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In this issue

Forging Closer Ties with South Asia

Over the past few months, a number of important bilateral initiatives were formalised between Singapore and countries in South Asia. During Pakistan Prime Minister Shaukat Aziz's visit in May, Pakistan and Singapore formally endorsed the proposal to sign a joint declaration with ASEAN on cooperation in combating terrorism. Both countries also reaffirmed their commitment to conclude a Free Trade Agreement as soon as possible. In June, Prime Minister Lee Hsien Loong visited India to sign the landmark Comprehensive Economic Cooperation Agreement. A couple of months later, in August, Singapore signed an Open Skies Agreement with Sri Lanka. Where ties between Singapore and South Asia are concerned, significant strides have indeed been made.

The Institute of South Asian Studies (ISAS) has been kept busy with a flurry of activities that have accompanied the growing interest of Singapore in South Asia and vice-versa. In May, Prime Minister Aziz delivered the Second ISAS Distinguished Visitor Lecture on promoting an environment for security and cooperation in Asia. In August, West Bengal Chief Minister, Mr Buddhadeb Bhattacharya, spoke at the Second SICCI-ISAS Global Business Leaders Lecture on investment opportunities in West Bengal. More recently, the Chairman of the Pakistan Senate, HE Mr Mohammedmian Soomro, shared his views on economic liberalisation in Pakistan. At the same time, eminent individuals such as Dr Narendra Jadhav, Chief Economist at the Reserve Bank of India, and Dr Urjit Patel, Executive Director, Infrastructure Development Finance Company Limited, India, have shared their views and insights at seminars organised by the Institute.

In our ongoing effort to highlight the latest developments in South Asia and the region's relations with Southeast Asia and the rest of the world, the Institute has produced a regular series of working papers and background briefs. In addition, two major studies – a competitiveness analysis of Indian states and cold chain management in India – have been completed and will be published shortly. A summarised report of the latter study, undertaken jointly by the Institute and the Federation of Indian Chambers of Commerce and Industry, is presented in this newsletter.

In this issue, we introduce a section called 'snippets', which looks at the recent happenings in South Asia, particularly in Sri Lanka, Maldives and Bhutan. This newsletter also contains articles on ties between Southeast Asia and Pakistan, economic development in Indian states, Millennium Development Goals in Nepal and the Gandhara-Buddhist sculptures from Pakistan.

We hope that you will find the newsletter informative and we look forward to your continued support in our enterprise.

Assoc Prof Tan Tai Yong
Acting Director

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Singapore-India CECA: Promising New Opportunities

Excerpts from the Keynote Address by Mr. Lim Hng Kiang, Minister for Trade and Industry, at the CECA Seminar, 15 July 2005

India has been on a path of restructuring and reform for well over a decade now, and its re-entry into the global economy is reshaping trade flows radically. Singapore businesses have been participants in that process. Over the past 10 years, trade between Singapore and India has tripled to almost $12 billion in 2004. Last year alone, bilateral trade grew by 50%. India is now Singapore's 14th largest trading partner, and also our fastest growing trading partner.

With the signing of the Comprehensive Economic Cooperation Agreement (CECA), the bilateral trade route has widened. The CECA will also provide opportunities to deepen relations between our two countries, and our two regions.

Benefits of the CECA

First, the CECA improves the investment regime significantly. It levels the playing field between Indian and Singapore investors; both will be treated equally in each other's countries. Qualifying companies will be able to enjoy tax exemption on capital gains from their investments in India. India has also agreed to bind its new liberalised rules for real estate and joint ventures for Singapore investors. This lends greater certainty and will boost investor confidence. Also, Singaporean investors will be able to take disputes with the Indian government to an international arbitration tribunal.

Second, the CECA will make Singapore imports into India more cost-competitive. The tariffs on approximately 75% of Singapore's domestic exports will be eliminated or substantially reduced over five years. This includes important sectors such as electrical and electronics, instrumentation, pharmaceuticals and plastics.

Third, the CECA will help to cut cost and time-to-market for certain products through Mutual Recognition Agreements (MRAs). These MRAs will eliminate the need for products which have been tested and certified in Singapore, to be re-tested for entry into the Indian market. To begin with, we have agreed to conclude MRAs in electrical and electronic products, and telecommunications equipments.

Fourth, the CECA will boost trade in services. In general, service suppliers from Singapore are guaranteed access into India's market and will be treated on par with domestic suppliers. India has also made specific commitments in financial and telecommunications services, from which Singapore companies stand to gain. Under the CECA, both countries have also committed to negotiating MRAs for five key professions - accounting and auditing, architecture, medicine, dentistry and nursing. Once completed, qualified professionals in these areas will be able to move more freely between Singapore and India.

Creating and Seizing Opportunities

Through the CECA, Singapore and India are now poised for tremendous gains through increased flows of goods, services, investments and talent. Beyond opening up trade, the CECA also provides a framework for collaboration and cooperation in areas like intellectual property, science and technology, education and media.

The CECA has widened the road for Singapore and India to engage. And because Singapore is a hub for Southeast Asia, the CECA will also deepen linkages between Southeast Asia and India. India's Prime Minister Manmohan Singh and Commerce Minister Kamal Nath have called Singapore India's gateway to Southeast and East Asia. India's Finance Minister P. Chidambaram sees Singapore as "a funnel of world investments" for India. Singapore is proud to be able to perform this role.

Already, some Indian companies such as eSys, VSNL and Bilcare are basing key regional or international operations in Singapore. I hope that the CECA makes Singapore even more attractive as a launch pad for Indian companies into the region. I welcome Indian companies to join the ranks of more than 7,000 multinational corporations currently based in Singapore, including well-known Indian names like Satyam and Tata Consultancy Services.

As for Singapore businesses, let me urge you to explore the possibilities, whether it is market access, services or investment.

I want to add that Singapore is not alone in seeking to engage India. Many countries are beginning to catch the India "fever". Major

economies like the United States, Japan and China are also interested in the potential of the vast Indian market. Singapore companies should thus seek opportunities to team up with foreign firms to enter India.

As India opens up, opportunities are developing in many sectors. India's real estate development, for example, is expected to grow at a pace of 30% annually and perhaps more so now that its rules on foreign direct investment have been loosened. Companies like Ascendas and Keppel Land have already scored some successes in India. With the commitments under the CECA, I hope more Singapore companies with real estate experience will seize the opportunities that are now available.

But real estate is not the only sector where opportunities lie. Companies involved in two of Singapore's main exports, electronics and processed foods, will also benefit from the CECA.

Delphi Corp is a world leader in mobile electronics, transportation components and systems technology. Its exports of automotive components such as sensors for occupant protection systems and electronic engine control modules will now have tariffs of 15% eliminated either immediately or within five years. This will boost its competitiveness.

Tai Hua Food Industries, a 50 year-old local company, makes soy sauce and exports it overseas. Under the CECA, tariffs on soy sauce will come down from 30% to 15% over five years, making Tai Hua's products more attractive to import. And with this preference, enriching the cosmopolitan culinary scene of India could be another benefit of the CECA. Apart from these, other industries like pharmaceuticals, instrumentation equipment and transport equipment also stand to gain.

India is big, and Singapore is small. It is not possible to know everything and be everywhere. So as you consider how to make use of the CECA, I hope two words will feature strongly - networks and focus. The business chambers will play a key role. Sustain the momentum of engagement. Form clusters and consortia to identify opportunities, share information, and rally the effort to tap the India market. Ask yourself: how can you work together to leverage on each other's strengths and capabilities? Which states and cities should you focus on first?

Alone, the prospect of breaking into a large, competitive and complex market like India may prove daunting. But if we can pool our resources, knowledge and expertise together, I believe our companies can more than cope with the demands and match the competition.

This was precisely what a group of Singapore companies did in Chennai. In partnership with Tamil Nadu Industrial Development Co., they developed IT Park Chennai, a 1.5 million sq feet business park. The project was carried out by Ascendas, Tiong Seng, Architects Team 3, KPK Quantity Surveyors, Meinhardt Consultants and Buro Engineers. Their success shows that by working together and focusing on our strengths, Singapore companies can profit from the opportunities that India has to offer. Companies in the aviation sector have also formed the Singapore Airport Consortium to tap into the growing Indian airport and aviation sector. These initiatives should continue.

On the government's part, we are prepared to collaborate with you to help form the alliances and consortia that you need. With this in mind, IE Singapore launched the iPartners Scheme in October 2003. It allows companies to come together and combine their resources, complement product offerings, achieve economies of scale, reduce time-to-market and pursue larger projects. I encourage companies to take advantage of this scheme.

The government will also do what it can to help you make full use of the CECA. Our immediate objective is to increase awareness and understanding. In the coming months, workshops and seminars will be organised for various sectors to facilitate Free Trade Agreement literacy, so that businesses can then take the next step of actually using the CECA.

Our agencies will also work with you to identify and tap on business opportunities. IE Singapore is primed to help Singapore companies succeed in India. In the months ahead, it will be leading several business missions to India, targeting sectors such as information and communication technology, automotive components, infrastructure and logistics. Participate in these missions. I also invite you to share more ideas that you may have on how we can collaborate to make the CECA work for us.

As you use the CECA, your experiences and views will form a valuable part of the process. Our longer-term objective is therefore to continue engaging with you to improve the CECA. It is not a closed book, but a living document that will be reviewed and adapted as time progresses. With your input, we hope that the CECA can be continually improved for the mutual benefit of India and Singapore. ■

MDGs: How Far Can Nepal Steer?

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It was once called the 'Shangri-La' or the abode of peace. But today, Nepal is faced with a series of socio-political and economic challenges, which, in not addressed, will have serious consequences for the country. Nepal ranks 140 on the Human Development Index (2002) and has a per capita GDP of US$240 (2003). It is committed to achieving the 'Millennium Development Goals' (MDGs). These goals, adopted by 189 United Nations (UN) member states in September 2000, aim at eradicating poverty and hunger as well as attaining universal primary education, gender equality and women empowerment. MDGs also envisage reducing child mortality, improving maternal health, combating HIV/AIDS, malaria and other diseases, ensuring environmental sustainability and developing a global partnership for development by 2015.

Though having embraced the MDGs, Nepal has difficulties in assimilating its welfare policies into its national grid. The 1990s were marked by chronic political instability in the country. The Maoist insurgency, launched in 1996 in an attempt to establish a People's Republic, has resulted in steadily increasing levels of violence which has led to loss of many lives.

The political rebellion has further exacerbated the plight of the people. The primary target of the MDGs, to eradicate poverty and hunger by at least half before 2015, must be viewed in this light. Thirty-eight percent of Nepal's' population lives below the poverty line and 47% live below the minimum level of dietary energy consumption in 1997. Nutritional deficiency is widespread among children and the child mortality rate is high. Regional studies show that the scale of absolute poverty is significantly higher in the rural areas. Agriculture, which constitutes the mainstay of Nepalese economy, suffers from low productivity. Food security can be ensured through political intervention, chiefly by raising the productive resources available to the poor and improving the weak food distribution network to the different areas of Nepal. There is an urgent need for faster agricultural growth, while at the same time ensuring environmental sustainability. Public development programmes must be implemented to reduce the rampant scale of indebtedness in the country.

The MDGs strive to achieve universal primary education by 2015. The current rate of progress is slow, with the net enrolment rate rising from 64% in 1990 to 72.1% in 2001. This is surprising given that education is officially free in Nepal and the number of primary schools has greatly increased in recent years. There is a need to make people conscious of the benefits of education and to raise governmental assistance in education. Promotion of gender equality in education must also be a priority. A conscious effort is needed to change the existing cultural habit that does not encourage enrolment of the girl child in school.

The country also faces serious health-related concerns which the MDGs seek to combat. The maternal mortality rate stood at 850 per 100,000 live births in 1991, which the millennium goal targets to reduce by two-thirds by 2015. Though the government has taken supportive steps in this regard, achieving the goal is a challenge, given the status of women in Nepalese society. The MDGs resolve to reverse the spread of HIV/AIDS, the infection of which, according to UNAIDS, caused around 3,100 deaths in the country in the year 2003 alone. Diseases attributable to unsafe water and lack of sanitation are pervasive.

The realisation of targets in the health sector seems very unlikely, unless the government gives it the immediate attention that it needs. It is crucial that information relating to health is made more accessible to the masses. Besides, a higher level of public expenditure should be devoted to health, and public policies should penetrate to the village level where awareness levels about healthcare and sanitation are low. The cost of medicines and services offered should not be prohibitively high for the poor. Monitoring agencies need to be set up at the local level. They would keep track of the shortcomings in the programmes and policies, which they can submit to a central monitoring agency, set up by the government.

Nepal spends huge sums of money on defence, while financial assistance for development is inadequate. In February 2005, King Gyanendra sacked the then Prime Minister, took over power, and declared a state of emergency. In response, the international community slashed foreign aid, on which almost 70% of the Nepalese economy was dependent. So far, Switzerland, Denmark and Norway have already suspended their contribution towards development work. The World Bank also adjourned US$70 million in aid after the royal takeover. Nepal's economy is already burdened with a gargantuan external debt. Insurgency and now the royal coup have badly affected the tourism industry, revenues from which could have been used for social welfare objectives.

The insurgency of Nepal traces its roots in the social and economic milieu of the nation. Caste system, for example, places the dalits in the lowest rung who, as a result, are the victims of poverty in the nation. Women are frequently intimidated; the girl child is looked upon as a poor investment. The government should actively partner with civil society, to create awareness among the people about their rights and obligations. Community self help is the best way for rural empowerment. The government, along with non-government organisations, should revitalise rural credit and promote self development schemes. Steps must also be taken to improve transparency in the implementation of rural development programmes.

With the royal coup in February 2005, press freedom in Nepal has been stifled, and independent reporting on the anti-monarchy insurgency has been banned. There is a need to free the media and allow dissemination of information among the masses. The media has to educate the people about their rights and obligations as well as make the government more accessible to the people.

There are important challenges to the achievement of MDGs in Nepal. The political volatility is an important factor involved. Equally important are some of the existing social inequalities. It is vital to resolve the internal conflicts so that the focus can be placed on the important task of raising the living standards of people. It is imperative that the MDGs are viewed as more than just a document signed by the nation. The government, civil society and the political class must work in tandem towards achieving these goals. Only when efforts soar, can a new dawn arrive in Nepal. ■

Cold Chain Management: India-Singapore Initiative

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India is a fast growing economy with a large agricultural base. But the lack of transport infrastructure and cold chain facilities, and the lack of application of supply chain management principles have made the agri-business, in general, and the food processing sector, in particular, very inefficient. Recognising this, the Indian government has initiated several steps including the creation of a separate Ministry for Food Processing Industries and the opening up of the agriculture sector for foreign direct investment through the agri-export zones and special economic zones (SEZs).

Singapore is a leading sea cargo and air cargo logistics hub. It has world class logistics as well as information technology infrastructure. Several leading third-party logistics providers and supply chain software vendors have headquarters in Singapore. