INDIA-KOREA
Glorious Past, Bright Future

Growing India-Korea Cooperation in Nuclear Energy Sector
Taking a Closer Look at India-Korea Defense Cooperation
Understanding Future of India-Korea Trade After CEPA
India-Korea Collaborative Activities in Nanotechnology
Potential of Health and Medical Cooperation Between India and South Korea
Education: Key Sector of Mutual Growth in Korea and India
Korea and India to Strengthen the Non-conventional Energy Sector Cooperation
New Thinking for Reducing the Risk of Investment in India
India and Korea Travel and Tourism Ties to Strengthen Further
A promise is a promise
약속은 약속입니다

One day, Ratan Tata, the Chairman of the world-famous Tata Group, saw a family of four riding on a tiny single scooter. That led Mr. Tata to pledge that Tata Group would make not only a safe and comfortable, but also affordable vehicle for Indian people. Even amid the global financial crisis in 2008, Tata Group started production and sales of “Nano,” the cheapest vehicle in the world in order to keep its pledge for the people even when the group knew that it could affect the very existence of the group. Now, the group is held in even greater esteem and love by the people of India.

These anecdotes well describe trustworthy management of the Tata Group that it must keep promises, no matter the situation.

Tata Daewoo Commercial Vehicle will work towards becoming the leading commercial automobile maker by carrying on the spirit of the Tata Group’s trustworthy management, providing the trust that promises made to our customers will be a top priority.
MAKE BIG IDEAS TAKE ROOT

BECOME AN AGENT FOR INSPIRED CHANGE IN YOUR ORGANIZATION

JOIN the Business Performance Innovation (BPI) Network

BPI NETWORK. INSPIRING CHANGE FOR THE BETTER.

www.bpnetwork.org
Join hundreds of senior marketers worldwide in providing valuable insight for Marketing Outlook 2011

Marketing Outlook 2011, the CMO Council’s fifth annual benchmark of marketing priorities, spend allocations, and operational and organizational mandates, will evaluate how social, mobile and digital channels are changing the marketing landscape and mix. The results of this study will serve as a valuable and reliable barometer of media and marketing spend, as well as a sound indicator of where and how marketers expect to drive campaign effectiveness, efficiency, and yield in the months ahead.

Complete the online survey to receive a complimentary copy of the detailed findings report upon publication. Link to survey: http://www.cmo council.org/programs/surveys/mo_11/
Contents
Vol. 4, No. 2, 2012

Cover Story
India-Korea Relations; Present and Future
Page 8

Dr. Jae Kyu Park, President of Kyungnam University... Page 11
Yeo-Song Park, Director of the Indian Art Museum........ Page 26

Diplomacy
15 India-Korea: In Search of Regional Prosperity
   BY RAJIV KUMAR
16 Growing Institutionalization of India-Korea Ties
   BY LAKHVINDER SINGH

Business
17 New Thinking for Reducing the Risk of Investment in India
   BY BONGHOON KIM
18 Understanding Future of the India-Korea Free Trade Agreement under CEPA
   BY ANURADHA SHUKLA
19 Growing Korean Investment in India Creating Sub-regional Hubs
   BY KIM CHEOL HO
20 Ssangyong Motors Advances on Top of Six Strategy Pillars
   BY MATTHEW WEGAND
21 Korea-India Trade and Investment Leaps Ahead
   BY DON KIRK
22 Why is Indian Investment in Korea on the Rise?
   BY ANURADHA SHUKLA
23 Growing Korean Companies in India and Indian Companies in South Korea
   BY ANSHU SHRIVASTAVA
24 Evaluation of the Economic Trade Advantages Between India and Korea
   BY CHUNG-YEON CHO
25 India-Korea Business Ties after CEPA
   BY AMANDA MIN CHUNG HAN

Defense & Strategy
27 Why India-Korea Strategic Cooperation is Critical to the Region
   BY ANURAG SHUKLA
28 Taking a Closer Look at India-Korea Defense Cooperation
   BY ANURADHA SHUKLA
29 India Forges Better Ties With East Asia
   BY RASHMI GUPTA
30 India-Korea Strategic Relations
   BY TIM YUNG MIN SCHORTER
32 Military and Strategic Aspects for Korea-India Relations
   BY NICHOLAS HAMSEVOZ

Health
33 India-Korea Cooperation on Green Technology for Sustainable Health and Well-being
   BY MANJU SINGH AND R.B. SINGH

Science & Technology
38 Indo-Korea Collaborative Activities in Nanotechnology for Energy
   BY SIVARAM AREPPALLI
40 India-Korea Science and Technology Cooperation
   BY SHAMILA JANAKIRAMAN

Energy
41 Nuclear Energy Cooperation Between India and Korea – Vital Energy Alternatives
   BY VIJITH SAMENA
43 Potential of India-South Korea Nuclear Energy Cooperation
   BY JENNIFER CHANG
43 Korea and India to Strengthen the Non-Conventional Energy Sector
   BY JEON-DONG HEE
44 Nuclear Energy: India & South Korea Cooperation
   BY ANSHU SHRIVASTAVA

Education
45 Education: Key Sector of Mutual Growth in India and Korea
   BY YASHIRA DHINGRA
46 Human Resources Development Cooperation – Regional Perceptions
   BY REENA CHAUDHARY
47 Research Cooperation Between Indian Korean Institutes of Higher Learning
   BY CHUNG-YEON CHO

Travel
48 India and Korea Travel and Tourism Ties Strengthen Further
   BY JEON-DONG HEE

Memory Lane
50 When Chai Came to the Land of the Morning Calm
   BY VICTOR FC

For Advertisements and Other Business Enquiries Please Contact:
302, 10-9 Myeonongneon Dong 1 ga
Chongru-Ku
Seoul, South Korea
Phone: 822-766-8230
Email: contact@biztechreport.com
Discover the wonders of the world

Original. Remarkable. Exceptional.

Wherever in the world you travel, you'll be assured of a warm welcome with WORLDHOTELS, a collection of almost 450 of the world’s most unique and interesting independent hotels.

Book your unique stay at worldhotels.com or contact your nearest travel agent for Best Available Rates.
India-Korea Relations; Present and Future

BY VISHNU PRAKASH*

I’ve long been fascinated by South Korea, especially since the 1997 Asian Financial Crisis, when I learned that it was the first OECD country to bounce back stronger than ever. And one of the reasons why it did so was, of course, its people. Korean people, women in particular, voluntarily donated their gold and jewelry to help get the nation back on its feet. I’d never even imagined seeing such a thing.

We Indians are one of the largest importers of gold in the world. Some 1000 tons are imported each year. Indians love gold. In India we have a joke – a wife will say, “Please, take away my husband but don’t take away my gold.” I’d already realized that there was something special about this country of Korea. But in the aftermath of the IMF crisis, that’s when my fascination with and admiration for it increased further. Since I’ve arrived here, I’ve learned that the mantra for everything is ‘bbali bballi’, or hurry-hurry. It clearly has something to do with the speed at which this country has transformed itself.

We are in a period of unprecedented change in all the regions of Asia. The global standing of both Korea and India has been steadily rising in the political, economic, and cultural spheres. We are both ancient civilizations. As I read Korean history, I often note that there are quite a few parallels between us, cultural, political and economic. Both Korea and India have similarities of outlook and have seen significant changes. Korea’s per capita income in 1962 was half of ours but now is about 10 times more. Korea as a nation has done remarkably well, and I can say, as an Indian person, that as your friends, we are happy for you.

The Prime Minister of India paid an official visit to South Korea last month. Before coming here, he gave an interview to the managing editor of the JoongAng Ilbo, who had travelled to New Delhi for the purpose. The PM likened India, a large country of 1.2 billion people, to an elephant, which may be slow to move, but when it starts it cannot be stopped. But even though India is an elephant to Korea’s tiger, there are many similarities between us. The two countries have both overcome great challenges in similar ways. Back in the 50s, India had a ‘ship-to-mouth’ existence. If a food shipment didn’t come in

That both countries are flourishing democracies makes our relationship people-driven. There is complete consensus across the political spectrum in India to have the closest of relations with Korea, which is being built on the foundation of a strategic partnership…

Mr. Vishnu Prakash with President Mr. Lee Myung-bak and Minister of Foreign Affairs & Trade Kim Sung-Hwan at Blue House on March 19, 2012.

© Embassy of India, Seoul
time there would inevitably be a food crisis. Now we are a net exporter of food, but we have certainly seen hardship. We, I think, can look back with satisfaction at what we managed to achieve, especially in empowering the masses.

India is still a developing country. We have about 300 million poor people, but the percentage of poverty is coming down. The quality of life of the average Indian is improving. We have a very young population. More than 50 percent are below 25 years old, and 70 percent are below 35. Every year, 10 million people join the workforce. So it is a huge challenge just to create enough employment opportunities in our nation.

India is one of the oldest civilizations, and one of the greatest democracies today. It has a great hunger, but not for food. It is a hunger for opportunity, says Tom Friedman. The center of economic gravity is shifting towards Asia. The BRICS countries together have 23 percent of the world’s GDP. When we look ahead, by 2035 China, the USA, India, Japan, Korea, and Germany are going to be among the largest economies in the world. There is a Goldman-Sachs report to back this up. Korea and India are vibrant and robust democracies. India will soon be a sizable power shortage in India, but we

Some aspects of the Korean model are worth emulating. The country spends 9 percent of its GDP on education. Like in Korea a primacy is given to education in India. India’s first Prime Minister said that educational institutions need to be the new temples of India. Following his ideals, we have set up many institutions of excellence throughout the nation. Our schools have good reputation in providing quality education in management, information technology, engineering, and science.

India and Korea have complimentary economies. We have strengths in the sunrise industries, especially IT software. But we are a huge importer of IT hardware, where Korean manufacturers have an edge. The hardware demand in 2012 is estimated at over US$13 billion. We are deficient in infrastructure, but have now begun investing 8 percent of GDP in it per year. During 2102-17 we propose to invest US$1 trillion in infrastructure development, including highways, airports, metros, power plants, etc. We have the money, and we are collaborating with other countries in executing these projects. We would like to see Korean construction companies, which have an excellent track record, play a more active role in executing infrastructure projects in India. Chinese companies have already executed or secured US$70 billion worth infrastructure projects in India. Korean companies have been very successful in India’s huge market, comprising a 300 million strong middle class alone, which has excellent buying power. Around 20 percent of the Indian small car market share is with Hyundai for example, which has in two plants in Chennai, producing more than 600,000 cars per year. Over 50 percent of market share for consumer durables like air conditioners, TV, washing machines, refrigerators is also with Korean companies like Samsung, LG and Hyundai.

India exports a number of products like chemicals, yarn, jewelry and raw materials to Korea, including bauxite and iron ore. There is as yet so much more we can do together.

Indian multinational corporations now have a global presence. India is seeking and making investments. India received FDI (foreign direct investment) of US$158 billion in the last ten years while US$129 billion was invested abroad by Indian companies over the same period. As such, the economic fundamentals are strong and the economy is well regulated. Already we have some of the big names like Tata that bought out Daewoo trucks in 2004, and Mahindra & Mahindra, which bought Ssangyong Motors in 2010. Top IT companies from India are present in Korea as well.

Then there is the power sector. We have a sizable power shortage in India, but we are adding 12,000 megawatts of power generation capacity per year now. Last year we added 19 gigawatts of generation capacity. India is also enhancing its civil nuclear power generation capacity. We are the only country currently doing that. India plans to scale up its capacity from 5,000 megawatts of nuclear energy at present, to 20,000 MW by 2020 and 60,000 by 2035. Korea has the technology, India has the desire. India would like to absorb this expertise, and we can collaborate closely.

Now let me take stock of India-Korea ties. India and Korea are strategic partners who enjoy a close and multifaceted relationship. The state visit of President Lee Myung-bak
to India in January 2010, was a landmark event in our ties. Our bilateral engagement received a further fillip with the visits of the President of India to the ROK (Korea) in July 2011 and that of the Prime Minister of India to Seoul between March 24th and 26th, 2012. The relationship is firmly anchored in a commonality of mutual interests and outlook. Ours is a problem-free and friendly relationship. We do not have any strategic differences. That can be said about very few countries. We have similar outlooks, similar interests and similar challenges.

That both countries are flourishing democracies makes our relationship people-driven. There is complete consensus across the political spectrum in India to have the closest of relations with Korea, which is being built on the foundation of a strategic partnership. The Comprehensive Economic Partnership Agreement (CEPA) was operationalized on January 1st, 2010, and this has become a template for many more CEPA's that India has signed since, including with Japan and Malaysia. In two years only, there has been nearly a 70 percent increase in trade between Korea and India. It crossed US$20 billion in 2011. We have established a new trade target of $40 billion by 2015 which is very achievable. With IT products as well we are seeking better access. But these are negotiations between friends. Our commerce and trade ministers meet every year, to review the implementation of CEPA and examine the need for upgrading. It is a process. Indian pharmaceuticals are among the best in the world today. We have the largest number of pharmaceutical products registered with the US FDA by any foreign country.

Indeed, ties are becoming truly multifaceted between India and Korea. We are now expanding these ties into security, defense, and even education. Some 2,500 Korean children are studying English in India right now. About half of them are in Indian schools. About 900 Indian scholars are studying science subjects and Korean in this country. We also want to enhance S&T cooperation, including in the sphere of space technology. We have offered to launch Korean satellites. We also have a cultural center here in Korea now where we teach yoga, classical Indian dance, Hindi language, and so on.

Our two countries also cooperate very well in international forums such as the G20. India received excellent support from Korea for its membership of the East Asian Summit. Korea is an observer in SAARC. Korea is also a key pillar of India’s Look East policy. Such ties rest on a good foundation and are poised to grow rapidly. There is an information gap, though, which we still need to plug. As someone who has had a close relationship with the media, I know that they have an important role to play in informing and shaping public opinion. When I presented my credentials to President Lee Myung-bak, I said that both sides have generated high expectations and that we have to live up to those.

Let me close with a quotation from Newsweek about India. “What is happening today is the birth of India as an independent society – boisterous, colourful, open, vibrant and, above all, ready for change … it is a noisy democracy that has finally empowered its people economically … democracy makes for populism, pandering and delays. But it also makes for long-term stability.”

Adapted from extempore talk given at Kyung Hee University on April 12, 2012.

* The author is the Ambassador of India to Korea.

Some aspects of the Korean model are worth emulating. The country spends 9 percent of its GDP on education. Like in Korea a primacy is given to education in India. India’s first Prime Minister said that educational institutions need to be the new temples of India. Following his ideals, we have set up many institutions of excellence throughout the nation.
Peace Building on the Korean Peninsula: A Bigger Role for India?

By Lakhvinder Singh

Dr. Jae Kyu Park is President of Kyungnam University, former Minister of Unification, and former Chairman of the National Security Council (NSC) of the Republic of Korea. He currently serves as a presidential advisor on Korean unification affairs and as a member of the Presidential Committee on Social Cohesion.

He played an instrumental role as the architect of the historic first-ever inter-Korean summit of June 2000. President Park has served as the chairman of the Korean University Presidents Association (2001–2004), ISANG YUN Peace Foundation (2005–2009), and Northeast Asian Forum of University Presidents (2003–2011), among other associations. He also served as President of the University of North Korean Studies (2005–2009). He currently serves as a presidential advisor on Korean unification affairs and as a member of the Presidential Committee on Social Cohesion. He has received numerous honors and awards, including the prestigious Special Prize of the Jury (for Conflict Prevention) from the Chirac Foundation of France in 2009. In an exclusive interview in downtown Seoul with Dr. Lakhvinder Singh, managing editor of Asia-Pacific Business and Technology Report, Dr. Park discusses the situation on the Korean Peninsula, the growing India-Korea ties, and a possible future role for India in peace building between the two Koreas. Below are excerpts of the interview.

Since you are well-known as an expert on North Korea, we would like to begin with some questions on this topic. Following the death of North Korea’s leader Kim Jong Il, the reins of power in North Korea have been handed over to his third son, Kim Jong Un. Is the third son really in charge in the North or is there much more to it than what is seen?

As you may remember, North Korea held its third delegates meeting of the Workers’ Party of Korea (WPK) on September 28, 2010. Since this meeting, Kim Jong Un’s succession in North Korea has been firmly set. No organization or individual can challenge his authority. From September 2010 to December 2011, when Kim Jong Il died, Kim Jong Un’s leadership succession had been successfully put forward, with no anti-Kim Jong Un factions or persons within the elite having appeared knowingly.

As you may know, the key organizations of control in North Korea are the Workers’ Party (of Korea), the military, and the State Security Agency. These organizations are under Kim Jong Un’s tight control. The WPK 4th Party Conference was recently held on April 11, 2012, where Kim Jong Un was appointed as First Secretary of the Party. In this position, Kim Jong Un is officially the leading official of the WPK Central Committee’s Secretariat. Days later, the 12th Supreme People’s Assembly (SPA) convened its fifth session. This meeting is essentially North Korea’s unicameral legislature’s annual session. At this meeting, Kim Jong Un was appointed to the new position of First Chairman of the National Defense Commission (NDC). His deceased father was given the title of Eternal NDC Chairman. So it seems clear that Kim Jong Un, with these official designations, has complete authority over the key organizations of rule.

With Kim’s youth and inexperience, surely there must be others in North Korea assisting him as leader. Who are those people?

Well, one key person has been Jang Song Thaek. He is now the Director of the Administration Department of the WPK and a Vice-Chairman of the NDC—both positions of some authority. Since September 2010, Jang has mentored Kim Jong Un, paying specific attention to the economy by looking for foreign investment. He has also paid more attention to the remodeling of the city of Pyongyang. Jang seems to be refraining from advising the young leader on matters of military and security, as those are not his domain. That means that military and security matters are under Kim Jong Un’s control.

Aside from Jang Song Thaek, there are other people who appear to be senior mentors to Kim Jong Un. In my view, there are about seven others who are most prominent. They are as follows: Kim Yong Nam, who is President of the Presidium of the SPA; Kim Kyong Hui, sister of Kim Jong Il and recently promoted as Secretary of the Central Committee of the WPK; Choe Ryong Hae, now Director of the General Political Bureau of the Korean People’s Army (KPA); Ri Yong Ho, the Chief of the General Staff of the KPA; Kim Jong Gak, who was recently appointed as Minister of the People’s Armed Forces; Kim Won Hong, who is Minister of State Security; and longtime foreign policy hand of Kim Jong Il, Kang Sok Ju, who is currently the Vice Premier of the DPRK government, overseeing foreign affairs.

With these senior mentors, there is no confusion or turmoil in North Korea. For the next few years, they will buttress Kim Jong Un’s leadership.

Is there a possibility of a bottom-up people’s revolution taking place in North Korea, as we’ve seen in the Middle East with the Arab People’s Revolution?

Such seems extremely unlikely. The North Korean government does not allow the North Korean people to talk about what’s been happening in Egypt, Libya, and elsewhere. There is no public discussion on the people’s revolutions in the Middle East. Almost no information on these revolutions reaches the ears of the North Korean public. There is no domestic communication on the events or international information flow that reaches the people. Overseas diplomats that return to Pyongyang keep silent. North Korean business travelers who travel back and forth across the border are monitored and checked. The government still exercises tight control over the population, and will not tolerate any discussion of the issue or anti-government movement.

In addition, Pyongyang and Beijing are of the same mind on this: a people’s revo-
Q&A

North Korea can expect strong cooperation with China to prevent any such movement from emerging.

With that said, the new leadership is faced with solving the country’s economic problems. If it cannot provide basic welfare for the people—that is, adequate food, energy, and medical service—then discontent within the population could rise.

Is the new Kim Jong Un leadership headed for reform and opening of North Korea? If not, where do you think it is headed?

Not in the Western sense of reform and opening. And not in the sense of the Chinese experience either.

North Korea’s economic situation is still problematic. The country is progressing toward a position in which the regime will have to deal with the demand for reform and opening. The regime knows it must improve the economy. To do this, North Korea will follow “its own style” of reform and opening. This does not mean reform and opening in the Western sense. It is my understanding that the new leadership emphasizes reform and opening in two steps. The first is to increase its development of special economic and free trade zones, such as at Kaesong, Hwanggyeumpyong, and Rajin-Sonbong. The second step will be to apply aspects of Chinese-style reform.

Over a decade ago, under Kim Jong II, North Korea studied and made a plan for reform and opening policy. Kim Jong II himself visited Shanghai to examine the city’s industry and growth. Under China’s recommendation, North Korea started to study about China’s reform policy, but it was not yet ready to adopt or follow China’s reforms. Instead, Kim Jong II said that North Korea was starting its own-style reform and opening plan. He implied that North Korea wanted to avoid the “negative effects” a policy similar to China’s would have on the North Korean society. He also said he would not follow Western style reforms.

As I see it, North Korea will continue the Kaesong Industrial Complex. Here they allowed South Korean capital and technology to enter, yet the labor is almost exclusively North Korean. Through its experience with the KIC and the Kumgang Tourist Resort, North Korea found no negative impact on North Korean society. In Sinuiju, North Korea will invite capital and technology from China, and the same from three countries. In Rajin-Sonbong, North Korea will also try to attract Russian and Chinese investment. All these sites are on the border regions, far from Pyongyang. With these new projects with China and Russia, I predict North Korea will proceed with caution, benchmarking China, but at a cautious pace. This is how I understand North Korean-style reform and opening.

Media reports mention recent food riots in the countryside in

Perhaps India can work in some positive way to help North Korea figure out that, for the long-term development of the country, it should choose economic development over nuclear weapons development, and open up to the world.

North Korea. What do you think of these reports?

It is difficult to say exactly what has happened. It might be that any number of people quarreled in the market. We don’t know exactly. But that’s different from anti-government protests. On the whole, the regime appears to have the society under its tight control.

Will North Korea give up its nuclear weapons?

In my view, getting North Korea to completely relinquish its nuclear weapons will be difficult. After the collapse of the USSR and the German unification in the 1990s, a new slogan appeared in North Korea, coined by Kim Jong Il: “No nukes, no Chosun.” Kim Jong Il persuaded his father, Kim Il Sung, to pursue the development of a “special weapon” to prevent the US and South Korean pressure for unifying the Korean Peninsula. After he received his father’s permission, this slogan gained currency.

But before his father’s death, Kim Jong Il also sought to forgo nuclear weapons development if the US would guarantee the security of the Kims’ leadership and promise economic “compensation.”

This past February, the new regime in Pyongyang made a bilateral deal with the United States—“the Leap Day deal.” North Korea agreed to implement a moratorium on long-range missile launches, nuclear tests, and nuclear activities at Yongbyon, including uranium enrichment activities. IAEA inspectors were supposed to return to monitor the situation at Yongbyon. The United States was to provide North Korea with a large-scale aid package of nutritional assistance. Delivery of the assistance was to be monitored. That would have been welcome progress, but the recent North Korean rocket launch seems to have scuttled that deal. However, despite the launch, the new regime in Pyongyang still seems to want to continue the deal.

Under the Kim Jong Un leadership, the chance of North Korea completely giving up its nuclear weapons has lowered. The recent fall of the dictatorships in Iraq and Libya may have given the leadership in Pyongyang pause, and enhanced the position of the hard-liners in Pyongyang that seek to develop nuclear weapons.

The leadership may be willing to make deals to halt North Korea’s nuclear programs in exchange for immediate economic needs. However, getting them to give up their nuclear weapons completely will continue to be a Gordian knot.

South Korea is going to have presidential elections later this year. What kind of change do you see in the South Korean government policy after the elections vis-à-vis North Korea?

What can the next South Korea administration do to normalize relations with North Korea?

Under the incumbent Lee Myung-bak administration, there is, as we say, “no medicine” to change the current impasse in inter-Korean relations. North Korea has stated that it will not work with the current South Korean government.

Once the Lee administration’s term ends, I think North Korea will look to try to return to the period when inter-Korean relations were on a course toward reconcili—
iation and cooperation. With regard to the nuclear issue, I think at that time North Korea will also look to return to the six-party negotiations.

The Six-Party Talks began in 2003. Eight years have passed since then and many say that nothing concrete has come out of those talks. Do you still have faith in the multilateral six-party framework or do we need a new model?

The Six-Party Talks has had its failures. But it has achieved some success, in particular with the September 2005 Joint Statement. In any case, there really are no other models. The only and best approach is to continue these talks, with US-North Korea dialogue to take place within their framework. That is the best approach.

It is commonly said that the US always puts it security interests above peace on the Korean Peninsula. In this context do you think America is the right country to lead these talks on the Korean Peninsula?

This is a misconception. The United States has played an important role for decades in maintaining the peace and stability on the Korean Peninsula and in the Northeast Asian region. We can anticipate the US to continue to play a central role in this effort. Likewise, any peaceful resolution to the nuclear issue will require US leadership.

Some reports suggest that North Korea might have spent as much as US$850 million on the recent rocket launch. Isn’t this an immense sum of money for a country like North Korea?

Scientists calculated the costs of making the missile, and I don’t know how much it actually costs to put up a satellite system. But indeed it is a big sum to spend for any country, not just North Korea.

So if North Korea has that kind of money to spend on a rocket launch, the assistance which the US is offering in exchange for that program must seem comparatively small.

