong-do.

In 2001, Nami Island was a main filming location for the television series ‘Winter Sonata’ that became internationally famous. On Nami Island there are still traces left behind of the love between the hero and the heroin. Since then, Nami Island became a place of memorable times with love and romance for all generations.

Nami Island is known for its unique harmony between humans and animals and also as one of the most cultural and artistic tourist destinations. There are always ongoing cultural events including various performances and exhibitions that enable visitors to experience the culture of Korea as well as many other countries from all around the world.

One of the most outstanding international events on Nami Island is NAMBOOK Festival: Nami Island International Children’s Book Festival, and YOPEFE: International Youth Performance Festival.

More than 70 countries participate

in NAMBOOK Festival, promoting children’s literature along with tradition and culture from their country, while youth from 33 countries show off their artistic and cultural talents in YOPEFE.

Thanks to all these events, culture and art from India were also introduced and became a big part of Nami Island culture that offers joy to all its visitors.

The National Ballet of India has already performed twice on Nami Island; ‘Vajpayee’ Dance performance; the Indian food festival; the performance of ‘Sakti’ by an Indian traditional dance group; ‘Amrita Revisited’ painting exhibition; and the original illustrations exhibition from A. Ramachandran were also successfully held on Nami Island. Many visitors from India also planted their own trees while enjoying a relaxing picnic on the island.

Since March 2006, Nami Island declared its cultural independence as ‘Naminara Republic,’ an imaginative fairytale country and the island became a truly unique tourist attraction in a form of a republic. Naminara Republic also has its own anthem, flag, currency, stamp, phone card and passport.

Applying hieroglyphic characters from China, Naminara Republic created its own letters that are written on papers hand-made out of wild flowers. Visitors

can discover an interesting joy of experiencing a new country in Korea.

On Nami Island, many foreigners living in Korea enjoy their picnics while having a chance to promote their culture and arts through national days. India, Indonesia, Singapore, France, Denmark, Japan, China, Serbia, Egypt, Ecuador and the Philippines have already shared the joy with visitors through their national days.