But as you know, the food problem in North Korea is very serious, and has been for the last two decades. More resources need to be put toward economic development and solving the food problem. However, the missile program appears to be part of North Korea’s long-term security strategy. Making a long-range rocket with a satellite system takes years. It’s not a spur of the moment decision. North Korea first launched a long-range rocket to put a satellite into orbit in 1998. That failed. In 2006 North Korea tested some more long-range rockets. Three years later in 2009, they attempted another satellite launch. It failed, too. We can only assume that after the 2009 launch they began preparing for the next one, which occurred recently. Add it all up, and in total those launches do amount to a considerable sum of money.

After North Korea’s insistence to launch a satellite in April, the recently concluded “Leap Day” deal between the US and North Korea collapsed. Where do we go from here? Is there any possibility of the US and North Korea coming to another agreement in the near future? Or do we need to wait until the presidential elections in South Korea in December?

Actually, there will be two big presidential elections near the end of this year: one in South Korea and one in the United States. A new administration will take over in Seoul. I cannot predict what will happen in the United States. Regardless, the denuclearization effort is too important to just sit and wait for the outcomes of these elections. We must continue to make efforts to have the parties engage in dialogue, meaning that both Six-Party Talks and bilateral US-DPRK dialogue simultaneously need to be reactivated.

China–North Korea relations are very complicated and many international observers fail to fully understand the exact nature of this relationship. What is your take on North Korea–China relations?

Yes, they are indeed very complicated.

North Korea’s economic situation is still problematic. The country is progressing toward a position in which the regime will have to deal with the demand for reform and opening. The regime knows it must improve the economy.
Recent media reports have shown that despite UN sanctions, China recently might have helped North Korea build its long-range missiles. Given this reality, to what extent can South Korea work with China to solve the North Korea nuclear and missile issues?

Actually, according to reports, a Chinese company supplied a truck chassis to North Korea, and this was used to customize a vehicle to transport missiles. As a permanent member of the UN Security Council, I cannot see how China could assist North Korea in missile development. In the past, during the Cold War, China and the Soviet Union likely assisted the North Koreans in some capacity, but I do not think that is the case today. It is highly improbable that China would jeopardize its position in the international community by doing such a thing.

Now, what South Korea can do is continue to encourage China to persuade North Korea to give up its nuclear weapons programs. To maintain peace and security in Northeast Asia, China should strongly persuade North Korea to denuclearize.

Do you see any role for Asian countries to solve the crisis on the Korean Peninsula?

Not just Asian countries, but all countries can play some role. At the recent Nuclear Security Summit held in Seoul this past March, 53 heads of state and government from around the world were in attendance. Every nation is concerned about our global nuclear future. Not just Asian countries, but all UN member states have a role to play in support of international efforts to persuade North Korea to forego its nuclear weapons programs, and ultimately end nuclear weapons as a threat to the world. All member states should support the efforts to encourage North Korea to give up its nuclear weapons in order to develop the North Korean economy. All nations can work to encourage North Korea to open up to the world.

It is said that India is the only country among Asian democracies who has good relations with both Koreas. Given the historical connection between India and Korea, what role do you see for it in helping resolve the nuclear issue on the Korean Peninsula?

I understand that India established official diplomatic ties with North Korea in 1973, and is one of the few countries to maintain an embassy in Pyongyang. India has provided North Koreans with training in the field of science and technology, and has contributed food assistance to North Korea through the World Food Programme, including a substantial amount last year. I understand that a delegation from North Korea visited India last year to examine India’s experience with setting up special economic zones, and that the two countries have made efforts to intensify their bilateral ties. Perhaps India can work in some positive way to help North Korea figure out that, for the long-term development of the country, it should choose economic development over nuclear weapons development, and open up to the world.

In your view, what role can India and South Korea play in promoting peace internationally? What can the two countries do together?

I can divide your question into economic cooperation and diplomatic cooperation. In economic cooperation, the relationship between the two countries is growing like never before. I understand many South Korean business firms have been looking for business partners in India. This is positive. Greater economic cooperation will mean greater interaction between our societies and lead to greater prosperity for our peoples. Prosperity itself helps promote peace.

Diplomatically, India is a respected member of the United Nations. It has had an embassy in Pyongyang for a long time, and today seems to have good relations with North Korea. The fact that India has good relations with both North and South Korea is significant. It means India can in a unique way constructively support the peace building and economic development efforts on the Korean Peninsula. Perhaps at various levels, India can try to persuade North Korea to forego its nuclear weapons programs and instead pay more attention to developing its economy. If that happens, if North Korea makes that choice, it would go a long way to improving the peace and security both in the region and beyond.

So do you think India could break the cycle in the Korean Peninsula?

India can try to talk about economic development and bring foreign investment to North Korea. As a friendly country, India can also try to persuade North Korea to give up its nuclear weapons—but just as a friendly country talking softly to a friend. As a spiritual and historical country, India commands high respect among Korean people on both sides of the 38th parallel.
There are a number of obstacles to the further development of East Asian regional cooperation. First of all, the lack of confidence-building among the countries in the region may impede the institutionalization of regional cooperation. Amongst the reasons for this are historical legacies, ideological confrontation and territorial disputes.

Secondly, a series of bilateral free trade agreements (FTAs) have been signed or are being negotiated by East Asian countries. However, the majority of trade agreements that they have negotiated or are currently negotiating are with states outside the region. Thus, there is the possibility that they will divert governments from the task of developing the regional economic cooperation process.

Thirdly, East Asian regionalism, which gained great attention from East Asian leaders after the Asian economic crisis in the late 1990s, seems to fail in achieving its primary objective. The East Asian Summit, which initially started with an “Asia only” concept, included the United States and Russia in its last summit and thus makes regional cooperation ineffective, just like the ASEAN Regional Forum (ARF) and the Asia-Pacific Economic Cooperation (APEC). This might prove to be one of the biggest long-term impediments in developing the security mechanism structure in the region. By logic it is not necessary that the USA and Russia must be a part of every East Asian regional security grouping. East Asia can and should have some institutions where only regional countries participate and debate about their future.

It is clear that the road to East Asia’s regional cooperation is rocky. The pressing question is which regional arrangement should lead East Asian regional cooperation. The first alternative is ‘ASEAN+3’, which includes the ten countries of ASEAN as well as China, Japan, and South Korea. But the major problem within this framework is the Japan-China discord. Moreover, many Southeast Asian countries are concerned over China’s growing influence in this ASEAN+3 arrangement. Thus, despite some development, its future potential will largely depend on how the member states deal with China’s growing dominance in this framework.

The second alternative is ‘ASEAN+6’, which includes Southeast Asian and Northeast Asian countries, along with India, Australia, and New Zealand. This framework seems to have considerable promise in future as it includes all major nations in the region. An economic community consisting of these primary countries, including India, China, Japan, South Korea, Australasia and ASEAN, would have an economic roughly equal to the European Union (EU) and the North American Free Trade Agreement (NAFTA) in terms of GDP. Thus, in the future they have the potential to form an economic bloc vis-à-vis the EU and NAFTA.

Where do India and Korea fit in this ongoing regional integration process?

Korea is one of the founding members of the ‘ASEAN+3’ and the East Asia Summit. So far it has maintained a neutral position on the issue of membership in the regional frameworks. However, recently it has become more proactive in regional security cooperation. The India-Korea strategic agreement, whereby both countries are cooperating and consulting with each other in developing regional architecture in the broader Asia-Pacific region, points South Korea to a new policy approach towards that direction.

It can be safely argued that Korea’s role in building regional institution in East Asia has thus far been quite low. The Korean regional policy approach has mostly been reactive, incremental, and without any grand vision. It has mainly limited its foreign policy engagement to two issues, namely, the North Korea issue and the USA-Korea alliance. There is a very common perception in Korea that the North Korean issue is the most significant for South Korea and that they cannot guide their foreign policy without regard for it. But this perception of South Korea may not be entirely correct. Today South Korea is a relatively strong nation and it has to play a more substantial role in Asian regional affairs.

South Korea’s expanded involvement in Asian regional affairs can also be expected to help it resolve the North Korea issue through Asian frameworks. Until now South Korea has heavily depended on the United States and China to help move the North Korea issue forward. Now the time has come for South Korea to rethink its policies. There is need to adopt a new kind of approach to resolve this issue. It needs to bring about the Asian Regional frameworks into the fold, in which the United States is not the dominant player. This will send a signal that South Korea is ready to adopt a new thinking in this new era of Asian re-emergence. From this perspective South Korea might be well advised to adopt a more conciliatory approach towards the North while reducing the United States’ strategic role in the Korean peninsula.

Until now India has also been seen as an ‘invited player’ in building regional institutions in the Asian region. For this reason it has remained a mere participant rather than a proactive shape shifter in the East Asian integration process. Despite India’s claim to be an Asia-Pacific power, no country has yet taken seriously India’s role in the regional integration process. So far its membership in the East Asian regional forums has been a result of attempts by some of these countries to balance China’s growing influence.

Continued on Page 19
Growing Institutionalization of India-Korea Ties

BY LAKHVINDER SINGH

Indian-Korean diplomatic relations have come a long way since they were first set up around 50 years ago. After more than 2000 years of religious and cultural ties, both countries decided to set up diplomatic liaison offices in each other's capitals in 1962. During the full tide of cold war rivalry, the two nations found themselves in opposing campuses.

However, despite the growing rivalry between superpowers, India and South Korea continued to grow their diplomatic ties together, and upgraded their diplomatic ties to the full ambassadorial level in 1973. Since then they have never looked back. Today India and Korea are enjoying excellent economic and political ties, and their trade is growing like never before. Trade ties are growing at 30 percent or more per year. A new trade target of US$40 billion in 2015 is said to be easily achievable. Korean investment in India stands at more than US$2.3 billion. Indian companies have also invested more than US$1 billion in Korea.

Giving real push to this relationship is the web of agreements and MoUs which have been signed between these countries in recent years which are providing a sound institutional base. Because this institutional structure has now acquired a life of its own, independent of policy and perspectives of the government of the day, bilateral growth is expected to continue long into the future.

Today the Indo-Korean economic relationship is regulated by the Comprehensive Economic Partnership Agreement (CEPA) signed in 2010. This economic agreement has proved to be a boon as mutual trade has been growing more than 30 percent per year since its initial signing. Encouraged by this success, both countries have now set up a joint committee to upgrade the CEPA to take things to a higher level. The seventh meeting of this committee is planned to be held in Seoul this year.

A joint commission co-chaired by the Foreign Minister and External Affairs Minister of the two countries is now regulating diplomatic relations. Meeting every year alternately in Seoul and New Delhi, the commission is constantly reviewing these growing relations and giving new direction to the fast-developing strategic partnership. The seventh meeting of this commission is scheduled to be held soon in New Delhi.

Foreign Policy & Security Dialogue (FPSD), being held at the level of Vice Foreign Minister, MOFA, and Secretariat (East), MFA, is also emerging as a useful instrument for exchanging views and harmonizing positions on a variety of bilateral, regional and international issues.

Defense cooperation and defense exchanges are also on the rise. Guiding this cooperation with the Indo-Korean 2+2 process. They are also consulting each other on UN reforms, including security council expansion. Global hot spots such as the Gulf, West Asia, and North Africa are getting due attention.

Apart from these major agreements and MoUs, there exist dozens of other bilateral agreements promoting smooth functioning of cooperation between the two countries. Given all this, India-Korea ties have been put on very strong footing and thus are expected to continue expanding for many decades to come.
New Thinking for Reducing the Risk of Investment in India

BY BONGHOON KIM

Korean companies have been investing in India since the mid-1990s. Several big Korean companies have successfully established themselves there. However, most small and medium-sized companies could not reach the Indian market.

In this article we will discuss the prospects of small and medium-sized companies investing in India.

First of all, Korean companies need to analyze more regions in India before investing there. Since the Indian economy opened in 1991, each state has been individually promoting economic development, setting industrial policies, and also employing different tax systems. As such, economic disparity has occurred among the states for the past ten years, resulting in a gap in terms of investment risk. Traditionally, the areas with low investment risk are the major four cities of India, along with areas that have favorable road, railroad and harbor facilities. Agriculture-centered areas and states under the communist party have had low investment attractiveness.

There is generally much information on the investment environment in India, but it is still difficult for Korean companies to obtain a broader sense of the regional and local investment environment, something which is certainly important for any Korean company to understand before committing to major investment funding there.

For example, Gujarat is one of the best states in India in terms of economic environment but relatively few Korean companies have invested there. Punjab is one of the richest states in India so there is huge consumer consumption power. However, again, there are few Korean companies there. This indicates that Korean companies might be being influenced by factors other than pure business logic.

For example, when planning for the investment environment of Gujarat, the following map and information of infrastructure should be initial step to understand it:

Roads: Establishment of road network between Delhi and Mumbai (total 137,384 km, paved road 98.9%). Railroad: 37.9% in area of Gujarat state

Airport: 10 airports in Gujarat
Ports: 41, along the 1,600 km coastline, which has good accessibility
Gas: Unique integrated gas network in India (total 2,200) Waterway network: Total 75,000 km
Water resource: 17 reservoirs and the Narmada Canal (10,619 sq. km); favorable water supply with 1,864 mm of annual rainfall (Madhban dam)
Electricity: favorable electricity infra-system and transmission and distribution lines. High quality electricity (Source: MAXim India Advisory)

Second, Korean companies need to analyze more social and political risk instead of just of calculating cash flow into India. India has a unique political system where it practices an advanced democracy system unlike other developing country, where dictator or military regimes prevail.

The risk from the 'quality of bureaucracy' is estimated to be low, which is attributed to the high level education of India and its abundance of university graduates who are not only well-versed in English but also have excellent administrative performance abilities.

However, the risk from corruption is quite high. Bribery is often used as a measure for companies to negotiate with the state for agreements and tax. This is due to the fact that an electronic system to handle documents is not yet well-established, and most paperwork is done by hand. Corruption is also influenced by the financial pressures coming from large family structures, where the family head has to take care and feed the many extended family members.

Third, Korean companies need to understand more functions of the SEZ and industrial zones in India because it is very hard for them to construct their plant outside of these areas. For example, when we check functions of SEZ in India, we should check the following:

• Industrial function for high-tech and manufacturing
• Education & research functions of the KTR Hub
• Convention and International business function
• Commercial & business function
• Rest & leisure functions harmonizing with the ocean
• Eco-friendly residential function
• Religion, medical tourism function

India accounts for a great portion of the world economy and is expected to continue to grow over the next several decades, with a generally low investment risk. Even from a social point of view, owing to the religious power from all classes of population, a mutually harmonious atmosphere is present and the risk level is considered very low.

From an economic point of view, India is facing difficulty in establishing infrastructure, caused by the worsening deficit of the government, as well as difficulty in accelerating the engine of industrial growth due to imbalance in industrial structure. Though these may cause slower growth, the risk accompanying the stabilization of economy growth is very low and the economy risk is not considered high owing to the high stabilization of the currency exchange rate.

Regionally, the southern and western parts of the country are considered low in investment risk, while investment in the north-eastern part of the region is considered unattractive. However, Korean companies need to compare more specific investment environments in differing regions.

Today there more Korean companies that are planning to invest in Indian market in spite of some risks. It will not be long before small and medium enterprises will have overwhelmingly positive views of investing in Indian growth.
Understanding Future of the India-Korea Free Trade Agreement under CEPA

By Anuradha Shukla

India and South Korea have had a very successful run of the CEPA, or the Comprehensive Economic Partnership Agreement (CEPA) that was set up two years ago.

Under the deal, bilateral trade between the two countries have grown from US$12 billion in 2010 to US$21.5 billion, a growth rate of more than 70 percent. The agreement has been reassessed and improvements have been implemented since 2010 by director generals of both countries. At the end of the last meeting in September of 2011 in Seoul, both countries were poised to decide on lowering tariff as well as to abolish some of them much before the required deadline of ten years.

The new Indian ambassador to Korea, Vishnu Prakash has expressed that, “India, inspired by the success of the Comprehensive Economic Partnership Agreement with Korea, is eager to expand our ties further. We already want to further upgrade the CEPA in the next five years old, and that shows how effective it has been. We perceive it as a very successful effort.”

Preview of Indo-Korean CEPA

The CEPA was signed on August 7, 2009, by the governments of India and South Korea, aimed at boosting trade in industrial sectors, as well as engaging in manpower exchange.

In India it was a watershed agreement; only the second in its history after a similar agreement with Singapore in 2005. However, it remains the first-ever free trade agreement with a member of the OECD. After the success of CEPA with South Korea, India has since followed it up with agreements to other important trading partners such as Malaysia and Japan. It is currently reviewing another with Indonesia.

The CEPA with South Korea technically differs from an FTA in the sense that the tariffs would be lowered in phases. Both countries are bound, as per the agreement, to lower their tariffs by ’85 to 90 percent of the items whereas India has agreed to reduce import tariffs on nearly 95 percent of the items whereas India has agreed to limit that to 80 percent of the dutiable products. However, most automobile products have been kept out of the CEPA.

Hence, there is a great need for Indian businessmen be more pro-active and lobby for inclusion of their industry within CEPA.

Trade statistics also reveal that in 2010, “India imported goods worth US$11.4 billion and in the first eight months of the calendar 2011, brought in US$8.5 billion worth. But India’s exports to Korea in 2010 were US$7 billion, which rose to US$8.5 billion in the first eight months of 2011.” Hence, the present skew in trade has to be corrected so as to achieve favorable trade revenues for both countries.

CEPA and Future Trade Between South Korea and India

The future of the South Korean and Indian bilateral as well as comprehensive relationships was well showcased by the Prime Minister during his historic visit to South Korea in late February, 2012. Within the backdrop of the Nuclear Security Summit the Prime Minister was attending, he explored all facets of the trade and bilateral relations with South Korea.

Addressing various forums and business representatives at various points of his visit, he said that, “Since the implementation of the bilateral Comprehensive Economic Partnership Agreement (CEPA) on January 1st, 2010, bilateral trade between India and South Korea had surged by roughly 65 percent in two years and reached a turnover of US$20.6 billion in 2011.”

Inviting the Korean business community to invest in India, he said that, “Investment from Korea is a priority for India. We will act pro-active to address investor grievances and improve the business climate in the country. Many states of our Continued on Page 22
Continued from Page 15

in the area. India is not there as a ‘natural contender’, as the case should be in the first place. Notably, Japan brought India into the ASEAN+6 to dilute the ASEAN+3 process, where China is dominant, while South East Asian countries like Singapore, Thailand and Indonesia played a more significant role in bringing India into the East Asia Summit. Many scholars see India as a counter-weight to China’s increasing influence in the region. But this argument has limitations. India is a “natural and historical partner” of East Asian nation states and thus must not be seen as a function of growing rivalry between the two primary groups in the region. Its robust cultural and civilizational connections with East Asia must not be underestimated in this regard.

East Asian integration is essential to realize an Asian century. And that India will have a key role in shaping it cannot be stressed enough. For this India needs a more proactive policy initiative towards East Asia. India must revitalize its “Look East Policy” that was initiated two decades ago to ensure it is an indispensable player in this part of the world. It has to take on a leadership role in bringing all East Asian nations to the table. The recent visit of the Indian Prime Minister to Korea was a great opportunity to reassert its position as Asia-Pacific power. But unfortunately nothing much came out of it in this regard, and the visit has been passed off without getting any attention from Korean and regional observers. There was much talk, no action. A great opportunity lost!

Until now, in order to formulate policies on East Asian affairs India has been heavily dependent on either foreign policy establishments or else Western-trained experts with limited knowledge and access to the region. Accordingly to recent reports, a small country like Singapore might have more diplomatic resources in the field than a country of 1.2 billion people. It says something of the sad state of affairs of Indian foreign policy establishment.

That Indian policy makers are generally ill-informed can be seen from some of the recent approaches towards regional organisations they have taken regarding the region. India needs to develop more field scholarship resources to assert its position as an Asia-Pacific power. Nobody will take its claim seriously when its top policy makers display a lack of touch with the region in their statements and speeches.

India needs to develop a much clearer vision of its role in East Asia. It has to involve itself in the region more actively. For this, it will have to understand East Asian people’s perceptions about the world and their role in it. It is very important for the Indian foreign establishment to understand that what East Asian countries are thinking about India is more significant than what India is thinking about them.

India and Korea can play a leading role in integrating the region as both countries share fundamental values such as freedom, democracy and respect for basic human rights. Both countries need to have a joint approach towards regional cooperation so that Asia will be able to realize its century without any further delay.

Growing Korean Investment in India Creating Sub-regional Hubs

BY KIM CHEOL HO

As India and South Korea forge new pathways of discovering and supporting bilateral and trading relationships, there is a surprise trade-off.

As Korean investment and socio-cultural ties with India increase, a distinct influence of South Korean culture is becoming largely visible, especially in Indian outposts such as Manipur, where South Korean television and entertainment content are not only popular but are slowly seeping into the psyche of the people. This is especially true of the younger generations, as they copy the traits of popular TV fiction heroes and heroines.

The southern part of India, especially around the Chennai region, where South Korea has successfully established an automobile manufacturing hub, is another region where South Korean culture and economies play a significant role.

Another important segment of the South Korean diaspora is located in the vast campus of Delhi University, engaged especially in the study of foreign languages, from Hindi to English and even Spanish.

Therefore, wherever South Korea has successfully established a local hub, there has been a sub-regional hub created as well. While this is true at the domestic level within India, around the Indian sub-continent South Korea’s trail of investment history has nurtured sub-regional co-operation and growth.

The Comprehensive Economic Partnership Agreement, or CEPA, has proved to be successful in creating sub-regional trade agreements between South Korea and India, and it will likely emerge as a powerful socio-economic zone of influence, if the preferential trade agreement both countries support persists in decades to come. ASEAN is well-established and highly regarded as a regional trading platform.

However, under its umbrella protection, individual countries are not able to fend for themselves. Hence, the emergence of sub-regional economic ties that help countries with complementary or similar demands and supply structures to broaden and develop sub-regional trading options. In fact, Asia has been a witness to the increase in sub-regional trading hubs so as to develop more sustained economic opportunities among member nations.

Growing Korean Investment in India Creating Sub-regional Hubs

BY KIM CHEOL HO

As India and South Korea forge new pathways of discovering and supporting bilateral and trading relationships, there is a surprise trade-off.

As Korean investment and socio-cultural ties with India increase, a distinct influence of South Korean culture is becoming largely visible, especially in Indian outposts such as Manipur, where South Korean television and entertainment content are not only popular but are slowly seeping into the psyche of the people. This is especially true of the younger generations, as they copy the traits of popular TV fiction heroes and heroines.

The southern part of India, especially around the Chennai region, where South Korea has successfully established an automobile manufacturing hub, is another region where South Korean culture and economies play a significant role.

Another important segment of the South Korean diaspora is located in the vast campus of Delhi University, engaged especially in the study of foreign languages, from Hindi to English and even Spanish.

Therefore, wherever South Korea has successfully established a local hub, there has been a sub-regional hub created as well. While this is true at the domestic level within India, around the Indian sub-continent South Korea’s trail of investment history has nurtured sub-regional co-operation and growth.

The Comprehensive Economic Partnership Agreement, or CEPA, has proved to be successful in creating sub-regional trade agreements between South Korea and India, and it will likely emerge as a powerful socio-economic zone of influence, if the preferential trade agreement both countries support persists in decades to come. ASEAN is well-established and highly regarded as a regional trading platform.

However, under its umbrella protection, individual countries are not able to fend for themselves. Hence, the emergence of sub-regional economic ties that help countries with complementary or similar demands and supply structures to broaden and develop sub-regional trading options. In fact, Asia has been a witness to the increase in sub-regional trading hubs so as to develop more sustained economic opportunities among member nations.

Growing Korean Investment in India Creating Sub-regional Hubs

BY KIM CHEOL HO

As India and South Korea forge new pathways of discovering and supporting bilateral and trading relationships, there is a surprise trade-off.

As Korean investment and socio-cultural ties with India increase, a distinct influence of South Korean culture is becoming largely visible, especially in Indian outposts such as Manipur, where South Korean television and entertainment content are not only popular but are slowly seeping into the psyche of the people. This is especially true of the younger generations, as they copy the traits of popular TV fiction heroes and heroines.

The southern part of India, especially around the Chennai region, where South Korea has successfully established an automobile manufacturing hub, is another region where South Korean culture and economies play a significant role.

Another important segment of the South Korean diaspora is located in the vast campus of Delhi University, engaged especially in the study of foreign languages, from Hindi to English and even Spanish.

Therefore, wherever South Korea has successfully established a local hub, there has been a sub-regional hub created as well. While this is true at the domestic level within India, around the Indian sub-continent South Korea’s trail of investment history has nurtured sub-regional co-operation and growth.

The Comprehensive Economic Partnership Agreement, or CEPA, has proved to be successful in creating sub-regional trade agreements between South Korea and India, and it will likely emerge as a powerful socio-economic zone of influence, if the preferential trade agreement both countries support persists in decades to come. ASEAN is well-established and highly regarded as a regional trading platform.

However, under its umbrella protection, individual countries are not able to fend for themselves. Hence, the emergence of sub-regional economic ties that help countries with complementary or similar demands and supply structures to broaden and develop sub-regional trading options. In fact, Asia has been a witness to the increase in sub-regional trading hubs so as to develop more sustained economic opportunities among member nations.

Growing Korean Investment in India Creating Sub-regional Hubs

BY KIM CHEOL HO

As India and South Korea forge new pathways of discovering and supporting bilateral and trading relationships, there is a surprise trade-off.

As Korean investment and socio-cultural ties with India increase, a distinct influence of South Korean culture is becoming largely visible, especially in Indian outposts such as Manipur, where South Korean television and entertainment content are not only popular but are slowly seeping into the psyche of the people. This is especially true of the younger generations, as they copy the traits of popular TV fiction heroes and heroines.

The southern part of India, especially around the Chennai region, where South Korea has successfully established an automobile manufacturing hub, is another region where South Korean culture and economies play a significant role.

Another important segment of the South Korean diaspora is located in the vast campus of Delhi University, engaged especially in the study of foreign languages, from Hindi to English and even Spanish.

Therefore, wherever South Korea has successfully established a local hub, there has been a sub-regional hub created as well. While this is true at the domestic level within India, around the Indian sub-continent South Korea’s trail of investment history has nurtured sub-regional co-operation and growth.

The Comprehensive Economic Partnership Agreement, or CEPA, has proved to be successful in creating sub-regional trade agreements between South Korea and India, and it will likely emerge as a powerful socio-economic zone of influence, if the preferential trade agreement both countries support persists in decades to come. ASEAN is well-established and highly regarded as a regional trading platform.

However, under its umbrella protection, individual countries are not able to fend for themselves. Hence, the emergence of sub-regional economic ties that help countries with complementary or similar demands and supply structures to broaden and develop sub-regional trading options. In fact, Asia has been a witness to the increase in sub-regional trading hubs so as to develop more sustained economic opportunities among member nations.
Business

Ssangyong Motors Advances on Top of Six Strategy Pillars

BY MATTHEW WEIGAND

Mahindra & Mahindra (M&M) acquired Ssangyong Motor Co. in 2011 and plans to introduce the company’s vehicles in 2012. Previously, Chinese giant Shanghai Automotive Industry Corporation (SAIC) was the largest shareholder until 2009, but was unable to successfully build up the company. After it was forced into court receivership, M&M made overtures to pick it up, and the details were finally worked out. The Mahindra Group has a new vision, dubbed ‘Promise 2013 and Aspiration 2016’, to make Ssangyong the most innovative and respected Korean automotive company in the world, and things are now looking up. Mr. Lee Yoo-il, President & CEO of Ssangyong Motor, strongly believes the synergies of the two companies will take Ssangyong Motors to the top in the very near future.

“We believe that we have a lot of synergy opportunities, such as common markets and platforms. Also, we have different teams working on different areas: the marketing team working on marketing synergy and the R&D center working on R&D and product development synergy. As a result, we can reduce costs and boost cash flow to enhance profits,” explained Mr. Lee. Putting Ssangyong into so many foreign markets is sure to boost the company’s sales by several orders of magnitude. It is looking like these two companies are a match made in heaven.

Extensive Cooperation

Ssangyong and M&M are planning extensive cooperative efforts in all areas of auto production, especially R&D, product development, sales, and purchasing. It is expected that this cooperation will greatly enhance Ssangyong’s cost competitiveness. In statements at the presentation, Chairman Pawan Goenka said, “Today we have taken a giant step in the march towards reclaiming Ssangyong’s rightful place as a key player in the global automotive community.” Also, CEO Lee Yoo-il stated, “The goal we have set may be challenging, but given the tenacity and determination of the Ssangyong team, I am sure we will achieve it.”

The launch of new models and cost control are keys to the turnaround of Ssangyong,” explained Mr. Lee, “What is expected from now is very good volume growth, and we are at that pace already. We are investing in developing new vehicles, introducing up to five refreshed models by 2013 and four completely new models by 2016.”

One of those new models will be a XIV 2, CUV concept car with a soft top system developed as a global strategic model. The company plans to develop diverse versions of its SUV coupe concept car, including 5-door/3-door models, a coupe model, and a long body model. Furthermore, M&M and Ssangyong Motors plan to jointly make more affordable, lower-end products for the Indian market, while rolling out high-end products in the Korean market.

Greater Trend of Indian Acquisitions

M&M has been making a lot of acquisitions lately, a trend which is reflected throughout the Indian corporate sector. Indian companies have purchased a total of 1,056 international companies for about US$94 billion from 2006 until now, according to Bloomberg. Almost US$30 billion of that was spent in the last year and a half alone. Notable deals include the purchase of Kuwait’s Mobile Telecommunications Co by Bharti Airtel Ltd for US$10.7 billion, and the purchase of UK-based Corus Group by Tata Steel for US$12.8 billion. The M&M deal with Ssangyong is part of this Indian global trend. It has also undoubtedly been aided by the trade agreement created recently between India and Korea, which was signed in February 2010.

Good Signs Already

Ssangyong Motors is growing as a global SUV and CUV manufacturer based on strategies to maximize synergy with M&M, which has extensive understanding of and plans for the Korean auto maker. This will probably also be aided by external factors, such as the total rising purchases of Korean autos. Korea’s overall auto sales in 2011 jumped 9.2 percent compared to 2010. This was mostly helped by increased overseas demand. Altogether, Hyundai Motor, Kia Motors, GM Korea, Ssangyong Motors, and Renault Samsung Motors sold 4,626,345 vehicles. In comparison, the number for 2010 was 4,237,533 vehicles. Domestic sales increased 0.6 percent at 1,474,637 vehicles, and exports increased 13.7 percent at 3,151,708 vehicles. Even though Ssangyong ranks at the bottom with only 113,001 vehicles sold, aggressive development of global markets and marketing activities are expected to increase this number substantially. The goal is to sell 300,000 vehicles by 2016. The company also has an aggressive three-pronged strategy for increasing their export business. First, they will explore and enter into new main global markets such as Central and South America, Eastern Europe and Africa. Second, they will strengthen the global network as well as sales capacity in existing export markets. Third, the company will strengthen global sales capacity such as management of local customers and marketing by setting up local offices or training centers. Ssangyong Motors especially plans to increase sales, focusing on new markets –China, Russia and India by priority.
Korea-India Trade and Investment Leaps Ahead

By Don Kirk

The focus of free trade agreements between Korea and other countries has been on deals reached with the European Union and the United States.

Actually, however, before finalizing those agreements, Korea in August 2009 signed a free trade deal with India that’s known not by the initials ‘FTA’ but as ‘CEPA’, or the Comprehensive Economic Partnership Agreement. Its purpose was to get rid of 90 percent of the tariffs on imports into Korea from India and 85 percent of the tariffs on imports into India within a decade.

Three years after conclusion of the deal, the record shows that it’s been a great success – more successful perhaps than that of better-known FTAs between Korea and much larger trading partners. “The initial impact of CEPA has been very encouraging,” said a report by the Indian embassy in Seoul. “Bilateral trade crossed US$20.6 billion by the end of 2011, registering a 70 percent increase over a two-year period.” That figure is spectacular considering that two-way trade a decade earlier, for 2002, came to US$2.6 billion, and second country after Singapore – and the first member nation of the OECD, the Organization for Economic Cooperation and Development – with which India had signed such a deal.

The agreement “signifies the highly complementary nature of the two economies,” said Korea’s trade minister, Kim Jong-hoon, at the time of the signing. “CEPA sends the message to the world that the two countries are committed to free trade and are against protectionism.” Moreover, he observed, “The Indian economy has a huge economic growth potential, considering that it has one-sixth of the world’s population and also has the fourth-highest GDP purchasing power parity.”

India’s commerce minister, Anand Sharma, was, of course, duly amazed by “the astonishing growth of Korea” from the ashes of the Korean War. Aggressive Korean industrial investment in India was clearly the reason for India’s overwhelming interest in close commercial ties with Korea. One had only to look at the records of POSCO, whose project to build a steel plant in India represents the largest ever foreign investment in the country. Another highly visible Korean name, Hyundai Motor, which opened its plant in Chennai in 1995, competes to dominate the Indian compact-car market while also exporting several hundred thousand cars a year to Europe from its Indian plant. LG and Samsung Electronics have plants in the New Delhi metropolitan area, their names firmly implanted like Hyundai in the Indian subconscious.

Against that background, it’s easy see why India placed high priority on tightening its Korean bond. Such “significant investments and presence in the Indian economy have helped India become a manufacturing base,” said Sharma. He called CEPA “a strategic step forward” – that would “also connect both countries with other major Asian and other major economies.” The agreement, he said, was “just the beginning” of a relationship that’s already exploding with bilateral trade expanding by more than US$3 billion annually.

At a luncheon in Seoul, Sohn Kyung-shik of the Korea Chamber of Commerce and Industry elaborated on the benefits of CEPA for both countries. CEPA would “not only expand trade volume but will also increase investments in India by our companies in the manufacturing and services sectors,” he predicted. “Both sides can create more opportunities for growth if the competitive nature of Korea’s electronics, telecommunication, automobile, steel, shipbuilding and construction sectors is well combined with India’s top-class human resources and huge domestic consumer market.” An official at India’s commerce ministry also agreed, saying the deal would bring about “more integration to a developed nation like South Korea” – and “also expected to encourage South Korean auto firms to invest more in India and see it as an export hub.”

The agreement in a real sense climaxed a process that began to take off in the depths of the 1997-1998 economic crisis when leaders and planners for the great South Korean conglomerates, known as chaebol, began seeing India as a potential market at a time when the need for expansion and diversity was paramount. The fact that trade and investment with China were rapidly increasing gave rise to the question, Why not India, whose population of more than a billion ranked second only to that of China.

The pace of cooperation and negotiations for a deal quickened after the late Roh Moo-hyun, then the South Korean president, visited India in 2006. While Hyundai, LG and Samsung, among others, were investing in India, Tata Motors took over the commercial vehicles sector of Daewoo Motors, a casualty of the economic crisis. Those and other investments were made possible when negotiators agreed that Korean and Indian investors could own up to 65 percent of equity in firms in each other’s country – no need to quibble about who was in charge as in the 50-50 or 51-49 deals that so often create problems among investors.

At the same time, the agreement carefully skirted some of the most contentious nationalist issues that typically bedevil attempts at coming to terms. For now, and probably for many years to come, both countries can maintain barriers to farm and fishing products and mining – all seen as the birthright of the people of both countries. There will be no need to worry about whether Indian low-priced rice will undersell Korea’s high-priced rice, and no one will be concerned about meat products infected with mad cow disease. Bitterness over those products permeates trade discussions with the United States, even though the Korea-US FTA leaves alone the hypersensitive question of rice, the livelihood of the southwestern Cholla provinces that are often at odds with the rest of the country.

Nor can politicians risk the fallout of taking a stance of mining nationalist elements always perceive as a challenge to basic sovereignty and national pride. Textiles were also excluded, considering the huge importance of cheap clothing to the interests of both countries. Another concern was that Indian-made garments, stitched together by extremely low-paid workers, would sharply
Why is Indian Investment in Korea on the Rise?

BY ANURADHA SHUKLA

The compulsion for India and South Korea to develop a powerful presence in the Indian sub-continent is driven by strategic, economic, as well as political demands.

The constant flux in the modern world order and globalization has led to different sets of opportunities as well as challenges for both the nations. Again, multilateral platforms such as the IME or WTO do offer greater scope for growth. However, India’s strategic shift towards developing a ‘Look East’ foreign policy has led to a fourfold increase in the investment pattern between the two countries.

The liberalization of the economy in India coincided with the Korean business community’s overall need for newer markets for trade and investment. In the phase between 1991 to 2007, Indian exports to Korea rose from US$2.40 million to US$2.46 billion. There was a simultaneous increase in Korean imports from US$3.14 million to US$5.4 billion during the same period. At present, India is ranked eleventh on the list of Korean investment nations.

The increase in investment, especially in the period since the inking of the Comprehensive Economic Partnership Agreement (CEPA), is due to the change in demand structures as well as a complementary advantage in different sectors. Conventionally, Indian exports are largely low on the value chain. For example, slag, ash or ores and other such products constitute nearly 40 percent of total Indian trade, followed by cotton. In contrast, Korea’s exports are considered to be ‘high-value’, as they consist of a broad-based electronic product ranging from semi-conductors to washing machines.

Despite the continually lowering of tariffs in Korea, there are still some threshold barriers in such sectors as agriculture or fisheries. Korean Tariff Rate Quotas work in Korea’s favor, allowing it to maintain a closed market scenario in these certain areas.

The Trade Complementary Index, or TCL, reveals that both Indian and Korean trade has reached the right level of ‘trade quality’; i.e., the point where each is able to complement the other.

Despite the advantages of a CEPA trade agreement, Indian businesses have not been as successful as the Koreans in exploiting the benefits that this agreement bestows. While India has limited itself to providing information technology services and some low-value products, there is an immense opportunity for joint ventures in agricultural instruments, auto parts, and of course Korea’s primary area of expertise—semiconductors.

In turn, Korea stands to gain by collaborating and seeking India’s Space and Research expertise. The Prime Minister of India has already offered to launch South Korean satellites to achieve economic and commercial value. Other core sectors that both countries are looking to invest intensively in are broadcasting, health care, real estate, and pharmaceuticals as well as information technology.

Leaders from both the countries are keen that they provide investor-friendly ecosystems by creating a tariff and a non-tariff barrier condition. Both countries are striving to remove more threshold barriers across sectors to ensure that investors and industries of both countries have a level playing field and more freedom to invest.

India continues to diversify and invest in the broader spectrum of Korean industrial sectors and is seen to be reaping benefits in the field of manpower skills and information technology service delivery.

Continued from Page 18

union have been actively encouraging foreign investment and we will support these efforts. I urge Korean industry to have faith in India.”

Drawing attention to the “still below its huge untapped potential” reality, he said that, “The bilateral trade target was revised to US$40 billion by 2015. This is a challenge as well as an opportunity that we must both seize together.”

Appreciating the sustained growth Korea has maintained amongst all the OECD countries, he shared that his countrymen admired the achievements and determination, solid hard work and spirit of enterprise of the Korean people.

Emphasizing the advantageous Indians would offer Korean business groups, the Prime Minister is giving a detailed report said that, “Firstly, our domestic savings rate is about 33 – 35 percent of our GDP and growing. Secondly, India has a very young population and over half of the working population is in its twenties. Thirdly, over the past few years we have invested heavily in education, health and agriculture to give a new deal to rural India. Our rural markets are now booming and the middle class is growing rapidly. Fourthly, we have been undertaking a huge expansion in our higher education and skill development infrastructure—ports, airports, railways, energy and roads. India is poised to continue to be a frontline player in the global knowledge economy.”

Continued on Page 21

undersell Korean products. Despite all such problems, however, CEPA wound up guaranteeing that two thirds of more than 5,000 products subject to tariffs would be tariff free within eight years after the treaty took effect, at the beginning of 2010. Tariffs on South Korea motor vehicles are going down to less than one percent while tariffs on other items are to be reduced by anywhere from five percent to fifty percent. India’s high-tech industry already is benefiting from the opening of South Korea to investment and work in fields ranging from information technology to engineering and finance.

Perhaps the most intriguing – and potentially controversial – area of South Korean business with India focuses on the export of technology for nuclear power plants. Since detonating its first nuclear device in 1974, India has accumulated as many as 100 nuclear warheads for potential deployment on submarines and missiles as well as aircraft. Parallel to the country’s rise as a nuclear weapons state, India also has risen in nuclear power production, with plans for nuclear energy to triple in 25 years. By that time upwards of 100 nuclear power plants will fill nearly one tenth of the country’s energy needs. By the middle of the century, by some estimates, India will count on nuclear energy for one fourth of its energy. Today India ranks sixth behind the United States, France, Japan, Russia and, incredibly, South Korea in generation of nuclear power.

Since the tsunami disaster that devastated Japan’s Fukushima nuclear power plant in March 2011, both India and South Korea have forged ahead with plans to increase nuclear power plant capacity while Japan is pulling back and other countries are hesitating. One result is that India and South Korea signed an agreement in July 2011 for South Korea to enter India’s trillion dollar nuclear energy market by exporting technology and components for reactors. South Korea, which by now gets about 30 percent of its electricity from nuclear power plants, sees India as a potential market for finished reactors. Doosan Heavy Industries, which manufactures all South Korea’s reactors, beat out a strong French rival for the contract with the United Arab Emirates for building four reactors at a cost of US$20 billion while looking for markets elsewhere.

India ranks high on the list of prospects, especially since the Indian parliament passed legislation permitting foreign private companies to invest in the Indian energy market. South Korea “recognizes India as a global market,” said Ravid Biwas of His Global Insight. The Koreans, brimming with “a lot of technology in energy infrastructure,” he went on, saw India as a “very big opportunity for them to expand into the emerging economies.” All in all, he pronounced the deal as “very positive” for both nations.

Understandably, South Koreans were dubious about a nuclear deal concluding between their country and with India as a country that has refused to sign onto the nuclear non-proliferation...
Growing Korean Companies in India and Indian Companies in South Korea

By Anshu Shrivastava

Trade relations between India and South Korea have strengthened over the years. Both countries are now setting their sights on doubling their annual trade to US$40 billion by 2015.

As one of the primary growth Asian economies, South Korea is among the ten major investors in India, which is one of the most dynamic economies of the world with still untapped potential. “There is considerable untapped potential given that South Korea is one of the fastest growing Organisation for Economic Co-operation and Development countries, and India is one of the fastest growing major economies,” Sanjay Singh, secretary (Asian), India’s ministry of external affairs, recently told the press.

India introduced wide-ranging economic policy reforms in 1991 and opened its markets for foreign investors, which paved the way for South Korean companies to enter. It didn’t take long for South Korean brands to become well-established, household names in India.

South Korean companies’ manufactured white goods are today counted among the market leaders in India. LG set up its own manufacturing facilities in 1997 and Samsung launched its products in India in 1995-96. These two companies have established almost complete dominance in the white goods market, which is one of the fastest growing major economies,” Sanjay Singh, secretary (Asian), India’s ministry of external affairs, recently told the press.

Today, a majority of Indian customers relate to LG and Samsung as Indian brands rather than multi-national brands. LG and Samsung have immensely succeeded in the Indian markets because of their “product innovation” strategy. Unlike their competitors (multinational companies), these two companies invested heavily in local R&D to tweak the design of original products – designed and developed in South Korea – to make them attractive for Indian consumers.

“South Korean brands felt the need to introduce products that an Indian customer would relate with in terms of value for money, easy of use and advanced technology,” according to a lead analyst of computing products at Cyber Media Research.

These factors have ensured that upgrading occurs at regular intervals, which has provided them with success in the Indian market. Localising has been emphasised by a lot of manufacturers, but how they implement it into their products is a more vital aspect that these brands have utilised,” the lead analyst said to a media publication.

Automaker Hyundai Motors is another South Korean success story in India. It entered the Indian market in 1996 and now, it is India’s second largest automaker by market share with around 19 percent, second only to Maruti Suzuki’s 38 percent. In 2012, Hyundai is aiming to increase its market share to 20 percent as well as it’s looking to sell at least 410000 vehicles in India in 2012.

Hyundai entered India with a long-term plan. It not only set up its own wholly-owned subsidiary, Hyundai Motor India Limited (HMI), but it is also the first multinational company in the automobile sector that established its own manufacturing unit in India. The company has continued to strengthen its line-up and has relied on customization to succeed in the highly competitive Indian car market. It has designed cars that suit the Indian environment.

Hyundai now plans to build its first diesel engine factory in India as it is seeing an increasing demand for its cars that run on the cheaper fuel.

Recently, South Korean companies such as Doosan Group and Mando Corporation announced their arrival in India. Woori Bank, the second-largest commercial bank in South Korea, launched its first branch in India, at Chennai, in April of this year. A senior executive of Woori Bank told the press that the bank has “infused around US$35 million in India.” In addition to assisting in corporate and international operations for Korean companies that are already present in India, the company would also focus on localising the business and offering new products to serve local clients, according to Soon Woo Lee, president and CEO at Woori Bank.

Another South Korean bank Sinhan Bank, a part of Sinhan Financial Group, has had a presence in the country since 1996.

The success stories of LG, Samsung and Hyundai came to India with long-term commitment, and they paid attention to Indian customers’ needs and responded with custom products. This strategy has fuelled their spectacular growth there. Customization has helped South Korean brands to create a niche for themselves in the lucrative and competitive Indian market and assimilate better compared to their competitors. Also, these three South Korean companies invested in retail network and customer-care to keep their customers happy and satisfied.

There are more than 200 Korean companies that have made considerable foreign direct investments in India in a wide range of sectors. India’s Prime Minister has invited small- and medium-scale companies from South Korea to invest in India. “Investment from Korea is a priority for India,” he said during his visit to Seoul in March to attend the second nuclear security summit. He said that companies such as LG, Hyundai and Samsung are already household names in India, and “we would like to see small and medium sized Korean companies also making India a base for their manufacturing.”

In comparison to all of this, India’s investment in South Korea is not that significant and Indian products have not attained the status of household names. Indian companies, however, are slowly establishing their presence in South Korea through acquisitions and are making inroads there.

Tata Motors was the first Indian company to announce the acquisition of a South Korean company. In 2004, it signed an investment agreement for the acquisition of cash-strapped Daewoo Commercial Vehicle Company Ltd (DHWVC) for about US$102 million. Today, Tata Daewoo Commercial Vehicle Company (TDCV) is South Korea’s second-largest manufacturer of medium and heavy-duty trucks. In October 2008, the company developed a prototype of South Korea’s first LPG medium commercial vehicle (MCV). The company developed the vehicle in collaboration with the ministries of commerce, industry and energy, Korea Energy Management Corporation and a consortium of 12 organizations.

Tata Consultancy Services (TCS), another company of Tata Group and a provider of IT services and business solutions, commenced its Korean operations in 2003 to serve local customers as well as global multinationals which have operations in South Korea. According to the company, they have built excellent delivery capability in the Korean language, with about two-thirds of its workforce being local.

Novelis announced the acquisition of Alcan Taiwan Aluminium for US$650 million in 2005. Novelis is a subsidiary of India-based Hindalco Industries Ltd, which is the flag-ship company of Aditya Birla Group. Novelis Korea is currently Asia’s number one manufacturer of aluminium rolled products. There are over 1,200 employees working at the company’s state-of-the-art production facilities in Yeongju and Ulsan.

This year in March, South Korea’s premier SUV manufacturer Ssangyong Motor Company (SYMC) completed its first

Continued on Page 25
Evaluation of the Economic Trade Advantages Between India and Korea

By Chung-Yeon Cho

India and the Republic of Korea have had a long and strong cultural, political, historical as well as economic co-operation.

In the past decade, the relationship between the two countries has strengthened, especially on the economic front. This can be attributed mainly to the historic Comprehensive Economic Partnership Agreement (CEPA) that was introduced during January of 2010, as well as the positive ‘Look East’ policy adopted by India. However, considering the size as well as the structure of the economies of the two countries, experts opine that the size of trade and the spread of investment is rather less than it could be.

Evaluation of the Economic Trade Advantages

Experts, however, also place the unprecedented growth in merchandise trade between the two countries to have occurred due to the changes in demand structures within both economies. Besides, the inherent advantages of trading in complementary economic sectors in the past few years have largely contributed to the development of a robust trading structure between these two nations.

In fact, studies using advanced economic research tools such as The Revealed Comparative Advantage (RCA) analysis have revealed the pattern of trade between these two countries. The studies typically included aggregated as well as disaggregated levels, revealing that Korea has a niche and specialized focus: manufacturing technically sophisticated, high-value products; while India has a more spread-out export portfolio. Further, within the same industry domain, both countries have complementary advantages allowing great scope for intra-industry trade opportunity.

Additionally, the TCI (Trade Complementarity Index), which is of great critical value, has revealed that with increasing exposure to skill-sets and patterns of each nation, they have achieved a high level of compatibility across most sectors of trade.

The high TCI index therefore reveals that trade agreements between the two countries will therefore increase the flow of trade enormously. Studies have also identified that Korean exports to India are at a higher rate than the Indian exports to Korea and hence India needs to focus on its exports exposure to Korea.

The areas where Indian exports have great potential are Information Technology, Broadcasting, Healthcare, Science and Technology, Human Resource Development, as well as tourism.

Recommendations

Trade bodies across both nations recommend that greater trade as well as revenues can be enhanced if the respective governments were to become more proactive about removal of tariff and non-tariff barriers. The sector-specific barriers too are a great impediment and hence, further relaxation of tariff barriers will further contribute to increasing investments and trade.

Taking great cognizance of the trade requirements, the government has adopted (in a phased manner) reduction of several trade tariffs leading to cuts of nearly 93 percent on goods exported to Korea from India. A major section of trade barriers was comprehensively handled by the introduction of CEPA (Comprehensive Economic Partnership Agreement).

CEPA and Growth in Trade

The CEPA, in a sense, is the foundation of India’s and South Korea’s trade relationship. Ratified on August 7, 2009, it is a special economic privilege India shares with Korea to trade across the various sectors. In principle, the CEPA is a free trade agreement that allows enormous opportunity for Indian business, from the service sector, to penetrate the South Korean market.

Therefore, in the past few years, the quantum of trade possible on services provided in the information technology, finance, the legal field, and engineering has been enormous. Thanks largely to CEPA, trade between India and Korea has grown by a phenomenal 70 percent, crossing the US$20 billion benchmark in 2011.

New Targets Set as Trading Opportunities Mature

Trade analysts believe that the total trade revenues earned so far are much less than the expected potential. The governments have addressed this shortfall in achieving what they have thus far, and have hence set an ambitious trade target of US$40 billion by 2015, as against the $30 billion amount that was set earlier.

Following Indian Prime Minister Manmohan Singh’s visit to South Korea in the last week of March 2012, greater emphasis is now being placed on key trade exports for greater expansion.

During his discussions with President Lee Myung-bak of South Korea, the Prime Minister said that, “bilateral trade had risen by 65 percent over the past two years since the two countries implemented the Comprehensive Economic Partnership Agreement. We want the Korean companies to help us realize this objective and benefit from the opportunities provided by this.”

The present South Korea and Indian relations – strategic, political, economic as well as cultural – have been greatly influenced by the Indian Prime Minister’s maiden visit to Korea, which has become instrumental in reworking some of the older trading process as well as the introduction of an innovative trading environment that gives modern business the opportunity to explore trading potentials on both sides of the border.

On the defense front, the Prime Minister, responding to his Korean counterpart’s call, announced that, “We have agreed to expand the political and security cooperation between the two countries. With this objective in mind, I informed President Lee of India’s decision to position a Defense Attache at our Embassy here in Seoul before the end of the year.”

India has also proposed further strategic support, in saying that, “India has also offered to launch Korean satellites using Indian space launch vehicles,” but emphasized that “cooperation and coordination on several regional issues should remain, especially during the East Asia Summit process.”

Continued on Page 29
India-Korea Business Ties after CEPA

BY AMANDA MIN CHUNG HAN

An economic agreement between India and South Korea, the Comprehensive Economic Partnership Agreement (CEPA) went into effect in January of 2010. The agreement got its unique name at the request of the Indian side, and it basically means a free trade agreement.

It was not an easy path for these nations to reach their eventual destination. The whole negotiation process took three and a half years since the first session took place in February 2006. The agreement between Asia’s third and fourth largest economies was originally signed on August 7, 2009. The signing ceremony took place in Seoul, Korea, between Indian Commerce Minister Anand Sharma and South Korean Commerce Minister Kim Jong-Hoon. Indian lawmakers ratified the agreement in 2009, after which the South Korean National Assembly ratified it. The pact took off 60 days later in Jan. 2010, after it earned approval from the lawmakers. Under the CEPA, South Korea needs to eliminate tariffs on 90 percent of Indian products over 10 years while India reduces tariffs on 85 percent of South Korean exports within the same period. Also, South Korea is privileged for a reduction of 4493 types of tariffs imposed on major export items to India such as auto parts, steel and machineries. Experts foresaw in particular that the country’s biggest trade sector auto industry would have a one to five percent tariff reduction over eight years from the current 12.5 percent level. Tariffs on refrigerators and color televisions were lowered by fifty percent from the previous 12.5 percent.

Auto parts are one of South Korea’s biggest exports to the world. South Korea sold USD 1.13 billion worth to India before CEPA and firms in that sector are believed to benefit substantially from the deal. According to the South Korea Institute for International Economic Policy, the CEPA was expected to increase bilateral trade by USD 3.3 billion and increase South Korea’s gross domestic product by 1.3 trillion won (USD 1.05 billion).

Both countries are anticipating stronger economic ties through the CEPA. It seems like so far the results have met the expectations, as exports by both countries have risen. According to the joint statement issued by the two countries after the Indian Prime Minister Singh and South Korean President Lee met in Seoul, Korea in March of 2013, the two leaders were satisfied that the bilateral trade had been increased by around 70 percent in two years since the activation of the India-South Korea CEPA on January 1st, 2010. Whereas Indian trade with South Korea stood at USD 57.1 billion in 2006, increased trade activity had propelled the number to USD 17.5 billion in 2010, about a 46 percent increase from the previous year.

Very much satisfied with these results, the two nation leaders decided to set a new bilateral trade target. The previous one was USD30 billion for 2014, yet it was decided to push the target higher up to USD 40 billion by 2015. Also they agreed to enhance business cooperation and strengthen trade ties. Prime Minister Singh and President Lee also welcomed the growing presence and investment of Korean companies in India and those of Indian companies in South Korea, which had been promoted by the bilateral CEPA. The Indian Prime Minister highlighted the desirability of balanced trade relations, mentioning how it would facilitate a robust growth rate for both countries in the long term. It was agreed that both sides would facilitate greater market access to each other’s products and services. Prime Minister Singh also stressed that the Indian side was hopeful of providing South Korea with pharmaceutical and agricultural products, as well as IT-enabled services.

However, there are still problems that need to be sorted out. Although bilateral trade has increased significantly, the pres-
Congratulations on your new museum opening. First off, how long have you been associated with India? What attracts you most there?

Since 1981 when I visited India for the first time as an art student, I have been fascinated by Indian art and culture. Every year thousands of Korean people visit India to experience it. A need was felt for an Indian Museum here in Korea for Korean people to continuously enjoy and experience the Indian culture right here on their own soil.

What is the main purpose of setting up this museum in the Korean countryside?

The museum seeks to connect the Korean people with the great Indian culture and civilization.

To set up a museum like this requires a lot of resources. Are you being helped by the Korean government or other private or government institutions? Or is it purely a personal, private effort on your part?

To set up an Indian art museum in Korea had been my long-cherished dream since 1981. In 2011, I was finally invited to set it up in Yeongwol county, in Gangwon-do, as the only museum village in Korea which provides financial and administrative support to various kinds of museums invited to run in Korea.

So yes, we are getting some help from Korea government in setting up this museum.

What are the main attractions of the museum? Please tell us about the main items being displayed in the museum.

There are many attractions specifically related with Indian paintings. Our collections include various kinds of paintings like Madhubani paintings, Warli tribal paintings and Kalamkari paintings; various kinds of sculptures, such as Bastar sculptures, Gond tribal sculptures, Naga statues and panels, Buddha statues, many Hindu gods and goddess statues. Plus, there are various textiles works, potteries and jewels. Other kinds of Indian folk and tribal arts and crafts are also displayed in the museum.

How did you get the idea of setting up this museum?

Korean people are fascinated by Indian art and culture. Every year thousands of Korean people visit India to experience it. A need was felt for an Indian Museum here in Korea for Korean people to continuously enjoy and experience the Indian culture right here on their own soil.

You have collected quite a number of items here. How long did it take you to collect them?

I have collected some 1000 beautiful pieces of Indian arts and crafts since 1981. I have lived in India for more than five years (from 1981 to 1984 and from 1994 to 1996). And I also visited India many times for the show of my exhibitions in New Delhi.

What is the main theme of the museum?

Through the arts and crafts of various folks and tribes displayed in the museum, I am trying to introduce the special character of Indian culture and society, namely, diversity and unity, to Korean people.

As you know, India and Korea have long historical ties. This museum will help reconnect those historical bonds between the two countries and people.

You are right. Relations between the two countries are said to date back more than 3000 years ago. Buddhism, which came from India, had long-lasting impact on Korea history, culture and its way of life. Influence of Indian culture, especially of Buddhist traditions, can be seen on the life of today’s Korean people.

Our museum aims to connect Koreans with that glorious past of our two countries.

According to your views, what is the future of India-Korea ties in general?

I think India-Korea ties have a great future. Trade ties are growing very fast. Government-to-government ties are also improving, with many high profile visits taking place in recent years. People-to-people ties are also set to increase. The number of Indian people living in Korea has increased many-fold in recent years. A large number of Korean people are nowadays also visiting India every year for studies, business and cultural tourism. So the future of relations between two countries looks very bright indeed.

Apart from this museum, what are your future plans to promote ties between the two countries?

In addition to the exhibition of various Indian arts and crafts, the museum will operate many programs of experiencing Indian culture, like seeing Indian movies, listening to Indian music, wearing Indian costumes, making block-printing, etc. These programs will help to further stimulate and contribute to the interests of Indian culture to Korean people.
Why India-Korea Strategic Cooperation is Critical to the Region

In recent years India and South Korea have forged a greater bilateral relationship. In the last few months, on the heels of Indian Prime Minister Manmohan Singh’s historic visit to Seoul as a participant for the Nuclear Security Summit this relationship was taken to new heights.

Following the conclusion of the summit which was hosted in Seoul, India and South Korea continued a one-to-one dialogue to further strengthen their bilateral relations and strategic alliances. The Prime Minister’s visit proved crucial, not only during summit proceedings, but also to lay the roadmap for India and South Korea’s cooperation and strengthening of bilateral ties.

The Prime Minister emphasized that the two nations’ centuries old ties are today the foundation of future cooperation between the two nations. “Links between India and Korea go back thousands of years. Lord Buddha’s abiding message of peace resonates among both our peoples. We know of the legend that a Princess from Ayodhya traveled here to marry King Kim Suro,” he said.

He also appreciated South Korea’s attempts to nurture these ties with gestures such as the recent public installation of a bust of Rabindranath Tagore. “I thank you for installing a bust of India’s great poet. Gurudev Rabindranath Tagore, who called your nation the ‘Lamp of the East’, in Seoul,” he added.

He also commented to Mr. Lee, the president of South Korea, that, “India regards you as a great supporter of a strong India-Korea partnership. It was during your historic visit to India in 2010 that we upgraded our relations to the level of a Strategic Partnership. We admire the way you have steered the Korean economy through the global economic downturn”.

Cooperation is vital to both nations. South Korea’s small geographic footprint and demographic limitations contrast with India’s strengths of a larger land mass as well as the world’s second-largest growing economy, which allows for symbiotic relationships.

Officially, bilateral ties between the two countries can be traced back to 40 years ago, when India’s foreign policy underwent a sea-change. The nation’s over-dependence on the United States for strategic and economic support had come under great pressure, following India’s testing of its nuclear capabilities in May of 1973. Along with several other strategic reasons, this resulted in India’s ‘Look East’ foreign policy. Indian strategist analysts’ emphasis on building strong economic as well as strategic relationships with its Asian sisters soon blossomed into a strong bilateral relationship with South Korea.

Today, South Korea has the most vibrant economy in the ASEAN region. It is home to some of the world’s best electronic, automotive and mobile manufacturing companies, which are growing exponentially in consumer as well as heavy engineering fields, and which have a considerable stake in Indian consumer markets as well. South Korea looks towards India’s greater capabilities such as satellite technologies, and it is this mutual regard which has continuously cemented the two countries’ economic bond.

Compulsions of Asian Century and Why India Needs a Strategic Ally in South Korea

In the first decade of the new century, political and economic experts have applied various labels to it, such as the ‘Asian Century’ or the ‘Pacific Century’. The unrealized potential of the region, believe analysts, is now beginning to be realized, given the maturings of the region and the ‘pressures’ other regions of the world are being limited by.

Asia’s growing economic clout far outweighs other international countries and there is a clamor amongst the regional states to find international political roles. In that context, both India and South Korea are located amongst neighbors in whom the US and China show considerable interest. North Korean and Pakistani military activities affects India’s and South Korea’s strategic depth.

In a post cold-war era, neither country can rely on external resources to meet internal energy or market demands as they have traditionally done. One major change which is needed is a ‘strategic DNA’ overhaul within both nations, along with a relook at developing economic collateral while actively encouraging the pursuit of greater geopolitical pragmatism.

Bilateral Relations Now Become Strategic Ties

With the Indian Prime Minister’s visit last month, economic ties have transformed into strategic ties. Discussions between Prime Minister Singh and President Lee Myung-bak of South Korea made significant progress as talks involved the manufacture and development of military equipment, nuclear engineering and the arms trade. India is keen on developing its capabilities in the framework of the bilateral agenda possible between the two countries.

Until recently, most of India’s strategic procurement came from Western powers – the United States, France and within Asia from Russia. That India and South Korea are keen on building their ‘strategic relations’ was amply substantiated in the joint statement at the Nuclear Security Summit, where a statement was made to the effect that, “President Lee underscored that the ROK side wanted to increase cooperation with India in military and defense industry including… naval ships, aircraft and shipbuilding.”

On nuclear technology cooperation, considering India has already allocated sites for other countries such as France, America and also Russia to develop nuclear reactors, President Lee made a special request to “the Indian government to allocate a site for Korea’s nuclear reactors.”

In modern reality, South Korea has always been quick to adopt to changes. The need to develop leadership in the new changing world order has been compelling, and under President Lee, South Korea has been highly adaptive, in part by drastically improving its strategic and economic alliance with India.

Nuclear Co-operation Agreement

A nuclear cooperation agreement was drawn up between India and the Republic of Korea last year, which gives South Korea a head-start on developing reactor vessels over Japan. India will soon sign a similar contract with Japan, and hence South Korea is keen on developing its reactor vessels for multiple projects as it wants to tap into potential third-party scenarios such as Areva, continued on page 32
Taking a Closer Look at India-Korea Defense Cooperation

BY ANURADHA SHUKLA

Following the historical meltdown of the Eastern bloc and the Western bloc near the end of the last century, the world order underwent drastic changes which resulted in the realignment of nations across a much more non-polarized world.

As the United States emerged as the unipolar power balance in this new world order, India’s defense strategies too underwent continual realignment with the changes occurring globally.

In the past few years, with China growing in leaps and bounds and emerging as a potential power bloc, India’s defense strategies have also undergone a profound change and have realigned to meet the challenges of its nuclear-powered neighbor. Another neighbor who suffers from similar dominance of the ‘Chinese Dragon’ is South Korea.

China’s economic growth, investment in sophisticated military technology, as well as nuclear empowerment has raised several concerns in the Asia-Pacific region, especially in India and South Korea. The Beijing penchant for interfering along the Himalayan borders, transferring nuclear technology to Pakistan and forging strategic alliances with Islamabad as well as North Korea has led to understandable tensions in South Korea and India. As their economic and bilateral trade alliances strengthen with each passing year, both countries are now keen on pursuing strategic alliances as well.

Emergence of Defense Ties Between the Two Countries

The first phase of the defense alliance first emerged between India and South Korea when, in 2005, the first ever Memorandum of Understanding on Defense Logistics and Supplies was inked between the two nations.

The agreement took final shape in May 2007, when the Defense Ministers from India as well as South Korea met for the first round of ‘discussions on matters of mutual interest.’ This historic meeting ended with a stated understanding of the exchange of military domain information as well as the building of a joint-defense technology development.

The meeting also helped to establish that both countries had the temperament to engage in and co-operate on the training of defense personnel and other military cooperation among their respective Coast Guards.

The next phase of agreement took place in 2010, when the President of South Korea Lee Myung-bak and Indian Prime Minister Dr. Manmohan Singh announced a ‘strategic alliance’ between the two countries to encourage political as well as security co-operation.

This was followed by the Defense Minister A. K. Anthony’s visit to Seoul which resulted in the drawing up of two Memorandums of Understanding on exchange of defense expertise and technology, as well as information through joint-development of defense technology.

A New Chapter in Closer Relationships

The defense minister hoped that his visit “…will start a new chapter in our already close relationship.” Mr Kim Tae-Young also said that, “The two MOUs signed today will provide a win-win scenario for the two countries in the era of the 21st century.”

The first MOU signed by the Defense Ministers themselves will focus on “exchange of defense-related experience and information, mutual exchange of visits by military personnel and experts, including civilian staff associated with defense services, military education and training and conduct of military exercises, exchange of visits of ships and aircraft, as jointly decided between the two countries.”

The MOU also seeks cooperation in humanitarian assistance and international peacekeeping activities. It will remain valid for a period of five years with provisions for its extension by five more years.

The second MOU was signed by the Chief Controller of Research and Development of DRDO, Dr Prahlada, and Vice Commissioner, Defense Acquisition and Procurement Agency (DAPA) of South Korea, Mr Kwon Oh Bong. To be operational under the overarching umbrella of the India-South Korea Defense Agreement, the MOU aims at identifying futuristic defense technology areas of mutual interest and pursuing R&D projects in both countries.

It also envisages co-development and co-production of defense products with the Indian industry through DRDO. There will be joint IPR on all the products developed through this mechanism. Some areas of immediate interest: e.g., marine systems, electronics and intelligent systems have been identified as priority tasks.

Until recently, India and South Korea had restricted themselves to importing the ‘Sukanya’ series of defense vessels (‘OPV’, offshore Patrol Vehicles) from ‘Tacoma’ in the decade of 1980, along with a few joint naval exercises.

In fact, India’s and South Korea’s defense alliance has greatly revolved around navy capabilities, as there have been several joint operations related to navy equipment. India’s navy is placed fifth in the world order, though its naval capacities are indeed limited by lack of proper domestic production and fragmented sourcing from foreign productions.

The Indian navy’s strategic depth will be defined by its sophisticated equipment and technologies. Maritime capabilities in India are now being re-defined by the acquisition of more than 160 ships, 60 or more major combatant vessels, around three aircraft carriers, submarines, and 400 or more aircraft by 2022.

Both India and Korea are also keen on attracting big-budget investments in naval productions, whether for Indian manufacturers or joint ventures with foreign know-how.

The Ambassador to India, Kim Joong-Keun, in December 2011 said that India is expecting to spend US$100 billion for the modernization of its defense sector and for making new acquisitions in the following half decade.

The Indian government has also finalized on a Korean firm to provide eight or more mine sweepers for its armory. Additionally, several other Korean companies have been shortlisted for the wide-spread modernization program the country is soon to commence.

The Ambassador wished that, “these firms were successful in order to set the beginning of long-term defense cooperation between the two countries.”

Stronger Ties Following Indian Prime Minister’s Visit

2009-2012 have been watershed years in India and Korean relationships. With the Comprehensive Economic Partnership Agreement, all facets of bilateral trade between the two countries have grown by over 65 percent, said the Prime Minister, during his historic visit to Seoul to participate in the Nuclear Security Summit in March of this year.

The Prime Minister, as well as his high-profile delegation, proved to be successful in meeting business representatives from various industries and reaching out to their concerns about the ‘lack of procedural effectiveness’, or ‘official apathy’, at converting big-budget investments in India in profitable projects.

The Prime Minister himself appealed to Korean investors that they should continue to have faith in India, as the government is expecting to find rapid solutions to growing dissidence to the start of projects with Foreign Direct Investment.

The leaders from both nations also assured that they would continue to strive for regional peace and balance, despite an increasing incidence of regional issues.

Continued on Page 34
Continued from Page 24

dai are well-established brand names in In-
dia, the Prime Minister proposed that the future is for small and middle-sized Korean companies to establish their manufactur-
ing units in India and break into the enor-
mos opportunities, the Indian markets offer.

India and Korea have also taken a fresh
look at the Science and Technology sec-
tor and have proposed the establishment of
the Joint Science and Technology Fund
of US$10 million, to encourage greater in-
teraction of the scientific community be-
tween the two nations.

FDI and India

The present Foreign Direct Investment in
India has become the focus of several trade
bodies as they watch the issues related to
one of the largest FDI deals in India, the
POSCO Steel Project, worth US$12 billion.
As local people object to the establishment
of the steel industry near their commu-
nity, the stand of the Indian government
and the related issues of implementation
were addressed by the Prime Minister dur-
ing his several interactions with the South
Korean business community. Assuring that
the scenario was soon to become profitable
for foreign investment, he encouraged the community to invest in India.

Showcasing India’s readiness for fur-
ther business ventures, the Prime Minister
said that, “India has maintained an annual
growth of 7 percent in the last several years
and it will increase in the coming years; In-
dia also has a domestic saving rate of 33-35
percent of GDP.

He also highlighted that, “We have a
very favorable demographic factor with
half the working population in their twen-
ties; India has heavily invested in educa-
tion, health and agriculture. The middle
class is growing in size and importance.
Further, rural markets are also expanding
markedly.”

Speaking further on the Indian markets,
he said that, “India has plans to invest
about US$25 billion in the next five years in developing infrastructure projects
like airports, highways, ports, power plants
and modern transport systems. India’s en-
ergy security policies that include energy
efficiency and renewables will provide new
opportunities to Korea’s environmentally
friendly technologies.”

The Economic Road Map of India
and South Korea

The strong historic and cultural ties
forged over the centuries has led to mutual
trust and understanding. The current need
for both countries is to take the existing
levels of trade to a higher level, allowing for
greater exchange of science, technology,
and electronics expertise in India while at
the same time opening South Korean mar-
kets for Information Technology services
and related opportunities of Indian expen-
tise. Education and strategic relations, such
as the launching of South Korean satellites,
will increase the volumes of trade in space
technologies.

As India and South Korea enter their
40th year of establishment of diplomatic
ties, their governments are looking at en-
hancing the overall relationship both the
countries share.

India Forges Better Ties
With East Asia

BY RASHMI GUPTA

With recent sweeping changes in the world
order, the role of India has increasingly come under
the arch lights.

While one view point is that India will
continue to play a regional role as the Unit-
ed States and China grapple for the centre of
global power, there are also views that
India could well emerge under from under
the dragon’s and eagle’s shadows to create
another new world order.

One of the significant strategies that to-
day might allow India to become a super
power includes a fundamental shift that
took place in the mid-nineties when India
paused its ‘Look-US’ policies and instead
turned east. The flegding relationships of
a decade ago have now matured to ensure
India is at a strategic ‘pole vault’ position
that will help in establishing itself within
the older regional structures and help in
forging new balances as well.

India’s Historical Ties

India’s ties with East Asian countries
have largely been dictated by its relation-
ship with China. Traditionally, and espe-
cially after the Sino-Indian in 1962, India
and China had been competing neighbors.
When China moved from an expansion-
list mode to a more competitive economic
superpower mode, India was slow on the
catch-up. China’s greater geographic vast-
ness has also contributed to its greater pres-
ence in most regional economic forums
and blocs across the Asia-Pacific.

India’s catching-up phase with China be-
gan during the early 1990’s when the then
Prime Minister Narasimha Rao (1991-96)
edorsed what soon came to be known as
the ‘Look East Policy’.

Fortunately, his successors Shri. Atal
Bihari Vajpayee (1998-2004) and Shri.
Manmohan Singh, have continued to con-
tribute towards building stronger and eco-
nomic growth by encouraging policies with
Easter countries.

Burmesse Overture Begins Look
East Policy

Perhaps the most significant change that
showed that India was adopting a more
pragmatic approach to finally don the role,
soon to be thrust upon her as a future su-
per power, was the softening of its stand
against the Burmesse junta, with its pro-
non-alignment and deep support to apart-
heid movement. India in the late 1980s
had continued to oppose Burmesse militia
domination of the country. However, with
a strategic shift in its policies, India now
plays key roles in economic and commer-
cial activities in Burma through its state
oil and industrial corporations, along with
training Burmesse personnel in controlling
the drug cartels breaking into India’s North
East frontier-states.

India Bonds with East
Asian Islands

Soon India moved to capturing commer-
cial, economic as well as military bases in
Singapore, the Philippines, Cambodia as
well as Vietnam. India quickly reconciled
its on-going relations with Sri Lanka with
Free Trade Agreements and improved its
military relations with Thailand as well.

While the bulk of India’s relationships
with East Asian neighbors has been based
on trade associations, it has also built a
strong platform for itself as a pro-democrat-
ic nation and has supported and stood by
countries which have emphasized human
rights as well as democratic values. India
is one of the signatories to ASEAN’s Treaty
of Amity and Co-operation in Southeast
Asia in 2003.

India Trade and Economic
Treaties is the Fulcrum of its
Relations with Regional States

India has constructed strong free trade
agreements and preferential trade agree-
ments with most of its neighboring region-
al states. It has also sought an active role in
the association of Southeast Asian Nations.

Continued on Page 34
India-Korea Strategic Relations

By Tim Yung Min Schroeter

The strategic partnership between India and South Korea is on the right track. Since the establishment of consular relations 50 years ago, both countries have made several steps in deepening this relationship, which peaked in the Strategic Partnership agreement in January 2010.

This significant development is even more impressive if the different political backgrounds of India and Korea are taken into account. Although India, chairing the UN Commission to hold elections in Korea in 1947, played an important role in Korea’s independence movement, and in spite of India’s support during the Korean War for South Korea, India and South Korea did not have close friendly relations after the end of the war for quite some time.

During the Cold War era, India’s stance as leading non-alignment state, as well as her cordial relationship with the Soviet Union, was very suspicious to the strongly anti-communist Republic of Korea, and it explains why both nations, for a long time, did not develop closer relations earlier.

With the end of the Cold War, contacts intensified and relations slowly improved, very much fostered by India’s ‘Look East’ policy. The states’ mutual visits – by the Indian Prime Minister Rao to Korea in 1993 and South Korea’s President Kim Young-sam to India in 1996 – which led to the establishment of the “India-ROK Joint-Commission” are only two examples.

Of course, especially in the early stage, improvements concentrated on economic relations: the Republic of Korea became one of the largest Asian investor in India from the mid-90s to the end of that decade, and the bilateral trade impressively grew from US$600 million to over US$20 billion in less than 20 years (1993-2011). Moreover, economic relations are still far from having reached their full potential. They only started to grow substantially, promoted by the “Comprehensive Economic Partnership Agreement”, which came into effect in January 2010. Even though these developments are very remarkable it should not be forgotten that the India-Korea trade volume is still marginal compared to India’s trade volume with many other economic partners.

With the inclusion of security related issues, the bilateral relations entered a new phase in 2000, 2002, 2004 and 2006, and in 2007. With the 2006 Joint Statement, India and South Korea further upgraded their relations in 2010. This strategic cooperation was further upgraded in January 2010 and proclaimed through the India-ROK Joint Statement “Toward a Strategic Partnership”. It essentially promoted high-level military exchanges as well as cooperation, agreeing to conduct a “Foreign Policy and Security Dialogue” on a higher level. This has become apparent by the increasing high-level visits between India and South Korea since the new millennium, and particularly since 2010. India’s Prime Minister Manmohan Singh and India’s President Pratibha Patil visited South Korea in 2010 and 2012 respectively, and South Korea’s President Lee Myung-bak visited India in 2010 and 2012, respectively.

To understand the importance of this development of bilateral relations between India and South Korea, the geopolitical framework of South Asia as well as East Asia should not be neglected, because it bears several consequences for the US – People’s Republic of China rivalry, as well as for India’s and South Korea’s bilateral and trilateral relations with these two powers.

Firstly, one should keep in mind that the post-Cold War situation in East Asia is characterized by a new rivalry between the US and China, in which China as an emerging power is challenging the dominant power of the system, i.e., America. For example, in the last twenty years, China has developed from the eleventh into the second biggest economy, and also the second biggest military spender in the world. China’s counterpart is the US, which, in spite of being geographically not part of East Asia, is politically as well as militarily strongly represented and interested in this region. India, therefore, reacted to China’s rise by an actual re-emphasis on this region and a foreign policy focus shift towards Asia-Pacific, last-mentioned by US President Barack Obama in a speech in November 2011. As a result, India deployed approximately 5000 troops as well as ships, aircraft and vehicles, which were stationed in Darwin, Australia, of which in early April the first batch of 180 marines had already arrived.

This is additional to the long-established US Armed Forces in Japan and Korea, which total more than 60,000 troopers in East Asia. Moreover, the regional situation is not only dominated by this China-US rivalry, but becomes even more complicated by the increasing influence of South Korea’s Republic of Korea (North Korea) with direct effects on South Korea, as well as the problematic relation between China and Taiwan.

And finally, there is also Japan, another loyal ally to the US which, yet, out of its historical imperial past, keeps only very strained relations with China as well as South Korea.

In short, the dissolution of the Cold War order did cause many changes in East Asia to which South Korea responded – and may be in another way than it used to, such as simply replying on the US. Furthermore, the lack of political as well as economical multi-lateral institutionalization of relations in this region is based in the nearly unsolvable disputes between its members. As the chances for internal solutions of the region are minimal, cooperation in a much broader framework seems to be the only viable alternative.

Against this background the potential of a strategic partnership between India and South Korea should be evaluated. It could strengthen the position of both states in institutions like the ASEAN Regional Forum. This is of great value for South Korea regarding its position vis-à-vis East Asian rivals such as Japan or China. Similarly, Indian-Korea cooperation bears importance for India in terms of her attempt to increase Indian influence in South- east and East Asia which also coincides with India’s ‘Look East’ policy. For example, India could hope for South Korean support in an expansion of the ASEAN+3 Forum. Therefore, in terms of connecting India (as well as South Korea) with South East Asia and East Asia, a strategic cooperation could be very profitable. Besides, South Korea could also offer support to India in expanding her role in the UN Security Council.

Secondly, and much more importantly, the role of both South Korea and India bears paramount significance in regard to their relations vis-à-vis the US as well as China. South Korea, as a middle power and buffer state, is of great value as strategic partner to the US because it allows America to keep its feet in the door to China – very similarly was the US deployment of troops to Australia to strengthen its presence in “China’s
would be surely one major gain for
out of this rivalry.
American rivalries would thus affect South
strong strategic relations with
out of which any way out is very costly.
economy and trap it in political dire straits
term future might endanger South
the
seem to be interested in a shift of partner-
hance of South
90 percent of
South
India hasn't.
India, being the natural counterbalance
to China as the only Asian state similar in
populace and minor en-
hancement of South Korea's position in this
alliance. Naturally, South Korea does not seem to be interested in a shift of partners-
ships from the US to China, but being heav-
ily dependent on trade with China, it also cam-
anoeuvred to keep the US-China relations.
A determination of US-China relations or an intensifying of the US-China rivalry in the mid-
to-long
term might endanger South Korea's economy and trap it in political dire straits out of which any way out is very costly.

A possible solution would be to build up strong strategic relations with India, as it might allow South Korea to keep its influ-
ence in Asia-Pacific while at the same time become less dependent on the US. Sino-
American rivalries would thus affect South Korea less severely because Korea had developed a more neutral stance and freed itself out of this rivalry.

India, on the other hand, could advance its economic relations with the US by strengthening
relations with the US ally South Korea. This would be surely one major gain for India, as India and the US cannot look back on a
long history of partnership. Good relations with the Soviet Union during the Cold War were one main reason for poor India-US re-
lations. But even until the late 90s, things were not so good. When, in May 1998, India launched a new nuclear test, the US reacted with strong opposition, including international condemnation by the UN SC
Resolution 1172. However, since then rela-
tions began to make a turn for the better,
resulting in the civilian nuclear cooperation agreement known as the "123 Agreement" which was signed on October 2008.

India, being the natural counterbalance to China as the only Asian state similar in
populace and
strategic relations with the US and in East Asia, but also guarantees the maintenance of an independent posture, an
India-South Korea partnership offers much and bears few risks.

As the potentials of deepened strategic relations in the future are very bright, it should not be forgotten that the improve-
ments made so far are still insufficient. Furt-
thermore, the relations and mutual images of each nation are still partially dominated by prejudices and stereotypes. According to the BBC World Polls, India's image in South Korea improved by 25 percent be-
tween 2006 and 2010, evaluating India with
66 percent of positive and only 22 percent of negative views as the most favorable country in terms of its world influence. Ad-
ditionally, the US perception of India did improve strongly (81 percent positive in fact of
India) too. On the other hand, India's opinion of South Korea is still very negative, with only 19 percent of positive and 23 per-
cent of negative views in 2010. This is also far below the average opinion on South Ko-
ea by other countries (36 percent positive, 31 percent negative).

Therefore, South Korea should further intensify its efforts to strengthen the strate-
gic relations as well as to foster exchanges and remove stereotypes from India's view of Korea's image. The initiation of the Korea Brand-strategy under President Lee Myung-bak is definitely a good basis for tackling this problem. India as a big global player has surely more options in choosing its partners, and South Korea should not make the mistake to miss the opportunity for deepening ties with India. Contrariwise, India should not overlook South Korea's prospects and influence in East Asia. On the one hand, the ROK is a key element in the US-China relations and thus a main link to both main actors. On the other hand, South Korea itself also bears enormous potential for India in terms of politics as well as econ-
omy. It might – through trade or technolog-
ical transfer – become a similar important
driving force for India as it is for China and a new partner in solving international prob-
lems such as terrorism or nuclear prolifera-
tion. However, similar to the economic situ-
at of the two countries, the future of strate-
gic relations might be very bright, but there is still a long way to go.

Continued from Page 25
ence of Korean companies in India hasn't.

According to the Export Import Bank of Korea, the number of newly established
Korean companies in India during Jan. to
Sept. of 2010 was only 41. During the previ-
ous year, there were 44 new companies in
Korean companies in India. It is expected that approximately 60 new Korean compa-
ies have established themselves in India in
the year 2010. In comparison, the number of new Korean corporations in India was
68 in 2006, which increased to 85 in 2007.
Considering these numbers, there does not seem to have been a significant benefit
from CEPA in terms of Korean companies' access to the Indian market.

Korean companies do not immediately benefit companies. Under the CEPA
South Korea needs to eliminate tariffs on
90 percent of Indian products. India needs to reduce tariffs on 85 percent of South Ko-
orean exports. But the tariffs are going to be eliminated over 10 years. For example, auto-
parts (the biggest South Korean exports to India) get a tariff deduction from the cur-
rent 12.5 percent down to 1.5 percent over an 8 year period. Thus the tariff deduction that companies will experience is only 1.2 percent annually. Furthermore, there were some complaints from companies that some government employees, who were not familiar with the CEPA, still apply the old tariff rate for some products.

According to a survey done by the Export Import Bank of Korea and the India Econo-
my Research Institute, of 82 South Korean
companies which are already present in
India or are planning to enter Indian market,
54 percent responded that the CEPA hasn't impacted their businesses. 33 percent of the companies answered that the CEPA was not effective while 13 percent of them replied that they are unsure of the CEPA impact. 2 percent saw the CEPA as negative to their businesses while 12 percent of them replied that they are unsure to support South Korea and India economic relations.

Dr. Oh Hwa-suk, director of the India
Economy Research Institute, advised that
both the Indian and South Korean govern-
ments should make every effort to offer ex-
act and clear information of the CEPA for corporations. He also added that focusing
on the follow-up of the CEPA and check-
ning the problems that companies confront are important matters to promote the two
countries' healthy and long term economic relationship.

So what, then, are the points that need to be improved? For one thing, companies
wanted to have a simplified process of ob-
taining certificates of origin. The current
procedure is quite complicated, involving far too many steps (this problem is charac-
teristic of economic agreements between other countries as well).

Companies stated that they also want to know the exact range of the CEPA applica-
tions. The current CEPA range is rather vague, which only causes confusion. Easy to follow working level guidelines would benefit everyone involved. The companies wanted to have a sort of guide book which explains the CEPA as well as how they can benefit from it and target products and markets. Also, the publicity was considered a shortcoming, and Korean companies hoped the process of employment visa issuance could be made more simple than the current process.

Professor Ahn Byung-soo of Seoul Digital
University is advising companies to be pa-
ten. He mentioned that the CEPA is rela-
tively slow in opening up compared to oth-
er free trade agreements that South Korea has signed. "Companies will feel the impact of the CEPA gradually, not suddenly. India has a high economic growth rate and the number of its middle class is growing, statis-
tics which bode well for the Korean econo-
my and Korean companies. I strongly be-
lieve the CEPA will be set in Indian companies as well as Korean companies for mutual economic growth eventually."
Military and Strategic Aspects for Korea-India Relations

By Nicholas Hamisevicz

As leaders made their way to South Korea for the Nuclear Security Summit in March 2012, President Lee Myung-bak of South Korea hosted many of them for separate bilateral meetings focusing on enhancing the ties between their respective countries.

One of those important meetings was with Prime Minister Mannohan Singh of India. Since 2010, South Korea and India have had a strategic partnership, and the meeting focused on ways to enhance their relationship.

Demonstrating the importance of this growing partnership, President Lee hosted a banquet lunch for Prime Minister Singh following their meeting. Both sides are looking for ways across the entire spectrum of bilateral interaction to sustain and enhance their partnership; moreover, the two leaders emphasized through the Joint Statement the necessity for meetings that will specifically help forge and enhance the military and strategic aspect of the Korea-India relationship. Development in these particular areas of the strategic partnership will provide an important example of bilateral cooperation during the Asian-Pacific century.

The wording in the Joint Statement and the subsequent reporting following Prime Minister Singh’s visit to Korea suggest a desire for both sides to have a big project or agreement that would help carry the momentum of the relationship into the next administrations. This is more of an immediate concern for Prime Minister Lee, as his constitutionally mandated single five-year term finishes at the end of 2012.

Like many bilateral relationships in Asia, trade and economics has brought South Korea and India closer together. With an increasing importance placed on economic growth in both countries, some of the shared security concerns between South Korea and India stem from their economic realities. A substantial portion of the energy and trade both countries need flows through the Persian Gulf and the Indian Ocean. In the most recent Joint Statement, the two sides called for the “need to actively pursue consultations and cooperation in the field of maritime safety and security.”

The potential for greater military and security cooperation is there between South Korea and India; however, in actuality the connections so far have been limited.

The two countries have signed some Memorandums of Understanding (MoU) for defense and security cooperation. Additionally, both India and South Korea have their coast guards engage in exercises together in July 2006. Although South Korea’s coast guards were beyond their normal territorial range of responsibility, skills in disaster relief and familiarity with Indian maritime protocol were derived from the experience.

Both South Korea and India have navy vessels fighting Somali pirates and protecting their ships, so greater cooperation could occur in this area as well.

The strategic partnership has the potential to grow through military acquisitions as South Korea is looking to expand its defense exports industry and capabilities while India is embarking on an ambitious military modernization program. India will soon purchase minesweepers from a South Korean company, which will help replace some of its older minesweeper fleet and protect Indian harbors. South Korea was hoping to build upon that success as its KT-1 fighter trainer was amongst the final candidates for a bid from the Indian military. However, South Korea lost out to the Swiss Pilatus PC-7 aircraft, and its appeal was turned down as well.

Despite losing this bid, there will likely be future opportunities for military acquisition and cooperation. India will look to continue to upgrade its navy as the strategic focus shifts toward the Indo-Pacific region. South Korea will look to its success with the minesweepers and shipbuilding prowess to win future contracts with the Indian military. Korea has also started working on unmanned aerial vehicles for export, which could provide another avenue of military interaction. Furthermore, the March 2012 Joint Statement listed potential opportunities of collaboration in the areas of research and development and manufacturing military equipment. The document went on to emphasize Korea’s desire “to increase cooperation with India in the military and defense industry.”

The development of the Korea-India strategic partnership has helped move both countries beyond their immediate neighborhoods and become more relevant in the regional and global context. However, in the context of greater strategic relations in Asia, the China factor looms large. Both India and South Korea have important economic relations with China yet possess complicated security relations as well. This is especially the case between China and India, as the two rising powers compete for influence in Asia and in the world. This competition becomes contentious when Chinese candidates for a bid from the Indian defense industry.

Continued on Page 27

who traditionally sources their components from Japanese companies. Indian officials opine that, “Having the Koreans in the fray also means India’s other nuclear partners have to keep the price of their reactors competitive.”

Analysts also perceive that the strategic alliance with South Korea will give India greater bargaining power with other nuclear participants in terms as well as technologies, given the wide scope of India’s modernization program. India is also hoping for greater goodwill with South Korea, and diplomats from both the countries are confident of South Korea’s support on India’s inclusion in the Nuclear Suppliers Group as well as the Missile Technology Control Regime.

Additionally, both the countries have jointly endorsed the entry of the US as well as Russia in the East Asia Summit (EAS), which is backed by ASEAN. They are also looking forward to trilateral discussions at the Track-II level where Japan would be the third participant.

The two countries also agreed to cooperate on political and economic security in the region as well as work towards maintaining regional stability.

Growing Concerns on North Korea’s Nuclear Capabilities

As North Korea’s nuclear capabilities grow, it is keen on being a candidate with countries with great caution. The rogue nation’s long-range rocket launcher is continuing to raise security as well as safety concerns with both nations, and the respective leaders chose to address this situation with categorical statements of maintaining regional balance.

Prime Minister Mannohan Singh said that, “Nothing should be done which increases tensions in the region and violates the relevant U.N. Security Council resolutions.” The South Korean premier seconded the notion and highlighted the two countries joint-stand against such disruptive forces in the region.

Bilateral Trade Boosted

Bilateral trade between the two countries too has received a boost following the premier’s visit along with effective deployment of the Comprehensive Economic Partnership Agreement. Over a two-year journey, the trade volume has grown significantly, by nearly 70-percent, today reaching over US$20 billion. The Indian Prime Minister said that, “President Lee and I agreed that our strong economic ties are fundamental to our growing interaction. We therefore set a new target of US$40 billion by 2015. We also agreed to accelerate work in progress to upgrade the partnership agreement and make it more ambitious.”

In case the mistrust of people between the two countries, an agreement was also drawn to simplify visa procedures. It may now be said that strategic ties hold the key. As India and South Korea renew their economic and bilateral trade opportunities, both are committed to optimizing strategic alliances so as to redefine their roles in the Asian Century.
India-Korea Cooperation on Green Technology for Sustainable Health and Well-being

BY MANJU SINGH AND R.B. SINGH

India and Korea differ in levels of development; India being a developing nation, while Korea is relatively more developed. Yet both have a multitude of commonalities.

Both nations gained independence at approximately the same time; India in 1950 and Korea in 1948. They also adopted democratic political systems. The two nations have marked similarities in physiography, dominated by mountains, hills and rivers. The population density of Korea is nearly equal to India. The coastal area of Korea is reclaimed from sea and is modern, whereas the Indian coastal area has a mixed flavor of tradition and modernity.

India and Korea are both experiencing fast growth of megacities. With fast urbanization Korea has developed excellent city transportation and subway systems. India is also doing well in the field of urban transportation and it could benefit from cooperation from Korea in this sector. India and Korea experienced impressive economic reforms and liberalization at same time during 1990’s. India’s manufacturing sector and Korea’s electronic sector are performing well. Both the countries are attracting enormous numbers of foreign and domestic tourists.

Linkage between Green Technology and Human Health and Well-being

Innovation in the field of green technology will not only help to provide an alternative eco-friendly energy source but will also help livelihood security to a vast section of society. Green technology has great potential to create various sources of earnings and thereby improve the quality of life of Indians and Koreans.

Green chemistry is a tool for chemists, chemical engineers, and other researchers from physical, chemical and biological sciences who design materials to help society toward the goal of sustainability of global health and well-being. Toxicological understanding and ‘environmental fate’ are necessary components for understanding the entire “molecular life cycle” of any commercial endeavour to make a significant contribution for achieving sustainable development. Since 2001, S.C. Johnson has had a process in place called Greenlist. “It’s really a process for rating the raw materials up that we use and the packaging for our products,” said Chris Librie, Director of Global Sustainability for the company. Green processes generate the smallest amount of waste and packaging which require the least amount of material. There was a time no so long ago when people would throw food scraps, peelings, etc., into the compost heap in the back corner of their garden. The rest of the household rubbish went into the dustbin in plastic sacks. Nowadays things have changed. Many companies are producing fully degradable bin bags, carrier bags and other plastic bags from polyethylene, using new additive technology to reduce the plastic to carbon dioxide and water in just a few weeks, so that now you can feed the compost heap with the plastic sacks too. An example of this technology can be seen with biodegradable polymers, which are designed to degrade upon disposal by the action of living organisms.

Extraordinary progress has been made in the development of practical processes and products from polymers such as starch and lactic acid. The need to create alternative biodegradable water-soluble polymers for down-the-drain products such as detergents and cosmetics has also taken on increasing importance. The two emerged economies of India and Korea can cooperate and collaborate on the above issues for global sustainability of health and well-being.

Green Technology / Chemistry Principles

According to America’s Environmental Protection Agency (EPA), 12 Principles of ‘Green Chemistry’, which are important components of green technology, include the following: 1. Prevention - It is better to prevent waste than to treat or clean it up after it has been created. 2. Atom Economy - Synthetic methods should be designed to maximize the incorporation of all materials used in the process into the final product. 3. Less Hazardous Chemical Syntheses - Whenever practical, synthetic methods should be designed to use and generate substances that possess little or no toxicity to human health and the environment. 4. Designing Safer Chemicals - Chemical products should be designed to affect their desired function while minimizing their toxicity. 5. Safer Solvents and Auxiliaries - The use of auxiliary substances (e.g., solvents, separation agents, etc.) should be made unnecessary wherever possible and innocuous when used. 6. Design for Energy Efficiency - Energy requirements of chemical processes should be recognized for their environmental and economic impacts and should be minimized. 7. Use of Renewable Feedstocks - A raw material or feedstock should be renewable rather than depleting whenever technically and economically practicable. 8. Reduce Derivatives - Unnecessary derivatization (use of blocking groups, protection/deprotection, temporary modification of physical/chemical processes) should be minimized or avoided. 9. Catalysis - Catalytic reagents (as selective as possible) are superior to stoichiometric reagents. 10. Design for Degradation - Chemical products should be designed so that at the end of their function they break down into innocuous degradation products and do not persist in the environment. 11. Real-time analysis for Pollution Prevention - Analytical methodologies need to be further developed to allow for real-time, in-process monitoring and control prior to the formation of hazardous substances. 12. Inherently Safer Chemistry - The form of a substance used in a chemical process should be chosen to minimize the potential for chemical accidents.

India, Korea and Green Technology

Environmental pollution and waste generation are problems faced not only in India and Korea but in many developing countries too. Many of these kinds of problems are created due to misinformed policies and strategies which are based on end-of-pipe treatment, rather than pollution prevention at source. Most frequently, income generation activities are dependent on an efficient use of energy and other resources such as water, which may pose some serious problems to future generations.

The United Nations Millennium Development Goals at the country level strongly recommend the imperative need to implement renewable energy resources in these countries and to implement energy conservation. Green technology is a sustainable practice which is playing a pivotal role in the use of solar energy together with the introduction of sustainable farming, recycling, etc.

Green technology can also have a very strong impact on water sufficiency issues in the developing world where availability of these resources is the most vital issue. It is through the implementation of cleaner processes and use of eco-effective chemicals that a huge volume of wastewater could be reused.

Both India and Korea need to work for their own betterment by encouraging the practices of green technology. Governments could undoubtedly facilitate the formation of more effective industrial/academic partnerships. The India-Korea collaboration can promote green technology through education, information collection and dissemination, research and international collaboration via conferences, workshops, meetings and symposia. However, industry in India still needs to make significant improvement from the environmental point of view. A majority of industrial R&D is mainly concerned with cost efficiency rather than eco-effective methods.

Continued on Page 41
HEALTH

Why Korea and India Should Move Towards Medical and Health Care Co-operation

BY KIM CHEOL HO

India’s health care policy is built to provide universal medical care to all strata of society.

While only a few states in the country, have a health care insurance system in place for people below the poverty line, nearly 50 percent of health care services are provided through government hospitals at regional and local levels. Although India has matched various health indicators, a noticeable feature is the decline in productivity in India’s health sector.

Korea’s health care field, on the other hand, is well-structured, with a national health insurance system that has grown in a phased manner and which has now arrived at covering even the casual labor class. Patients will have to pay on the basis of a ‘fee for service’ policy and this is to remain uniform across all employee classes.

This health care coverage is available for both Western as well as traditional treatments, and the entire system works predominantly with private sector participation.

Both India and South Korea have a lot of scope for cooperation within the field of health care. While India’s costs for delivery of world-class medical treatment in sophisticated infrastructure continues to remain competitive, Korea’s expensive health care treatment could offer opportunities for price revisions.

Despite a sophisticated health care system in place, Korea is ranked low amongst OECD countries in the delivery of health care systems. Thus Korea and India, with increased cooperation in the medical as well as health care systems, have a golden opportunity to create a more egalitarian delivery of medical care across the stratified society of their respective countries.

Continued from Page 28

by North Korea with technical know-how having come from China.

Both leaders were categorical that their respective nations were committed to maintaining regional security balances and would not indulge in irresponsible behavior, despite adequate provocations from neighbors.

Yet President Lee also highlighted Korea’s desire to increase “the degree of cooperation with India in the military and defense industry.” New trade opportunities are hereby opening up for the “manufacture of hardware, including naval ships and aircraft.”

The Prime Minister has also extended India’s space technology expertise to Korea and proposed that “India would offer to launch Korean satellites on Indian space launch vehicles.”

The countries were emphatic that the increased intensity of their relationship would not affect their individual relations with other countries, viz-a-viz China. Speaking for the government, Sanjay Singh was quick to ascertain that, “Our relations with every country stand on their own merit and are not predicated on relations with any other country.” This statement was made to assuage continued media concerns that the closeness between India and South Korea would actually worry or provoke China.

Thus a new phase of the defense industry and trade between India and South Korea has been entered. Currently, both countries are keen that Korea’s military equipment and hardware technology be adopted for Indian defense. India has already increased its budget allocation for the present financial year 2012-13 to US$41 billion, an increase of 17 percent growth over the previous year’s budget.

India’s demand for military products provides a lucrative market. Several overseas companies supply nearly 70 percent of the imports the country needs. It is the second-ranked importer of arms after China.

South Korea’s evolved arms industry is surely well positioned to meet India’s defense equipment and arms needs. It is already able to meet nearly 70 percent of its own needs and has become an established weapons systems supplier.

Seoul, in fact, has set a target of selling, “three billion dollars worth of arms in order to become one of the world’s top ten arms exporters by 2012.” The K-11 airburst assault rifle, as well as the K-21, which is the latest generation of infantry vehicle, is superior to the American-made M2 Bradley infantry fighting vehicle.

South Korea also has a sophisticated Aegis combat system, which “uses powerful computers and radars to track and guide weapons to destroy enemy targets.”

Furthermore, the road ahead for a fruitful defense trade association between Korea and India has already been well-established by the ‘minesweeper contract’ (with just one of these ships costing US$670 million), placed with ‘Kanganam Corporation’, a South Korean firm.

Continued from Page 29

or ASEAN. In fact, the first-ever India-ASEAN Business Summit was held in 2002, in New Delhi.

While analysing and commenting extensively on the emergence of India’s Eastern Policies, Walter C. Ladwig III (Ref.1) has said that, “While India may not traditionally be considered to be a significant actor in the Asia-Pacific region, over the past 18 years, New Delhi has undertaken a concerted effort to direct its foreign, economic, and military policies eastward. What began as economic cooperation with the nations of Southeast Asia has expanded into full-spectrum engagement with the major powers of East Asia.”

India has also built extensive multilateral organizations that support the Mekong-Ganga Co-operation, BIMSTEC as well as SAARC.

Role of Asian Partners in Including India in Asia-Pacific Region

Regional players have also supported and initiated India’s role in various associations of the region. When China’s domination in ASEAN+3 became uncontrollable, several countries such as Japan brought India into the equation to create a ASEAN+6 process. Singapore and Indonesia were also very keen on India playing a role in the East Asia Summit.

America also sought India’s active participation in defence, and has propelled its membership in the Asia-Pacific Economic Co-operation.

PM Speaks on South Korean Ties

Indian Prime Minister Mammoohan Singh, during his recent visit to Korea to attend the Nuclear Security Summit in the last week of March, interacted with the media and said that, “Investment from Korea is a priority for India. We will take pro-active steps to address investor grievances and improve the business climate in the country. Many states of our union have been actively encouraging foreign investment and we will support these efforts. I urge Korean industry to have faith in India.”

His last statement was in the context of the failure of Korean-funded projects such as the POSCO steel Project, where land acquisition from tribals of the region has led to continued start-up delays. Seeking to reassure South Korean investors in India as well as the CEOs gathered at the event, and in an effort to further ties with South Korea, the Prime Minister further commented that, “I recognize that sometimes our processes can be slow but there are effective mechanisms for resolution of problems and differences and a strong rule of law. The government is keen to move forward with the POSCO project and there is some progress in this regard. I believe that India is a stable and profitable long-term investment opportunity.”

Road forward for India’s East Asian relations

Walter C. Ladwig III, commenting on... Continued on Page 37
Mutual Benefits of Traditional Medicine Policy in Korea and India for Achieving Health MDG

BY R.B.SINGH & NITU GOSWAMI

Medicinal herbs as a potential source of therapeutics aids have attained significant importance in health systems all over the world.

Herbal plants have been a source of home-based remedies for common ailments since time immemorial. Herbal-based home remedies have fewer or no side effects. They are easily and locally available, they are effective, and they are time tested. Enjoying good health, remaining free from disease and having access to health care are basic human rights. The Millenium Development Goal (MDG) states that one of its focuses should be on finding solutions at the international level for investment in research, production and trade of medicines that are essential for the prevention and treatment of diseases affecting the poor. Both traditional Korean as well as Indian medicine has been used for thousands of years. Only traditional Korean medicines were available for the treatment of various diseases and health care of the people before modern allopathic medicine. The Ayurvedic system of medicine is one of the oldest, most well-integrated, organized and complete health systems developed in India. The formal system of Ayurveda originated from the informal knowledge on plant use and was passed down to those who were capable of practicing with it, like the traditional healers commonly known as Vaidyas.

Irrespective of geographical localities or rural and urban settlements within the home, the role of the kitchen garden - or home garden - is very significant in providing accessible health facilities. Home gardens provide vitamins and minerals in the form of vegetables, fruits and spices. This is significant because policies of traditional medicine should be well-integrated and must provide quality health care for the rapidly growing population.

Indo-Korean Contribution towards Health and Well-being

Enjoying good health, remaining free from disease and having access to health care are basic human rights. Despite the significant improvements that have been made in income indicators over large segments of the Indian population, there are still regions which continue to be without access to basic health services. This is due to various factors such as high medical costs and inaccessibility to health services. Yet traditional medicine provides affordable means of health care to poor and marginalized people (Fig. 1).

In addition, there is a growing demand of many, many years (Fig. 2 a and b). The Indian government has initiated many projects for the establishment of herbal gardens and also promotional programs for helping people to adopt kitchen/herbal gardens.

Traditional medicine is known as oriental medicine in the Republic of Korea. Oriental medicine was revitalised after the end of colonial rule and presently it is gaining momentum. Acupuncture and herbal remedies are commonly used in Republic of Korea (WHO, 2001). Many attempts of experimentation on fusion medicine, combining traditional medicine with modern medicine have also been reported there.

There are about 4,000 registered herbal medicines and 515 herbal medicines included in the National Essential drug list issued in 1959 (WHO, 2005). A study commissioned by the National Medicinal Plants Board, an apex body of the government of India dealing with medicinal plants sector across the country. It has reported the use of 960 medicinal plants species forming the source of 1,289 botanical raw drugs which are currently in active trade in India. The annual demand for botanical raw drugs exclusively for rural households was 86,000 metric tonnes during 2005 – 2006. The estimated trade value of these raw drugs during the same year, exclusively for rural households was US$16 million.

Traditional Systems of Medicine in Korea and India

The use of plants as medicine has evolved with the social and cultural groupings of humans. In all cultures, the plant kingdom has historically been a favorite source of health care. The ‘Charak Samhita’, an aged old written document on herbal therapy, reports the production of 340 herbal drugs for curing various diseases (Kala, 2004). Ayurveda is perhaps the oldest of these curative systems (6000 B.C.) and it is also greatly superior among organized ancient systems of medicine.

In Korea, besides the influence of the historical Chinese system of medicine, there was a separate text called ‘First Aid Prescriptions Using Native Ingredients,’ or ‘Hyang-yak Gueupbhang’, published in 1245. There is evidence which reveals that India was the prime learning source of health sciences and many students from various parts of the world, especially Southeast Asia. The informal folk medicine also co-exists with organized systems of traditional medicine in communities. It is passed orally from generation to generation. These systems have survived for thousands of years because of their common use and associated cultural beliefs of the populations (Sahai, 2000).

Herbal home remedies have a long tradition both in India and South Korea. Asian pears with honey are a simple and effective home remedy for coughs and sore throat in Korea. In India, honey along with ginger is taken to treat cough and cold. Traditional Korean as well as Indian medicine developed unique practices, or inherited them from other cultures. Women physicians are described as etable medicine in Korean culture while garlic is considered a pain reliever in India. In Korean culture Miso Soup has been a long time home remedy. This ancient practice has been passed down for hundreds of years and is still commonly used today.

Throughout India, the use of herbal home remedies is in wide practice. Several herbs and plants have been used since time immemorial and passed down from one generation to another generation to cure diseases. With huge usability and great potential, India and Korea are developing a roadmap to take this system into the mainstream of health care systems.

Government Efforts in the Development of Traditional Medicine – A Korean Initiative

Korea has great diversity in medicinal plant resources. There are about 4,500 medicinal plants reported to be used. The important ones include Angelica Gigas Nakai (Korean angelica), and Panax ginseng Meyer (Ginseng root). But there is also a poor harvesting method which has led to the extinction of many species (Choi et al., 2002).

Disparity in definitions and categorizations of Traditional Medicine therapies lead to difficulty in regulating traditional medicinal products, practices and practitioners. A minority of countries reported having laws or regulations on Traditional Medicine (TM) (WHO, 2005). The period between 10th-14th centuries and 14-17th century was remarkable in terms of medicine, focusing on domestic medication and native medicinal ingredients of Korean texts. There were the composition of dozens of types of Chinese and Korean medical texts at the governmental level. Women physicians were practicing healing traditions, there was the emergence of independent medical texts on acupuncture, the successful cultivation and massive export of ginseng, and the emergence of the Sasang, a native medicine tradition.

The entire population of the Republic Continued on Page 43
Potential of Health and Medical Cooperation between India and South Korea

India’s Domestic Health

India has one of the lowest healthcare expenditures in the world, along with the stark reality that it is critically short of hospitals, doctors, paramedical staff, medical technologists and nurses to cater to its huge population of 1.2 billion people. India also has an inadequate medical infrastructure and quality healthcare for its people from every strata of life.

The domestic health indicators of India are surprisingly weak in comparison to its recent dynamic growth.

The country faces a burden of communicable and preventable diseases like malaria, tuberculosis, diarrheal diseases due to lack of sanitation and hygiene. There is also a growing urgency to tackle chronic diseases like diabetes, heart disease, cancer, and AIDS/HIV.

An estimated 43.3 percent of low-income Indians do not seek healthcare when needed, due to poverty, compared to a figure of only 1.9 percent of its rich urban residents. This has improved with out-of-pocket payments increasing from 70 percent in 1987-88 to more than 80 percent in 2002-2003.

The constitution of India charges every state with “raising the level of nutrition and the standard of living of its people and the improvement of public health as amongst its primary duties.”

However, the Indian government’s health spending as a percentage of its GDP is among the lowest in the world. In 2009, it spent only 5.2 percent of its GDP on healthcare of which 4.3 percent was by the private sector. The Indian government spends only 0.9 percent on public health. The Planning Commission of India for its 12th five year plan [2012-2017] aims to increase its spending in the healthcare sector to a still meager 2.5 percent of its GDP.

India’s robust international engagement in the field of health therefore seems paradoxical given the formidable public health challenges it faces at home.

India’s Pharmaceutical Industry

The Indian pharmaceutical sector is highly organized and is estimated to be worth US$4.5 billion. It is growing annually at the rate of 9 percent. Its market is expected to reach US$5 billion in 2020, which is good news for the Korean pharmaceutical companies who intend to invest and be a part of growth in this field.

The domestic pharmaceutical market in India is estimated to reach around US$20 billion in 2015, while the healthcare market is projected to reach US$2 billion in 2020. The sale of pharmaceutical drugs and medicines will reach an estimated US$19 billion in 2012. India is also a lucrative destination for clinical trials by global healthcare companies.

The Indian pharmaceutical industry has more than 20,000 registered units. A leading 250 companies control 70 percent of the market. There are 250 large units and 8000 small scale units which form the core of the industry, out of which there are 5 central public sector units.

India’s pharmaceutical industry meets 70 percent of its 1.2 billion population demand for the bulk of drugs, formulations, chemicals, tablets, capsules, orals and injectables.

The Indian biopharmaceutical industry produces 60-70 percent of the vaccines procured by UN agencies for basic vaccination in the country. Along with Brazil, India is a top five supporter of research in dengue fever and leprosy in the world.

Why South Korea Should Invest in the Pharmaceutical Industry in India

Given the huge potential of growth in pharmaceutical industry in India there exists many attractions for Korean companies to invest in this fast growing sector. Some of them are:

1. Competent workforce
2. Cost-effective chemical synthesis
3. Strong legal & financial framework
4. Network of IT
5. Globalization of India
6. Consolidation
7. India can discover, patent and produce drugs on a massive scale at a much lower cost than other countries.

Future of Health Care in India

The above facts about healthcare in India were not meant to present a pessimistic view, but rather to know the medical and healthcare realities currently prevailing in this nation.

On the positive side, the Indian healthcare industry is rapid growing and is all set
to become a US$280 billion industry in the year 2020. Rising income levels, a growing economy and a growing elderly population are all contributing to this rapid growth.

India has been a change in demographics, disease profile and a shift from chronic to sedentary lifestyle diseases due to growing affluence, especially from the world’s largest population of middle class population in the world, who are progressively moving towards a richer lifestyle.

In order to meet its manpower shortage and to reach world class standards in healthcare, India needs an investment of US$30 billion over the next 5 years.

Role of South Korea in the Healthcare & Medical Growth of India

Today India and South Korea are democratic republics. The trade & economic cooperation between these two nations is growing exponentially. In 2010, bilateral trade was US$10.7 billion. It grew to US$20.6 billion in 2011. The same year Korea’s exports to India grew to 11 percent while its imports grew to 40 percent.

South Korea is the fifth largest source of investment in India. It is also a model for many developing countries for its rapid growth. The early 1960s, Korea ranked as the world’s second lowest GDP. Today it is a world economic superpower, due to the hard work and determination of the Korean government and the citizens of the country who put the country on the world map.

In 1991, KOICA (Korean International Co-operation Agency) was formed by the government to aid the developing countries. In 1996, it became a member of the OECD, becoming the first ever economy in the world to transform its status from recipient to donor.

From 1987-2007, South Korea assisted developing countries with a total aid of US$85.7 billion. In 2008, it jumped to US$802 million, a remarkable increase of 15 percent in a year.

Between 1993-2008, South Korea’s annual growth in health expenditure per capita was 7.8 percent, almost double the average for the countries of OECD.

As South Korea prioritizes global health quite highly, it diverts 1.2 percent of its aid budget to health and medical services. Its commitment to global health, development and human security can be a boost in its bilateral ties and cooperation with India, especially in the healthcare sector.

India can certainly learn from this Korean experience and expertise in order to benefit its healthcare sector.

The two nations have been very good friends and partners in trade and cooperation for centuries and the bond is growing stronger. The only area still requiring a major boost between the two countries is the healthcare sector, which is somehow lagging behind.

LG, Hyundai, Samsung, and POSCO are household names in India, but still we don’t have any bilateral investment, technical collaborations or cooperation in the medical or healthcare sector. They could stand a rapid boost from cooperation with South Korea which has had a highly successful universal health insurance system in inception in 1977 when it began as medical insurance for workers and their dependents in firms with more than 500 employees. In 1989 this was extended to the whole nation, thus attending to the needs of every citizen from all the strata of the society.

It was economical, accessible and user friendly to all. India also needs such a healthcare delivery system, and thus we need mutual cooperation and collaboration in this area of Korean expertise and success.

Regarding future medical cooperation, there should be collaboration between both governments for mutual training and exchange programs of medical doctors, nurses and other healthcare providers. South Korea produces approximately 25,000 healthcare professionals each year. There are more than 250 medical colleges in India for medical doctors who are taught the western system of medicine, while there are 400 medical colleges teaching the traditional Indian system of medicine. South Korea can collaborate with India while also opening traditional Korean medicine colleges and also western medicine system colleges.

India has an extensive role to play as it has still has insufficient medical doctors, lab technicians, radiographers and paramedical professionals to meet the large population of India. The middle class and upper class in India have significantly better access to emergency services & healthcare in comparison to the rural population.

An Oxford University study revealed that one million Indians die each year due to inadequate healthcare despite high quality and well trained doctors in the country. 80 percent of patients live in the urban city and 700 million citizens do not have access to their services.

India & S. Korea – What we can do?

Both these countries can form associations along the lines of SAARC, or IBSA dialogue forums for the long-term mutual cooperation and collaboration in the healthcare sector.

India is likely to continue its efforts to increase its domestic rural outreach for healthcare, to expand international health agencies funding for its domestic programs and to use aid to enhance both health and country’s influence in South Asia and Africa.

South Korea can provide the technological innovations, manpower training, and training to tackle problems in remote rural areas and other forms of help for India’s ailing health sector. It can also invest in pharmaceutical industry research and training programs.

It can collaborate with government and private agencies, including NGO’s, for improving the health of the citizens of India. Korea can also help bring methods to control the population of India by education, medical support, research and collaboration with NGO’s, private and government organizations.

Thus if systematic and thorough approach is adopted there exists a big potential of India–Korea cooperation in the health sector.

Continued from Page 34

India’s future role in Asia-Pacific, concludes that, “While in the near term India’s presence and influence will be felt most strongly in Southeast Asia, a steadily expanding economy, paired with a growing partnership with key regional actors and an increasingly capable navy, positions the South Asian giant to have an impact on the emerging security architecture of the region.”

As a new player in Eastern power equations, India has an extensive role to play as an ‘external balance’ and the expectations of this role are well-argued by India’s National Security Advisor, Shivshankar Menon. He argues that India’s foreign policy posture needs to be ‘inclusive, comprising all powers — regional and extra-regional — relevant to the practice of Asia’s security. Its potential should be to extend, extending from the Suez to the Pacific and seamlessly enfolding the maritime periphery with the rising continental core.”

While concluding the 13th Asian Security Conference in February of last year, Ambassador Shivshankar Menon’s comments offer the exact road map for the role India will play in the region. “Its security structure ought to be plural and open-ended, having learnt its lesson from past collective security failures. Finally, its institutional mechanisms ought to be consultative and non-prescriptive, respectful of the region’s preference for consensus-based approaches to problems extended in that of crossroads of Asian inter-civilization interaction, Southeast Asia.”

India will aim to become an ‘enabling power’ in the region and seek to follow a consensual regional structure that will seek regionally ‘different entities’ to act with restraint in discharging their relations within the region. India’s policy will be an ‘engaged power’ as well, so as to encourage the growth of the entire region as a whole.

India will continue to be pluralistic power by ‘facilitating the involvement of the widest spectrum of participants in the region’s endeavours, and eschewing exclusivist multilateral constructs (particularly in the area of non-traditional security)’. As a ‘stabilising power’ it can prepare to use its considerable security capabilities to help resist revisionism and maintain a more stable equilibrium — a key national interest”.

Analysts such as S. Gupta (Ref. 2) comment that India’s global role in the next decades will follow the path of economic modernization, leading to the building of a conducive environment to provide the right launchpad to achieve its role.

At the dawn of the Asian Century, it is imperative that India becomes the enabling and initiating a role in the global context so that it becomes a game-changer in the region. Reiterating its East Asian foreign policies with partners such as South Korea is indeed the right step forward.

REFERENCES:


www.biztechreport.com
BY SIVARAM AREPALLI

There have been several key advances in Indo-Korea science and technology relations since I wrote last in these columns in 2010 (Reference 1).

The noteworthy events are:

1) During Korean President Lee’s visit to India in January 2010, a dedicated science and technology (S&T) fund of US$10 million was created (with a contribution of US$5 million by each side) to promote joint research.

2) An Indo-Korea Science & Technology Co-operation Center was started in January 2010 at the Indian Institute of Science campus in Bangalore, India. This will help manage scientific and technological cooperation activities of the Korea Institute of Science and Technology (KIST) and Indian Institute of Science (IISc).

3) The Indian Department of Science and Technology (DST) and the Korean Institute for Advancement of Technology (KIAT) have agreed to work out a “Memorandum of Understanding” (MOU) for bilateral industrial research and development.

4) In Feb. 2010, a science and technology forum called Daedeok Indo-Korean Forum was started at Daedeok Innopolis, Daeejon. It was noted that Korea’s National Fusion Research Institute (NFRI) will set up an experimental facility for 1-2 MW grade Plasma Enabled Integrated Gasification Combined Cycle (PE-IGCC) at the Indian Institute of Science (IISc), Bangalore in 2011.

5) An agreement signed by South Korea’s science minister Byong-man and his Indian counterpart, Pritviraj Chavan, outlined joint efforts to develop chemicals, the materials industry, water resources and environment and information technology engineering. The state-run Korea Aerospace Research Institute (KARI) and the Indian Space Research Organization (ISRO) also signed a memorandum of understanding to further seek ways for the peaceful use of space.

6) In March 2012, India and Korea had a bilateral summit meeting between the Prime Minister of India Mr. Manmohan Singh and Korean president Lee Myung Bak. Apart from building business ties, the two leaders stressed the need to improve strategic partnership between the two countries.

The Indo-Korea S&T fund was supposed to provide a leveraged investment that can provide opportunities in working with joint research projects of mutual interest in the following areas:

- Transportation
- Robotics & Engineering Sciences
- Nutrition & Food Safety
- Renewable Energy
- Chemical & Biochemical Technologies
- Health & Medical science
- Material Science & Technology
- Water Resources & Environment
- Information Technology

The fund was administered and monitored by Indian DST (Department of Science and Technology) under the Indian Ministry of Science and Technology and Korean NRF (National Research Foundation) under the Korean Ministry of Education, Science and Technology (MEST). There were announcements by DST and NSF seeking proposals in Feb. 2011 (Reference 2). The DST and NRF conducted parallel reviews of the joint applications submitted. Out of the submitted 150 proposals, 15 were selected and the following are on nanotechnology and energy related topics.

- Development of Platform Technology for Bio-oil Production Using Heterotrophic Microalgae
- Joong-Woo Woo, Korea Research Institute of Bioscience & Biotechnology and Z. P. Bhathena, Bhavan’s College

- Experimental investigations of fuel sprays of biodiesel, straight vegetable oils and their blends with mineral diesel for optimizing fuel injection equipment to lower engine emissions
- Sungwook Park, Hanyang University and Avinash Kumar Agarwal, IIT Kanspur

- Utilization of carbon dioxide for the production of fuel and chemicals
- Kwon Taek Lim, Pukyong National University and Suman L. Jain, Indian Institute of Petroleum

- Characterization and modification of ceria particles for STI CMP (Shallow Trench Isolation Chemical Mechanical Planarization)
  - Jin Goo Park, Hanyang University and S. Ramanathan, IIT, Madras

The 1st Indo-Korea Forum was held as a satellite meeting of IEEE Nano 2010 in Seoul, and this Indo-Korea Forum has been merged to the Indo-Korea Joint Workshop so that both the DST of India and MEST of Korea will support this joint workshop as an official S&T meeting. The 1st India-Korea Joint Workshop was held in Seoul, May 2011, and the 2nd India-Korea Joint Workshop was held in Chennai, November 2011 (http://indokorea.iitm.ac.in/). The 3rd one will be held again in Seoul in August of this year (2012).

The author believes that these collaborative activities should be expanded to include other areas of energy strengths of the two countries. In recent years, their substantial investments have resulted in considerable progress in the synthesis, processing and applications of nanomaterials. Special focus is on industry leader “Thermax” and scientific institutions in the two countries culminated in a series of conferences and workshops highlighting the progress made in these areas. There are also ongoing efforts in higher education to include nanotechnology and energy courses as well as programs to help create the future work force for energy. Some highlights of the energy related activities in India and Korea are listed below. The list is not exhaustive but it provides the reader with a major sample of focused R&D activities in the area of nanotechnology applications for energy in these two countries.

India

The Indian DST identified solar energy as one of their Technology Missions and started the Solar Energy Research Initiative (SERI) program in 2010-2011. Under the SERI program, a 256 kW Solar Thermal-Biomass Hybrid Plant was started in Gujarat with collaborations between an industry leader “Thermax” and scientific institutions including IIT Bombay, IIT Madras, CGCRI Calcutta, the University of Pune, and ARCI Hyderabad. In addition, it funded about US$10 million for solar energy-based research and the notable recipients are: Amorphous Silicon Thin Film Cell Plant (AS-SCP), BHCL, Gurgaon; 2) National Institute of Ocean Technology (NIOT), Chennai; 3) Bengal Engineering and Science University, Howrah and 4) Amity University, Noida. Additional details are available on the DST webpage (Reference 3).

DST’s Nano Mission has also been supporting nanotechnology-based energy-related research at several universities and national centers of excellence (Reference 4). Under Nano Mission, the following were completed in 2010-2011:

1) Several funded projects were focused on nanomaterials and some specifically on energy such as lithium ion batteries, fuel cells and supercapacitors. The work will be carried out at several places including IITs, IISc, Pondicherry University and National Institute of Engineering.

2) Detailed investigations were carried out on the catalytic effect of carbon nanomaterials with different structure morphology for improving the hydrogen storage behavior of complex hydrides.

3) Zinc-blend alloy nanocrystals were de-
signed which are composed of Cd, Zn and S and doped with Cu to produce composition/size dependent tunable dopant emission in the entire visible spectrum. This is the key principle to tailor horse CdSe in group II-VI semiconductor systems to produce a large window tunable emissions.

4) A solar cell module was developed which can also store electrical energy in the same thin film. The principle of the new generation device is to coat the photovoltaic thin film layers with thin film storage layers that are also nanostructured and use titania nanotubes providing very high capacitances. A double layered titania structure was used for photovoltaic storage device.

According to DST, the Nano Mission accomplished the following in 2010-2011: 1) Research papers in cited journals 2687; 2) Research papers in Conferences 375; 3) Patents 82, 4) PhDs produced 253, and 4) Other Manpower trained 737.

There has been a substantial increase in the conferences and workshops on nanotechnology geared towards energy and some of them are listed below:

Conferences in India on Nanotechnology and Energy
- 2nd International Conference on Advanced Nanomaterials and Nanotechnology (ICANN -2011) during December 8th-10, 2011 at IIT, Guwahati, India. http://www.iiit.ernet.in/icann2011/ The educational institutes in India have been increasing their focus on nanotechnology, specifically for energy by offering courses as well as degree programs. This has resulted in a large workforce and will provide a substantial manpower in the country. Some examples are:

**Nanotechnology and Energy Education in India**
- Energy Production, IIT Kanpur, http://www.ikf.iitk.ac.in
- Banaras Hindu University, Varanasi, U.P., www.bhu.ac.in
- Indian Institute of Science, Bangalore, www.iisc.ernet.in, KIST center
- Central Glass and Ceramics Research Institute, Kolkata, www.cgcri.res.in
- National Geophysical Research Institute, Hyderabad, www.ngri.org.in
- Jadavpur University, Jadavpur, West Bengal, www.jadavpur.edu/
- Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, www.jncasr.ac.in

**Korea**

The Korean NRF supported a variety of activities leading towards applications of nanotechnology for energy related topical areas. As a part of their World Class University (WCU) program, Korea started educational centers of excellence focusing on energy (Reference 5). This helped to start the following:
- Department of Energy Science at Sungkyunkwan University (SKKU), Suwon
- Department of Energy Engineering at Hanyang University, Seoul
- Center of Chemical Convergence for Energy and Environment at Seoul National University (SNU), Seoul
- Center for Energy Harvest and Storage at Ulsan National Institute of Science and Technology (UNIST), Ulsan
- Center for PhotoVoltaic Systems at Korea University, Seoul
- Next Generation Nuclear Engineering at Pohang University of Science and Technology, Pohang
- Sustainable Energy Engineering Technology at Korea Advanced Institute of Science and Technology (KAIST), Daejeon
- Science and Technology for Renewable Bioenergy, Chonnam National University, Gwangju.

Also, several institutes, universities and companies teach and conduct R&D in the nanotechnology applications for energy. Some of them are:
- The Energy Storage Research Center at Korea Institute of Science and Technology (KIST), Seoul
- Department of Energy Resources Engineering, SNU, Seoul
- Department of Energy Resources Engineering, Inha University, Incheon
- Energy and Mineral resources engineering at Sejong University, Seoul
- Graduate school of Knowledge-based Technology & Energy, Korea Polytechnic University, Siheung
- Department of Renewable Energy, Chungang University, Seoul
- College of Natural Science, KyungPook University, Daegu
- Korea Institute of Energy Research (KIER), Daejeon, and
- Companies including Hyundai Heavy Industries, Samsung SDI, Hanwha Solar One, Woongjin Energy, LS Industrial System, Daewoo Shipbuilding & Marine Engineering, Shin sung Solar Energy, Osung LSI, and Hansol Technics

The nanotechnology based research focusing on energy has led to several important accomplishments such as the largest single layer graphene sheet in the world.

There has been a substantial increase in the number of researchers in Korea focusing on this topic and the number of conferences and workshops conducted in Korea have mushroomed over the last few years. Large exhibitions and expos such as Nano Korea and Green Energy Expo have become very popular and attendance has been increasing dramatically.

**Conferences in Korea on Nanotechnology and Energy**

**Fig. 2: Double layered titania nanotubes for generation-storage devices**

**Fig. 3: A transparent ultra large-area graphene film transferred on a 35-inch PET sheet (left) and an assembled graphene/PET touch panel showing outstanding flexibility (right)**

**Fig. 4: Samsung, SK, Dongkuk Energy and Daesung Energy were among the 360 companies from 23 countries participating at the 2012 Green Energy Expo in Daegu, Korea (Ref. 6).**

Continued on Page 48
India-Korea Science and Technology Cooperation

BY SHAMILA JANAKIRAMAN

Recent announcements following the Indian Prime Minister Dr. Manmohan Singh’s official visit to South Korea further highlight the leaps and bounds taken by these two countries with regard to collaboration in the Science and Technology front along with several other fields.

Though companies like LG and Samsung collaboration between Korea and India, friendly relations between Korea and India date back in history to the year 48 AD. An Indian princess, Queen Suro, traveled to Korea from the Kingdom of Ayodhya following the path revealed to her by a dream. She set sail in a canopy of a heaven king carrying precious metals, a tea plant and a magical stone to calm the sea.

The arrival of the queen, known as Princess Heo Hwang-ok in Korea, brought the two countries closer in trade and other engagements which continue to this day. Besides trade connections, cultural and religious links were fostered by Buddhist monks. In the year 723, for example, Hyecho, a Korean monk, visited India to acclimate himself with the birthplace of the Buddha.

The past three decades have witnessed rapidly closer ties between the two nations with the signing of the Agreement on Trade Promotion and Economic and Technology Cooperation; the Agreement on Cooperation in Science and Technology; a Convention on Double Taxation Avoidance; and a Bilateral Investment Promotion and Protection Agreement. It is felt that positive relations with India is a critical need for Korea both economically and politically. Also South Korea is the fifth largest source of investment in India.

Most recently, in January 2010 India and Korea inked an S&T cooperation deal to augment bilateral cooperation. An MoU was signed to chart out ways and means to improve space communication, enhance remote control probes’ capabilities and encourage study and research of space-related sciences.

India’s space research capabilities and Korea’s IT industries is expected to benefit both countries. Korean contributions in filling up technology requirements in Indian households, the burgeoning automobile sector and technology transfers in infrastructure projects such as the national highways development project and the purchase of Daewoo Commercial vehicles by Indian company Tata Motors further emphasizes greater cooperation.

The current level between the two nations is riding an all time high, thanks to efforts by the India-Republic of Korea Joint Commission for bilateral cooperation. The Indian Cultural Center in Korea, established in April 2011, and the Festival of India which started in June 2011 have further enhanced relations.

In South Korea the 7500 strong Indian community is comprised of businessmen, IT professionals, scientists, research fellows, students and workers. About 150 businessmen deal with textiles alone. Recently nearly 1000 IT professionals and engineers have reached Korean shores working for companies like LG, Samsung, Hyundai and others. Then there is the growing population of Koreans in India in major cities, owing to the launch of new infrastructure projects.

The first India-Korea Science and Technology Ministerial Steering Committee has also played a significant role. In May 2011 the ministerial steering committee, led by the Union Minister of Parliamentary Affairs, Science & Technology and Earth Sciences, Shri Pawan Kumar Bansal, and the minister of Education and Science & Technology of the Republic of Korea, Mr. Ju-El Lee during the 1st India-Korea Science & Technology Ministerial Steering Committee Meeting, in Seoul on May 04, 2011.

Continued on Page 45
Continued from Page 32

leaders feel India’s “Look East Policy” is really aimed at containing China’s rise. India shares a reciprocal concern that China’s attempt for better relations with India’s neighbors is creating a “string of pearls” to limit its growth beyond South Asia. South Korea also has a complicated relationship with China connected to factors involving North Korea and the United States.

The rise of Asia has seen countries develop economically, modernize their military, and enhance their diplomacy through strategic partnerships and multilateral institutions. The influx of various strategic partnerships has created some uncertainty on the true goals of these relationships. The efforts by Prime Minister Singh and President Lee to emphasize the importance of having high-level meetings in 2012 will help India and Korea create more areas of cooperation, further define the relationship, and develop sustainable goals for the bilateral relationship. Korean and Indian officials must continue to cite the commonalities that policymakers and analysts know are present in this strategic partnership. The two countries have had some successes regarding military and strategic cooperation thus far. However, there are numerous opportunities for developing those aspects of the South Korea-India strategic partnership. If these nations can use their meetings in 2012 to define the future of this bilateral relationship and provide vehicles for future cooperation, this strategic partnership can be a model of two countries working together to make the Asia-Pacific century a peaceful one.

Continued on Page 46

Nuclear Energy Cooperation Between India and Korea – Vital Energy Alternatives Driving Growth

Recent research has pointed out that the need for energy in Asian countries will result in energy concerns the world over.

The increasing energy demand is due to the phenomenal growth rates of the Asian countries in the last few decades that will continue into the next decade of this century as well.

Researchers predict that by 2050 the overall global consumption of energy will triple and will be led by Asian countries such as India, China and several members of the ASEAN bloc.

A recent example of the role South Korea expects to play in the nuclear energy sector was exemplified by the recently concluded Nuclear Security Summit in March, with most nuclear member countries, including President Obama, arriving for the summit.

Both India and South Korea have reiterated several times that the nuclear security issues are very important to both countries and whatever the provocation from neighboring nuclear-enabled states, both would strive to maintain peace and continue to establish balance with the region.

South Korea has developed great nuclear technology expertise which will prove to be a new sector of growth and cooperation between India and South Korea.

In the light of the continued threat of North Korea’s latest ‘nuclear launcher’ technology, South Korea and India have expressed their support to maintain peace.

South Korea has complied with the Nuclear Nonproliferation Treaty and continues to advocate the use of nuclear energy for peaceful purposes such as the production of energy, while continually looking to meet its energy demand requirements with alternative energy generation options.

India and South Korea have already reached a Nuclear Energy Agreement last year that allows India immediate access to South Korean companies to tap the enormous nuclear energy sector, especially in the construction of new nuclear power plants.

As per the agreement, South Korean companies now have the legal jurisdiction to invest and participate in India’s atomic power plant projects.

Presently, India already has twenty nuclear reactors in place for generating energy. There are six more reactors under construction and if the government’s grandiose plans are to be considered, another forty nuclear power plants are expected to be commissioned in a phased manner in the next twenty years.

The Indian nuclear power generation market is indeed very competitive and there are several global companies from France, Russia and Britain vying for market penetration.

However, considering India and South Korea’s mutual Comprehensive Economic Partnership Agreement (CEPA), as well as South Korea’s already established expertise at successful installation of twenty nuclear plants to generate nearly 35 percent of the electricity demand in South Korea, India is already more aligned with South Korea for transfer of technology and further cooperation in building success energy generation facilities through nuclear technology.

Additionally, South Korea has a proven track record in the commissioning of nuclear reactors for power generation in global projects in the Middle East as well as in Japan.

India’s energy demands are likely to be met successfully due to the immense growth in nuclear power plant operation. With South Korean nuclear technology knowledge, it is fully expected that India will meet its nuclear power generation needs of the future.

BY VIBHU SAXENA

Green Energy and Alternative Sources of Energy

Green energy is the term used to describe sources of energy that are considered to be environmentally friendly and non-polluting (because they are perceived to have lower carbon emissions) such as geothermal, wind, solar and hydro power. Sometimes nuclear power is also considered a green energy source. Government deals on nuclear power is good option as traditional sources of non-renewable energy become increasingly scarce, making it part of the solution to global warming and growing demand for energy in India. We know that nuclear power plants, once built and before decommissioning begins, produce little carbon dioxide emissions, and the radioactive waste produced is minimal and well-contained, especially compared to fossil fuels.

However, the recent Fukushima disaster highlighted several critical and pressing issues for the safety of people living in regions near to nuclear power plants.

Some people claim that the nuclear option is not price-competitive without heavy government subsidies and the use of government bodies to store and protect such a hazardous waste component. Compared to nuclear energy, solar energy is another viable option for a country like India, as it lies in such a sunny region of the world. Most parts of India receive 4.7 kWh of solar radiation per square metre per day, with 250-300...
Potential of India–South Korea Nuclear Energy Cooperation

BY JENNIFER CHANG

Over 200 nuclear industry leaders from 36 nations vowed to strengthen nuclear safety and security on March 23rd at the 2012 Seoul Nuclear Industry Summit.

It was an official pre-summit event of the 2012 Nuclear Security Summit, which was held for the second time in Seoul from March 26th–27th. Participants discussed the issue of atomic safety after the disaster at the Fukushima nuclear plant in Japan in 2011.

First, they evaluated progress made in recent years by the global nuclear industry to enhance atomic safety since the first Nuclear Security Summit in 2010 in Washington, DC. Then three working groups discussed three topics – minimization of civilian use of highly enriched weapons-grade uranium, the securing of sensitive data pertaining to nuclear materials and facilities, and the interface between safety and security in the post-Fukushima era. Finally, the groups released results of their dialogue as a communiqué which described what the industry should do to boost nuclear security, and which was passed along to delegates at the Seoul Nuclear Security Summit for consideration.

In the joint statement, participating organizations said they would try to minimize HEU use by converting it to low-enriched uranium fuel in research reactors, and that they would attempt to increase LEU-target use for the production of radioisotopes. The organizations also promised to improve security by continuing to make workers more cognizant of security threats and promoting the open reporting of security concerns. Furthermore, they pledged to help newcomers set up infrastructure for low-risk nuclear energy, beef up measures against growing cyber threats, and encourage nuclear security information exchanges.

In addition, the summit had much to say about India’s role in the civilian nuclear energy sector, as well as the nuclear cooperation agreement that was signed in July last year between India and South Korea. Under the pact, South Korea and India cooperate in nuclear power, which provides a legal foundation for Korea to take part in India’s nuclear plant projects in India. The agreement was signed after a summit between South Korean President Lee Myung-Bak and his Indian counterpart Pratibha Patil. At the time, South Korea operated 20 atomic plants that met about 35 percent of its electricity needs, and it was eager to export its nuclear expertise to India as a new growth engine for the economy of the peninsula. Chang Soon-heung, President of the Korean Nuclear Society and Professor of Nuclear and Quantum Engineering at the Korea Advanced Institute of Science and Technology, said India had made itself open to being engaged by the international nuclear community. Chang said it was very meaningful that India had not been able to join the commercial nuclear community in the past because it had not signed the Nuclear Non-Proliferation Treaty, but had changed this by more recently inviting cooperation between itself and states like South Korea, Russia, and France in the area of atomic energy.

Chang added that India wants knowledge of South Korea’s PWRR (pressurized water reactor) technology. Moreover, India’s nuclear power plants in plants, at 200–300 megawatts, are too small for its huge population. So it is very interested in obtaining know-how from South Korea, which is very strong in 1,400-megawatt power plants such as the APR 1400.

Meanwhile, another speaker at the summit, Takuya Hattori, President of the Japan Atomic Industrial Forum, praised India on the issue of preventing nuclear accidents. Hattori said India understands the importance of transparency, for which Fukushima has sparked a campaign, with South Korea establishing an independent watchdog, and Japan’s regulator gaining independence from the ministry it was once part of that promoted nuclear technology.

He referred to India’s energy crisis in which 40 percent of its population, or half a billion people, are still without electricity, by saying India has the huge problem of meeting its goal of installing 63 gigawatts of nuclear power by 2030, a problem it must solve. But Hattori said he was confident India can overcome that crisis. In his view, promoting nuclear power plants with transparency, which India understands is key, is of the utmost importance in resolving the situation.

As for the issue of protection against nuclear industry-related attacks by terrorists, Hattori said that after the industry summit discussions, one of the key issues that emerged was the role of nuclear-related data – how to protect or control sensitive information. And he said the Fukushima accident had revealed the vulnerability of such information to attacks. Hattori concluded that while the type of information cannot be released openly, transparency was also very important to keep nuclear facilities safe from accidents. So the core issue was how to find a balance between protecting the information on the one hand and transparency on the other. He also expressed confidence that from his discussions with India’s delegation to the industry summit, he was confident India understood that central issue. He also said he was prepared to handle nuclear-related terror attacks.

Another area in which Hattori expressed admiration for India’s nuclear industry was the problem of preventing loose atomic materials from getting into the wrong hands and stopping illicit nuclear trade. He said that the fact that this issue was being controlled and governed well by the Indian government could be seen by the case of India’s relationship to the Nuclear Suppliers Group. The NSG is a multinational entity which aims to cut down on nuclear proliferation by controlling the re-transfer and shipping abroad of nuclear materials that may be used to build atomic weapons, as well as through better protection of such materials.

Hattori cited the role of the NSG in the U.S. – India Civil Nuclear Agreement, explaining that in 2008, the NSG’s members had agreed to grant India a waiver from the existing rules which banned nuclear trade with a country that was not a signatory to the NPT. The decision came after intense diplomacy on America’s part. And the consent was based on a formal promise by India not to share sensitive nuclear technology or materials with other nations, as well as its pledge to carry through with a moratorium on atomic weapons tests.

In conclusion, industry experts agreed that India’s invitation to the nuclear industry summit was a good sign which raised hopes for its eventual inclusion in one community. They also said its participation in the summit was good for India–South Korea nuclear cooperation in general. Also, they believed there was strong potential for nuclear cooperation between the two key Asian nations in atomic energy, R&D and education; and the two countries could be very beneficial partners for each other.

These experts say that although the Fukushima crisis has sparked a global debate about the safety of atomic energy, India and South Korea have vowed to stick to their nuclear development programs, which means there is great room for future nuclear cooperation between Seoul and New Delhi. Indeed, they are quick to point out that in the post-Fukushima era, with only a few exceptions, most nations are still keen on embracing a nuclear renaissance, given the rise in fossil fuel prices and worries about greenhouse gas emissions. And they are all in agreement about one thing – nuclear energy is one of the most promising and important customers of the world nuclear industry of tomorrow.
Continued from Page 35

of Korea is guaranteed access to essential health-care services, mainly via the National Health Insurance (NHI) scheme introduced in 1977, and the Medical Aid Program (MAP). Improved health status has, in turn, led to more national productivity. Meanwhile, Korean Oriental medicine has achieved a high degree of professionalization and social status. Higher education, licenses and standardized specialists knowledge have been the key elements. This serves as an example for traditional medicine in its development as an independent medical system in the modern society.

The government attempted to control all medical professions by regulating their service charges, but this effort was aborted due to the large number of private practices that were based on market principles (Jo, 1990).

Both traditional and western medicines are incorporated in national medical system of Korea and the real problem lies in non-cooperation between Oriental and Western medicine doctors. Under the Medical Affairs Act, only acupuncturists holding a license are allowed to practice (WHO, 2001). Since 1991 the Korean government has imposed strict regulations on herbal medicine preparations by making it compulsory for them to follow good manufacturing practice standards. The monographs are included in the Korean Pharmacopoeia and Korean Herbal Pharmacopoeia published by the Korean Food and Drug Administration (Choi et al., 2002).

Problems in the Development and Growth of Traditional Medicine

Quality-oriented scientific studies in the field of traditional medicine are urgently required to check the conflicts between modern and traditional systems of health care. Unsustainable harvesting methods have also posed a major threat to the medicinal plants.

Government Efforts in the Development of Traditional Medicine – Indian Initiatives

Continued on Page 47

Korea and India to Strengthen the Non-Conventional Energy Sector

By Jeon-Dong Hee

The Indian government has shown great initiative in understanding that there is a substantial gap existing between India’s energy demand and supply.

Although natural gas and fossil-based generation of energy is the convention in India, the government, with its long-term policy of including green energy generation, has looked towards non-conventional energy options to meet India’s burgeoning energy demands.

Recently, the Union Minister for non-conventional energy resources, Mr. Farooq Abdullah, has emphasized that, “It is high time India taps non-conventional energy sources to meet its growing demand for power. The country now depends more on fossil fuels, which are very costly. So we should move towards harvesting solar and wind energies.”

With South Korean expertise in generating energy from non-conventional energy resources, India is seeking assistance in installation and technology transfer for wind, small or micro-hydro units, solar energy, bio-gas plants, as well as energy from urban and industrial waste-based energy generation plants.

South Korea has a well-integrated energy generation policy which includes sophisticated inclusion of conventional as well as non-conventional energy generation opportunities. In addition, it has continued to innovate in solar energy component technology and has developed great expertise in the large integration of solar panels or cells for storage.

India is likely to benefit from this cooperation not only in terms of technology but also in lower operational costs. The effective Comprehensive Economic Partnership Agreement between both the countries will ensure energy generation in the non-conventional sector is maintained at threshold prices and also that India will be able to meet its energy needs at more competitive costs.

The key aspect for India is to implement the energy conservation policy by 2021, which ensures that the current 35.5 percent of required electricity power will finally be available to a large rural population.

India has considerable expertise in developing bio-fuels such as the cultivation of bio-diesel, which has been strongly advocated by the former President of India, Dr. Abdul Kalam. Jatropha, which is known as a great bio-diesel source, is being greatly encouraged for cultivation in rural areas, as it requires very little water and is regarded as a great source for generating renewable as well as carbon neutral biomass resource that can replace the current fall in fossil fuel consumption.

Korean energy technology is more integrative in implementation and the government has been successful in meeting nearly 70 percent of its energy needs through integrated energy resources, along with fossil-based energy supply.

Korean wind power generation technology is pioneering and several companies have already set up base in India to implement nationwide projects. Several solar projects too are in various stages of implementation with Korean technology transfer or components such as solar photovoltaic panels or cells as storage solutions developed by Korean technology.
Energy: India & South Korea Cooperation

By Anshu Shrivastava

As one of the fastest growing economies of the world, India is ramping up its nuclear energy sector to meet its burgeoning energy demands.

In the quest for nuclear energy, the country has signed civilian nuclear power cooperation pacts with a number of countries, including the US, France, Russia, Canada, Mongolia, Kazakhstan, Argentina, Namibia, and South Korea, which became the ninth country with which India signed such an agreement.

These two countries inked the agreement last year in July when India’s President Pratibha Patil visited South Korea. It paved the way for South Korea-based companies to enter India’s nuclear construction market. “South Korea has a lot of technology in energy infrastructure which can help India with,” Rajiv Biswas of IHS Global Insight said to the press. “It also recognises India as a key future market. This is a very big opportunity for Korea to expand into the emerging economies. All in all, it is a very positive deal for both the nations.”

Both the countries had for the first time discussed the possibility of a future civil nuclear power operation agreement during Indian foreign minister SM Krishna’s visit to South Korea in June 2010. Earlier this year in March, Indian Prime Minister Manmohan Singh asked South Korean businessmen to help India expand its burgeoning nuclear power sector and invest in environment friendly technology, while South Korean President Lee Myung-bak requested that India set aside specific allotment for South Korean nuclear reactors.

Unlike India, where only 3 percent of its energy needs are met by the nuclear energy sector, South Korea’s 21 active nuclear reactors fulfill 30 percent of the country’s electricity needs. The country is planning to increase this to 40 percent by 2040. For South Korea, nuclear energy is a strategic priority. “Our long-term power supply plan is to increase the proportion of nuclear power from the current 30 percent to 40 percent by 2040 and the plan has not changed,” the Korea Herald newspaper quoted an unnamed official from the Knowledge Economy Ministry. In addition to 21 active nuclear reactors, the country has seven reactors under construction, and it plans to build 11 new reactors by 2030. It plans to increase the capacity by 56 percent to 27.3 GWe by 2020, and then to 43 GWe by 2030.

South Korea is Asia’s fourth-biggest economy and is currently the sixth-largest nuclear energy exporter. The country’s nuclear energy program dates back to the 1950s. In the early 1960s, the country began the operation of its first nuclear reactor and in 1978, the operation of its first power reactor. The country is now aiming to become a major exporter of nuclear energy technology. In January, 2010, South Korea’s Min-

In comparison to South Korea’s nuclear power industry, India’s nuclear energy sector is still in its initial stages and is dependent on foreign investors to take it to the next level. The country’s civilian nuclear program has suffered because of international sanctions after its nuclear tests in 1974 and in 1998. And since India has not signed the Nuclear Non-Proliferation treaty, which aims to prevent the spread of nuclear weapons and technology and promote peaceful uses of nuclear energy, it wasn’t allowed to sign deals for nuclear reactors and materials for civilian nuclear programs. In 2004, India and the US signed the civilian nuclear program agreement, which heralded a new era for the country’s nuclear energy sector.

Despite not being part of the Non-Proliferation treaty, the country succeeded in getting a much needed waiver from the Nuclear Suppliers’ Group (NSG) in 2008 – due to India’s commitment to non-proliferation – which opened the doors for international civilian nuclear energy cooperation with other countries.

India is aiming to fulfill 25 percent of its electrical needs from nuclear power by 2050. According to reports, the country expects to have 20,000 MWe of nuclear capacity on line by 2020 and 63,000 MWe by 2032. Additionally, the country plans to set up around 30 reactors.

India and South Korea both can gain “significantly” from the civilian nuclear cooperation agreement. South Korea aspires to become a major exporter of nuclear technology and materials, while India is seeking partners that can help it develop its nuclear energy sector. In 2009, a South Korean company won a US$340 billion contract to build and operate a 5600 MWe capacity NPP with four APR 1400 units for the UAE. This contract has established the country as a credible supplier of nuclear technology. Last year, the country signed a bilateral agreement with Saudi Arabia for cooperation on the development of nuclear energy. An international panel of nuclear safety experts from the International Atomic Energy Agency (IAEA), after their two-week mission for the Integrated Regulatory Review Service in July of 2011, concluded that South Korea has strong regulations pertaining to the operation of atomic energy facilities safely and in preventing accidents.

Pranamita Baruah, researcher at the Institute for Defence Studies and Analyses (IDSA), a non-partisan, autonomous body dedicated to objective research and policy relevant studies on all aspects of defence and security, wrote in an article that “the nuclear deal will provide the South Korean companies a framework to participate in India’s ongoing nuclear expansion programme.”

Baruah also wrote that over the last few years it has become difficult for a number of western countries to enter the Indian nuclear energy sector, as Japan holds the licenses for critical components of their reactor designs. French nuclear firm Areva and the US-based General Electric had signed agreements to sell nuclear reactors to India, but they would have to face liability issues, as both the companies use reactor vessels produced by Japan. South Korea agreed to grant a crucial waiver to India in 2008 as part of the 46 nation Nuclear Suppliers Group (NSG), but despite that, it has avoided doing nuclear trade with India, which has frequently refused to join the NPT. Also, the country is having second thoughts about nuclear power following the Fukushima nuclear accident. Japan’s reluctance to give nuclear technology and materials to India is expected to benefit South Korea. In the absence of Japanese companies, South Korea, which is a report major player in the Indian nuclear energy sector.

Industry experts believe that South Korean companies will succeed in nuclear power-related business, and emulate the successful stories of Hitachi, Samsung, and LG in the Indian market. Also, it’s said that the nuclear liability issues may not trouble South Korean nuclear companies – KHNP and KEPCO – as they are state-backed. Thus, the Korean nuclear energy industry aims to be 100 percent self-sufficient with no resididual intellectual property constraints.

In August of 2009, the state-run Korea Electric Power Corporation (KEPCO) signed an MoU with the Nuclear Power Corporation of India Ltd (NPCIL) for bilateral cooperation in technical exchange of data and experience.

Enumerating the disadvantages for South Korean companies, Jiyeon Jung, Ph.D., South Asian Studies at Jawaharlal Nehru University, noted that South Korea has limited information and accessibility to Indian government’s policymaking process; and India favors continuing exchanges with countries with which it has already established reciprocal relations such as France, Russia, and the US. However, he also noted that the fact that India is diversifying its cooperation channels

continued on page 48
Continued from Page 40

cooperation agreement was chalked out during the state visit of the President of India, Mrs. Prathiba Patil, to South Korea in July 2011.

The 2011 disaster in Japan following an earthquake and tsunami planted serious doubts about nuclear power safety among the world populace. In an effort to put to rest such concerns, India has already resolved issues with its nuclear plant in Kudankulam in Tamil Nadu, which was built in collaboration with Russia.

Going a step further, India will house a nuclear reactor built by Korea. India recognizes Korea has proved its worth in this field by procuring a contract to build reactors in the United Arab Emirates, overtaking French expert Areva. As prolonged delays are not preferred, Korean reactors race ahead of Japanese reactors, Indian experts say.

India has a transparent policy in awarding infrastructure projects, said the Indian Prime Minister, who encouraged Korea to participate in bidding processes for the construction of airports, seaport, highways, ports, metros and power plants. This technology cooperation is expected to go a long way in fostering S&T ties between the countries.

In February 2012 the Korea-India Cooperative Defense Research and Development Committee meeting was co-hosted by the Korea Defense Acquisition Program Administration (KDAPA) and India’s Defense Research and Development Organization (DRDO) for promoting collaboration in defense science and technology. The Indian defense adoption of the Korean defense industry such as Samsung Techwin.

India’s defense science and technology capabilities are favoured by India in aerospace, IT and software fields pertaining to advanced fundamental skills which, along with Korean capabilities, will enhance defense S&T preparedness. This will also reduce development time and increase defense exports cost effectively.

The Indian Prime Minister spoke about improving collaborations between scientists and technicians on how to put into optimum use a joint Science and Technology fund of US$10 million. The Indian and Korean leaders discussed other aspects of peace and security in Asia and the re-establishment of the Nalanda University in India.

To increase the momentum for joint endeavors, both nations have decided to celebrate the 40th anniversary of establishing diplomatic relations in 2013. India looks forward to providing pharmaceutical and agricultural products and IT enabled services to Korea in future. High-level defense exchanges and research and development joint ventures and manufacture of military equipment with technology transfers and co-production are also expected.

FURTHER READINGS:
- S&T Workshop http://indokorea.itim.ac.in/
- Indo-Korea Partnership Deal
- Nanotechnology Product Development

Education: Key Sector of Mutual Growth in Korea and India

BY YASHIKA DHINGRA

As the new Ambassador to South Korea came to his new position in January 2012, the roadmap of Indian and South Korean bilateral relationships was already in place for the new incumbent to implement.

One such critical sector that is expected to receive a lot of attention is the education sector.

The government of India, as well as the South Korean government, is keen on encouraging stronger educational ties between the two countries. The focus will be on mutual exchange of students across all levels of education.

Both countries recognize that education is a very important part of national growth that needs increasing support and promotion. The respective governments have developed short-term as well as long-term policies for the effective development of this sector in both nations.

A significant fact is that the number of Korean students traveling to the US is on the decline which creates a large opportunity for Indian ‘new temples’ of learning.

Korean students could gain considerably from Indian universities in learning English, information technology, as well as management skills.

such as the Indian Institutes of Technology and Science, as well as management programs, to attract Korean students.

Additionally, Koreans themselves have achieved remarkable progress in the education sector domestically. Their integration of technology across all educational sectors has led to their ability to build successful economic models and achieve higher growth percentages.

The South Korean emphasis on inclusive technology across all their education grades has led to steady and quality progress. Hence, the way forward for both countries is to tap into each other’s areas of expertise. India students would be well-advised to focus on strengthening their sciences and finish their post-doctoral and super-specialization in Korean universities, besides learning the Korean language.

Korean students could gain consider-
Human Resources Development Co-operation—Regional Perceptions

BY REENA SAXENA

In the context of ASEAN, human resource development has several perceptions.

While economic globalization has opened avenues for multiple human resource deployment, the perceptions of engagement in developed as well as developing worlds certainly differ.

In the developing world, in addition to government organizations, there is a great opportunity for non-government organizations such as NGOs to provide quality services in comparison to public sector delivery of services. For example, in India, the educational system involves the participation of several non-profit organizations.

Continued from Page 41

sunny days in a year, India has abundant solar resources, as it receives about 3000 hours of sunshine every year, equivalent to over 5,000 trillion kWh. Today the contribution of solar power with an installed capacity of 9.84 GW, is a fraction (< 0.1 percent) of the total renewable energy currently installed. Government-funded solar energy in India only accounted for approximately 6.4 MW–yr of power as of 2005.

Gujarat is the leading contributor to total solar energy output of India. In the solar energy sector, some large projects have been proposed, and a 35,000 km2 area of the Thar Desert has been set aside for solar power projects, sufficient to generate 700 GW to 2,100 GW. As of October 2009, India is currently ranked number one along with the United States in terms of solar energy production per watt installed. The Indian government has launched the Jawaharlal Nehru National Solar Mission (JNNSM) with a target of achieving 20,000 MW by 2022. The scheme also aims at strengthening indigenous manufacturing capability and achieving 15 million sq. meters of solar thermal collector area by 2017 and 20 million by 2022.

India is facing a sequence of factors that will drive solar photovoltaic adoption at a furious pace over the next five years and beyond. The falling prices of PV panels, mostly from China but also from the U.S., have coincided with the growing cost of grid power in India. Government support and ample solar resources have also helped to increase solar adoption, but perhaps the biggest factor has been need.

Additionally, there is a growing need for substances that will convert solar energy to electricity. For example, photovoltaic (PV) solar energy is based on semiconductor processing, and, accordingly, this form of energy harnessing benefits from steep cost reductions similar to those realized in the microprocessor industry (i.e., driven by large scale, higher module efficiency, and improving processing technologies). Better and more efficient manufacturing processing

ing and new technology such as advanced thin film solar cell are examples that can help to reduce industry cost. Energy conversions efficiencies can be achieved by using conductive polymers compared to inorganic materials.

We need solutions to increase the efficiency of solar cells. With transparent films and surface plasmons, solar cells should be seeing a dramatic increase in efficiency over the next few years. Hopefully, reliance on costs will come down enough to the point where they become common in homes and businesses. Realizing the potential of solar energy, the honorable Prime Minister of India said, “We will pull together all our scientific, technical and managerial talents with financial sources to develop solar energy as a source of abundant energy to power our economy and to transform the lives of our people”.

Pharmaceuticals Industry

The pharmaceutical industry derives most of its ingredients from plants. Each step in the process generates waste. Plants make products at room temperature, using water, and producing no waste. Plant products have been utilized with varying success to cure and prevent diseases. There is a need to apply knowledge for development of traditional herbal drugs as adaptor genes and immune modulators which people have been using for centuries for safety and efficacy. This field of treatment is cultural accepted in both India and Korea.

Textile Industry

The textile industry is one of the highest value generating industries in India, accounting for a total of 32 percent of all exports. Recently the industry has been switching over to the use of microbial decolorization and degradation. There is also an increasing need of exploring biodiversity for natural dyes and developing eco-friendly methodology for synthetic dyes. A prominent application of green technology is apparently seen in the manufacturing and usage of organic cotton and its green and eco-friendly products. All these require more funding in the R&D areas of these respective fields, and greater interaction and coordination between industry, academia, and government in India and Korea would benefit all of mankind.

River Restoration Project – Lesson for India

A few years ago the Korean government launched the Four Rivers Restoration Project as a green initiative. The project is now a core national project for green growth that addresses such water-related problems of recurring floods and droughts caused by climate change. The Korean rivers are relatively short and steep, and the flow occurs quickly, as peak flood discharge is great.

The project includes: 1. Flood control; 2. Securing abundant water; 3. Water quality improvement; 4. Restoring eco-rivers; 5. Creating multi-purpose space for residents, and, 6. River oriented regional development. Korea is emerging as a leader in water management and waterfront restoration, sharing its experiences with other countries. North Indian Rivers have similar characteristics with Korea’s, and such restoration as described above is needed there too.

Concluding Remarks

Both the Indian and Korean governments have adopted green growth as a core national policy for carbon dioxide reduction and preparation for climate change. By introducing green technology education at all levels, governments can build a solid foundation towards a global collaborative quality of health and well-being in the light of our increasingly challenging scenario of climate change. Regarding business opportunities, environmental operations and the economic aspects of Indian-Korean Markets are going green. Collaborations within multi-disciplines will contribute to this research agenda by examining the role of people, industries, markets and flow of knowledge and technology between India and Korea.
Research Cooperation Between Indian Korean Institutes of Higher Learning

BY CHUNG-YEON CHO

India is known for its exhaustive depth of professionals—engineers, doctors, research scientists and other science-based fields—particularly for their committed and dedicated work ethic driving their excellence.

However, it comes as a surprise that research-related activities are not as mature with regard to Korea academicians. Hence, the need of the year between India and Korea, even as both countries celebrate their 40 years of co-operation and trade, is to collaborate further so as to complement each other’s proficiencies. Indian application development and analytical skills are well-known for their excellence. The Korean focus on research and development has been this country’s main driving force to be the world leader in semiconductor technology as well as mobile computing and other electronic-domain products.

In the past couple of years both these countries have established an effective channel for exchange of students through the establishment of the Academy of Korean Studies in India. Universities within Korea such as Busan University have shown a keen interest in admitting Indian students. Indian students interested in research, development or doctoral/post-doctoral studies should head to South Korea and are well-advised to consider the quality of research and leading-edge technology innovation happening there, especially in the semiconductor, solar PV and related sectors.

While India has ‘new temples’ of learning of ‘Indian Institute of Management and Technologies,’ Korea has integrated educational methodologies that are being utilized even at the kindergarten level of education.

Conclusion

Traditional medicine is not in isolation and there is an urgent need to have coordination between modern medicine and systems. Both should communicate in one common language in order to provide better reach and benefits to humankind. To achieve this there needs to be a quality framework and design of traditional medicines, as well as appropriate standards for traditional medicine practice and products. Academic education in traditional medicine system has been offered in South Korea for many years. Mutual benefits should be shared in terms of technology transfer in health care systems, especially drug safety and efficacy, and quality strategy building for mutual cooperation. Medical Tourism is a very happening term nowadays, especially in Asian countries, particularly in India and South Korea. India’s medical tourism sector is expected to experience an annual growth rate of 30 percent. South Korea is also listed among one of the prime destinations for medical tourism.

Good sustainable harvesting practices, medicinal plants conservation and its cultivation, skill training, and product marketing are some key steps to be taken to ensure the betterment of the health system. The government endeavor will contribute to the preservation of biodiversity and improvement in its health care system. Coordination and cooperation between India and South Korea for mutual benefits will bring significant positive results which can reestablish various treasured traditional medicinal systems the world over.

REFERENCES:

• MDG Study Series, Achieving the Health Millennium Development Goals in Asia and the Pacific Policies and Actions within Health Systems and Beyond Asia-Pacific.
• Vasisht, K. and Maninder, K. (2003). The status of medicinal and aromatic plants in India and Nepal In: Vasisht K. and Kumar V. (Eds.), Medicinal Plants and Their Utilization, ICS-UNIDO, pp. 55-75

As Koreans seek the hallowed portals of IIT’s and IIMs for quality educational opportunities, Indian students in Korea are keen on inculcating research and development techniques which have created the technically advanced nation that South Korea has become.

Continued from Page 43

India is one of the 12 mega biodiversity centers of the world, including the Western Ghats and Eastern Himalayas region, which are reported to contain 29,000 plant species. Depending on the availability of principal medicinal plants, the country has been divided into eight phytogeographic regions. Research and Development Council of Scientific and Industrial Research (CSIR), is a leading research organization in India having 40 laboratories spread throughout the country. All universities and leading pharmaceutical institutes carry out research on medicinal plants. The knowledge of ancient texts has been translated and, unclassified in the form of a Traditional Knowledge Digital Library (TKDL) to protect Intellectual Property Rights (IPR). Five gene banks have been established in the Central Institute of Medicinal and Aromatic Plants, in Lucknow.

The Technology Information, Forecasting & Assessment Council (TIFAC), has identified 45 medicinal plants which have been included for action in cultivation, post-harvest technology, processing, manufacturing, research, patenting and marketing. The present export volume of crude drugs from India stands at 36,000 tonnes worth about US$24 million (Vasisht and Maninder, 2003).

Ayurveda, Siddha and Unani are classical system which are organised in nature and are taught in colleges, grant degrees to practitioners and are incorporated into the official health care system. India has well integrated these systems into the national health care system and they are officially recognized by the central and state governments. The Vaidyas and Hakims are still practicing in different parts of the country and today they are also getting recognition. Other steps have also been taken to strengthen this knowledge system.
India and Korea Travel and Tourism Ties Strengthen Further

BY JEON-DONG HEE

In the past year of 2011, South Korea and India have celebrated the year of ‘Korea in India’, and both nations are revisiting many of the ancient, historic cultural ties they have shared long ago.

It is believed that it was a young Indian princess from Ayodhya who married a prince from Korea (Kim Suro), which led to the eventual first establishment of cultural, historic and finally economic exchange between the two countries.

Eventually, with the arrival of Buddhist monks and preachers, a bit of Indian culture came to be engrained in Korean culture. Again, after centuries of intrepid trade, both countries experienced colonialism in the modern times: India under English rule and South Korea under Japanese rule. It is indeed a historical coincidence that both the countries were divided on the same date of August 15th, into India and Pakistan, and North and South Korea.

In fact, Gimhaf, the Korean city where the Indian princess traveled to and married Prince Kim Suro, is now accorded a sister-city relationship, with the Indian city of Faizabad-Ayodhya, according to a Memorandum of Understanding (MoU). Today a monument sponsored by the city of Ayodhya’s administrations stands at Gimhaf, attracting thousands of tourists each year.

In another MoU between Busan and Mumbai in 1977, mutual co-operation between the two important and commercial capitals of the two countries was drawn up, as were similar pacts in Pochen and Jaipur; Incheon and Kolkata.

Tourism and travel between the two countries received a further boost with the first ever visit of an Indian President to South Korea, Dr. A.P.J. Abdul Kalam, when the joint committee to draw up the Comprehensive Economic Partnership Agreement, or CEPA, was formed. Under the new trade agreement, bilateral trade and commerce were given special focus. The CEPA also aimed to lower tariff barriers between both countries over the next ten years, penetrating into sectors such chemicals, garments, machinery, metals, and tourism and travel.

The cultural ties between India and South Korea were also strengthened amicably due to the historic visit of the India’s national poet and Nobel Laureate, Rabindranath Tagore. When he wrote the famous poem, ‘The Lamp of the East’, which went to become a source of hope for the Koreans who were subjugated by Japanese imperialistic powers. The poem’s nationalistic fervor is quoted to this day.

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.

India and South Korea continue to forge stronger ties of co-operation and understanding across several business sectors. Travel and tourism too are being emphasized, considering the scope of travel between the two nations for delivering of services such as those related to information technology, and also for tertiary health care through ‘medical tourism’.

Continued from Page 44

to meet surging energy needs is a positive sign for South Korea.

He said that South Korea should be aware of the growing power of private entities in India. “Reliance Energy, Tata Power, and Larson & Toubro are companies that have been eyeing the nuclear sector following the US-India civil nuclear deal. Therefore, India needs to seek exchanges and technology cooperation with these companies.”

It’s still early on in terms of India’s ambitious civilian nuclear energy program. The local protests against the setting up of nuclear-power plants, especially after the Fukushima nuclear accident, are growing louder in the country. They have put a big question mark on many civilian nuclear energy projects. South Korean companies will also have to face the same protests which can prolong the necessary waiting periods, and they also have to cross over India’s stringent nuclear policy hurdles. Indeed, it will take some time for the nuclear energy cooperation between India and South Korea to show results. However, India is desperate to bridge the widening-gap between energy demand – which is exponentially growing – and supply. And, South Korea is seen as a long-term reliable partner that will help India succeed in achieving some of its nuclear energy goals to bridge that gap.

Moreover, as a senior Indian official said to The Hindu newspaper, having the South Koreans in the fray means India’s other nuclear partners have to keep the price of their reactors competitive.

References

1) Sivaram Arepalli, “Future of Indo-Korea Collaborative Activities in Nanotechnolo-
gy”, Asia Pacific Business and Technology Report, July 2010, http://www.biztechre-
port.com/story/588-future-indo-korea-collarative-activities-nanotechnology
news/11/cop_indo_korea.pdf
3) The $10 Million Solar energy R&D funded by DST; http://www.dst.gov.in/
scientific-programme/t-d-solar-energy.htm
in/index-about_us/art10_default.htm
korea.com

Collaborations

The author identifies the following complementary collaborative areas and stresses the need for a long term commitment of at least 5 years for basic and applied R&D in energy production as well as energy storage development:

- Nanomaterial Synthesis (Korea leads)
- Nanocomposites (India leads)
- Fuelcell and Batteries (Korea leads)
- Photovoltaics (Equal?)
- Education and Trained Manpower (Inda leads?)

Dr. Abdul Kalam, the former President of India, visited the Department of Energy Science at SKKU campus in Suwon, Korea, in Nov. 2011. He suggested that the Indian Space Research Organization (ISRO) can work with SKKU and Samsung on space-based solar energy harvesting and energy storage. The author feels that there are several such areas of collaborations, especially in nanotechnology between Korea and India because of their complementary strengths.

In conclusion, the increasing bonding between Korea and India will result in partnership that can provide global leadership in the area of nanotechnology for energy applications. 

48
Do you know Samsung, LG and Hyundai? They are the pride of Korea!

Do you want to transfer your technology & commercialize into feasible business with Korea?

We are the public organization of Ministry of Knowledge and Economy and we have professional groups for consultant with Technology Transfer Business Network as below:

- **Information**
  - Providing Information about Technology & Technology Transfer

- **Evaluation**
  - Assistance with Technology, Feasibility Study and Evaluation

- **Transfer**
  - Support of all the matters related to Technology Transfer

- **Commercialization**
  - Support Technology Commercialization

- **M&A or J/V**
  - M&A of Korean company, R&D Support with Korea Institutes

- **IP Consulting**
  - Support creating, protecting and using intellectual property

---

**EurasTech Corp.**

Head Office: 82-2-454-9204  
www.eurastech.com

- Technology Transfer  
- Commercialization & Introduction  
- Sales (technology and goods)  
- M&A or J/V  
- Specialized in Russia and Eurasia  
  (www.euras tech db.com)

---

**EDResearch Co., Ltd.**

Head Office: 82-2-2627-8810  
www.edresearch.co.kr

- Technology Transfer  
- Commercialization  
- IP Consulting  
- M&A or J/V  
- Specialized in USA & EU

---

**Dowon International Co., Ltd.**

Head Office: 82-2-501-3106  
www.dowon.com, www.dowon.co.kr

- IP Information  
- Technology Transfer  
- M&A  
- Specialized in China  
  (www.dowon.net, www.Ktt114.kr,  
  www.patyellow.com)

---

**Gyeonggi Daejin Technopark**

Head Office: 82-31-539-2302  
www.gdtp.or.kr  
ris.gdtp.or.kr

- Technology Transfer & Commercialization  
- IP Consulting  
- M&A or J/V  
- Specialized in Government & Public Organization in Korea

---

Hoguk-ro 1007 beon-gil, Pocheon-city,  
Gyeonggi-do, 487-711, Korea  
www.gdtp.or.kr  
ris.gdtp.or.kr  
j380913@gdtp.or.kr
When Chai Came to the Land of the Morning Calm

BY VICTOR FIC

The English soldier regained consciousness while flat on his back on a cot in a battlefield medical unit. Still groggy from the shell that had landed close by, he expected to see a white face unfolding bandages. Instead, he was pleasantly surprised to observe a man in a turban holding out a cup of tea. That special drink was and is still called chai, the word that Indians give to the khaki-colored, sweet and strong libation with a real kick.

These days, affluent South Koreans sip chai in one of the many Starbucks cafes that dot the country, which has since risen to be the world’s 11th largest economy. This tea first entered Korea during the war, when Indian medical personnel offered it to wounded UN/Commonwealth soldiers to help revive them from battlefield trauma. Chai then disappeared from South Korea for decades until the Seattle-based Starbucks chain added it to its menu to appeal to South Koreans with — literally — a taste for the exotic.

As we commemorate fifty years of relations between India and South Korea, it is necessary to recall the important — and colorful — contribution of the former to the latter’s success. India is most famous among Western soldiers for dispatching the Indian Army’s 60th Parachute Field Ambulance Platoon that used chai as medicine. But among scholars, the Indian name that stands out is that of diplomat K.M. Panikkar.

First let’s set some context. On June 27, 1950, two days after North Korea invaded South Korea, American President Harry Truman ordered the US 7th Fleet to steam into the Taiwan Strait to defend the Guo Min Dang regime, an ally, from the risk of China attacking. By then, communist China was raptly watching events. On September 30, Zhou warned the Washington that “the Chinese people will not tolerate foreign aggression...” In fact, the ex-Soviet archives have since proven that the north started the war. Enter the Indian diplomat Sardar K. M. Pandikkar, more commonly known as K.M. Panikkar. He was born in 1895 and enjoyed an illustrious career as a journalist, scholar, historian, administrator, playwright, novelist and diplomat. Panikkar had sharpened his mind at Oxford and read for the bar at the Middle Temple in London before he returned to India. He taught at the University of Calcutta, a nerve center for India’s robust intellectual class that centered on the state of Bengal. The influential newspaper the Hindustan Times took him on as an editor in 1925.

In 1947, the Indian people regained their independence from England and India appeared as a free country and republic on the world stage. No longer would London, a distant and foreign city, make foreign and defense policy decisions for 350 million Indians.

Now Panikkar’s talents were more fully recognized and he became the Indian ambassador to China during the years 1948-1952. After that, he also served in Egypt, which was a leader of the non-aligned movement that opposed backing either superpower America or Russia. He also later presented his credentials in France.

In his book called Two Chinas, which appeared in 1955, Panikkar exposed his leanings for the new China of Mao Zedong. In those years, India and China were close friends and even hailed each other as “brothers.” To be sure, it was half a decade before the war that revealed and deepened the difference between the two ancient Asian countries. But it was in Beijing that he played a role in the Korean conflict.

That transpired when Zhou warned through friendly countries such as India that mainland China would act to safeguard China’s security on the peninsula. However, Truman regarded the message that Panikkar passed along as “a bald attempt to blackmail the UN” — and dismissed it. China and the US-led UN army went on to fight for close to two and half years for control of the peninsula. In fact, the combined UN army defeated North Korean regime in the fall of 1950, liberating Pyongyang, and unifying some 90 percent of the peninsula. But then China’s counter intervention that Panikkar had warned about drove the Western forces as far south as Daejon. It was the single longest military retreat in US army history.

As for the medical unit, what are the essential facts about it? Its efforts went far beyond what the term “platoon” suggests. It was closer to a mobile army surgical hospital known in the West as a MASH unit. The commander was Lieutenant Colonel A.G. Rangaraj. He and his brave men swung into action on December 4, 1950 in Pyongyang. At that time, the US 8th Army was retreating from the north after China’s entry. The Indian unit officially played the role of the medical evacuation unit for the 27th British Commonwealth Brigade and it aided this unit throughout the war. The Indians nobly put aside the centuries of imperialism they had suffered under the English to save lives.

Very soon, Rangaraj’s actions won the respect and even affection of the troops from the English Commonwealth countries because they provided excellent medical care and its men showed courage, even under fire. Just about all the Commonwealth soldiers evacuated from the Korean War battlefield passed through the Indian unit’s hands before being sent to better facilities. In an important note, some members of the 60th Indian Field Ambulance Platoon actually parachuted the U.S. 187th Regimental Combat Team at Munsan-ni on March 22, 1951.

South Koreans are nowadays recalling these Indian contributions to the war effort. For instance, in November 2011, Seoul sent the so-called Little Angels children’s entertainment troupe to India as a way of honoring the Indian medical units. As for Panikkar, he remains one of India’s most famous diplomats. Although his aforementioned warning to Washington was correct, the latter was too intent on a complete victory, meaning the destruction of the North Korean regime and unification of Korea, to heed it.

So the next time you find yourself sipping a steaming cup of spicy chai in a Seoul cafe, face southwest toward India and raise the cup in a salute to the Indian medics who nobly assisted the UN soldiers.
Welcome to Naminara Republic
Nami Island, Korea
Classy Utility Vehicle