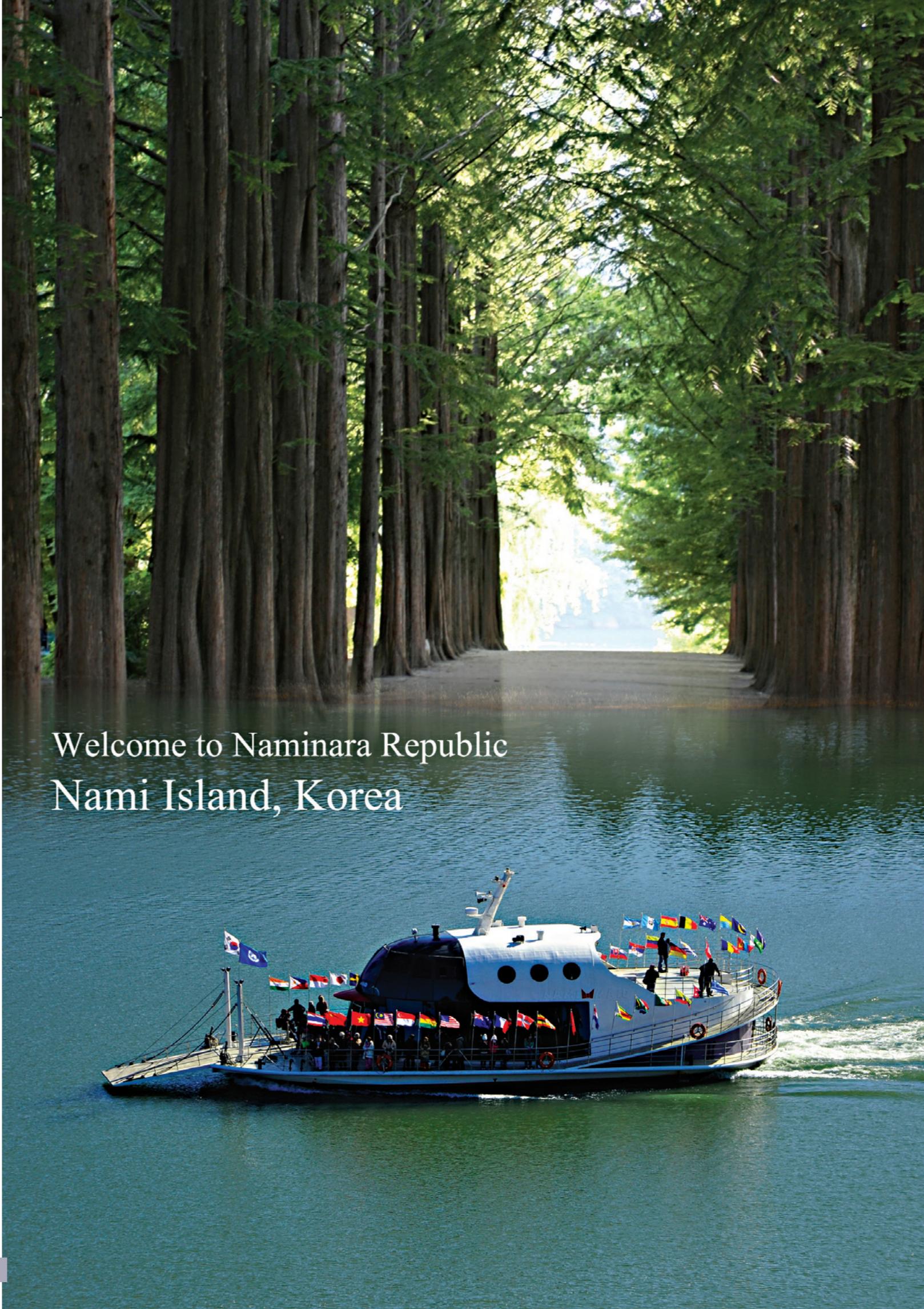
Many materials that are decorating Nami Island come from the great use of recycling. Garbage, wasted bottles, cans and old benches are reborn as artworks through creative touches by many artists. Nami Island became a place for various civil, environmental and international organizations and artists. Visitors can also experience and learn new cultures at the ‘UNICEF’ hall where the fund is created for children in need, an environmental school, a green culture workshop and an arts and crafts studio for glass and ceramic works.

On the island, there is a hotel with 45 rooms and 10 cottages. The hotel is also decorated with recycled materials. All the televisions have been removed and were replaced with books so that the guests can enjoy their time in nature with literature. With books everywhere, even in bathrooms and on benches, Nami Island has become a ‘library in nature.’

In the evening, the lights are all turned off for those who meditate with the sound of nature.

Under the moonlight and starlight, one can be truly in harmony with nature.

This is Nami Island, a small fairytale country in Korea where the sounds of birds, water, wind and breath become one, where one can find inner peace looking at the mist from the river. A-P



Welcome to Naminara Republic  
Nami Island, Korea

# INAUGURATION of posco-IPPC 2nd Plant

April 21, 2009



Inauguration of POSCO-IPPC(POSCO-India Pune Processing Center) on April 23, 2009.

# POSCO Leads the Way

## INTERVIEW

### BY DONALD KIRK

POSCO, whose two huge plants in Korea make it the world's fourth largest steel manufacturer, is planning to build an enormous plant in the **Indian state of Orissa**. Donald Kirk asked POSCO for details on this exciting venture, which promises to be the most significant of any foreign investment on the Indian subcontinent. Here's how POSCO responded to Kirk's questions:

**"The construction phase will create about 467,000 man years of employment."**

Question: How did POSCO become involved in the project?

Answer: POSCO-India integrated steel plant project is a significant part of POSCO's strategy to reinforce its global competitiveness. India has shown strong economic growth for the last few years and has great potential for the steel market. Orissa is an attractive destination for investment with abundant raw materials and labor resources.

Estimated Investment for Phase I: US\$3.7 billion (Rs 16,650 crore)

What is Korea providing that India needs – and how is each learning from the other's background, interests and experiences?

The POSCO plant in Orissa is expected to bring about meaningful growth and investment in India, and would also further help downstream industries like automobile, shipping

nature of the steel industry, which requires large equipment facilities, the project is envisaged keeping in mind operations for many years. The project will be followed by other likely investments, which will extensively contribute to the development of India's economy and society at large.

What are the advantages of investing and working in India?

We believe that sustainable com-



Chung Joon-yang, POSCO CEO, meeting Orissa's chief minister Navin Patnaik in September 2009 for discussions on how to stimulate POSCO's integrated steel mill project in India.

What do you anticipate in terms of production, global rankings and earnings?

With a proposed investment of US\$12 billion (Rs 52,000 crore), POSCO-India seeks to construct a world-class, fully integrated steel plant in Orissa with annual production capacity of 12 million tons. The project will include iron ore mine development over 30 years (total 600 million tons) at captive mines located in the Keonjhar and Sundergarh districts of Orissa, as well as development of related infrastructure.

Phase I is expected to conclude in 2014. Phase II will be completed three years after the completion of Phase I; and Phase III will be commissioned within three years after Phase II. Total Investment: US\$12 billion (Rs 52,000 crore).

and construction. POSCO brings its advanced technology and capital base to the joint venture with India, and offers India a step up in its goal to build its steel industry into a global powerhouse.

POSCO will make a major investment in India. This projects India as an attractive investment destination for other global players.

India will derive significant benefits from the POSCO-India project, as it will create an estimated 48,000 direct and indirect jobs in the region. In addition, the construction phase will create about 467,000 man years of employment for the local population.

There will also be large-scale mine development and linked infrastructure development (captive port, rail, roads, etc). Owing to the unique

petitive advantages will be attained when the strengths of India and POSCO are combined. India's huge growth potential, human resources, its open policy and vast natural resources create an ideal environment for investment.

What is the attitude of the government of India toward foreign investment?

The government of Orissa is lending its support to the project by forming a joint high-powered committee to review the progress of the project regularly. And a senior level government officer has been appointed to expedite project work.

Is this Korea's biggest single investment in India?

Yes, this is the largest single foreign investment in India. **A-P**

# Congratulatory Message



As the 21st century is progressing, one of Asia's major countries, India, is reestablishing itself as a prominent economic as well as political presence on the global stage. India has been growing at a remarkable 6-8 percent per annum for the past two decades. India possesses the weight and dynamism to influence the whole of Asia and beyond.

Korea, though the size is not that big, has achieved unprecedented economic, social and political advancement during the past three decades. Korea possesses unique experiences on development and social transformation.

In the early 1980s, when the developed countries were somewhat doubtful and not quite confident about the future of the Indian economy, Korean companies saw the potential and boldly invested in India with a firm faith and confidence: Hyundai and Daewoo in automobiles, LG and Samsung in electronics, etc.

Now, Korea's visionary President Lee Myung-bak visits India in January 2010, to make the two countries even closer than before.

The Asian Economic Community is no more a dream and untouchable future – world renowned scholars, politicians and businessmen enthusiastically supported the AEC Forum we just had in Incheon from November 11-13, 2009. India and Korea will certainly be key members in this historical endeavor.

Congratulation on bringing out this special issue of the Asia-Pacific Business and Technology Report on India-Korea ties on the occasion of President Lee Myung Bak's visit to India.

Sincerely,

**Kim Hak-Su**  
Chairman  
Asia Economic Community Foundation

# Congratulations!



On behalf of the 12,000,000 citizens of Gyeonggi Province, I would like to heartily congratulate the historical Republic Day of India, one of the birthplaces of civilization and a great economic power among Southwestern Asian countries.

Since 2004, Gyeonggi Province has explored ways to collaborate with India and last March a Memorandum of Understanding

for the establishment of a friendly relationship was created with Maharashtra, India, which is a growth engine of the Indian economy.

Upon creating this contract, both parties agreed to promote exchange in the fields of the high tech industry and R&D to establish a cooperative network and to support mutual investment attraction activities.

I believe that this strategic exchange and practical cooperation between Gyeonggi Province, a growth engine of the Korean economy, and Maharashtra, one of India's leading industrial states, will greatly contribute to the development of each nation.

Particularly, the economy of India has been rapidly rising toward the center of the world economy based on rich material resources, a wide range of industries, qualified human resources and an open-door policy.

I am sure that President Lee Myung-Bak's visit to India on Republic Day will help the bilateral relationship between both countries become a firm political and economical partnership and encourage cooperation in every sector of society including business. Therefore I expect that the cooperation of both countries will strengthen the unity of all nations in Asia.

I again would like to give my congratulations on the Republic Day of India and hope that India, a great power in IT realizing 8 percent average annual growth, will develop as one of the three big powers of the world economy in the 21st century.

**Kim Munsu**,  
Governor of Gyeonggi Province

# CEPA Effect:

## Korea to Recruit Language Professionals From India

BY CHRISTOPHER SANDERS

**K**orea has long had an insatiable thirst for English. English as a second language (ESL) education is a billion dollar industry in this country of 48 million. Starting in third grade, all students receive compulsory ESL classes in the public school system; these classes continue through the first or second year of university. Some 40,000 children are sent to study in the United States, Canada, Australia, New Zealand, Ireland, South Africa and Great Britain, as well as special camps in the Philippines, Malaysia and some other countries. ESL is a US\$15 billion a year industry.

Since the 1980s, native English speakers from seven English speaking nations have been utilized for both public schools and private academies. There are nearly 20,000 teachers from the United States, Canada, Australia, New Zealand, Ireland, South Africa and Great Britain on E-2 visas. The requirements for this visa are a bachelor's degree in any subject from an accredited university in one of the aforementioned countries and, since 2007, HIV and drug examinations as well as police background checks. While many of these native English instructors work for public schools in the Seoul and Gyeonggi-do regions, the majority teach at private academies known as hagwons.

Finding native English teachers to work in rural areas far from Seoul or the southern port city of Busan can be very difficult. The national government and local education boards have attempted various schemes such as encouraging young overseas Koreans to return to their homeland and teach for a year or two. Despite such efforts, there are still perennial shortages in

the number of foreign teachers for certain areas.

With the recent conclusion of the Comprehensive Economic Partnership Agreement (CEPA) between India and Korea, the Ministry of Education, Science and Technology (MEST) has announced a plan to recruit 100 Indian teachers to fill roles in public school systems throughout the nation. According to MEST, this will "improve the system for assistant native teachers of English. We expect a number of qualified English teachers from India will come here."

There are currently just over 7,000 "assistant native teachers" working in public schools, as part of the English Program in Korea policy begun in 1995. Until now, teachers for this program could only come from the seven previously countries that are considered by the Ministry of Education to be 'native' English nations. Instructors from other countries that have adopted English as a national language, such as the Philippines or Malaysia, were forbidden from obtaining the necessary visa to teach English in Korea. The



new policy allowing Indian instructors marks the first time instructors from a non-'native' English-speaking country to teach English in Korea.

"A large number of Indians are already teaching mathematics and English in the United States and Britain. I think we can expect much from those teachers," an official from the Ministry of Education told reporters. Currently, only 13 percent of English teachers from the seven 'native' English-speaking countries have specific teaching certifications. Teachers recruited from India will be required to have a teaching certification and will undergo oral and written examinations to ensure a high level of English ability.

Indian teachers will be integrated into public schools starting in the Spring 2010 semester. The new policy only applies to teachers working for public schools. Private academy instructors will still be restricted to the seven native speaking countries. In the coming years, Korea will allow teachers from other countries if a bilateral trade agreement is reached.

If the initial recruitment of 100 Indian teachers is considered successful, the Ministry of Education, Science and Technology will consider expanding the program to 300 teachers. AP



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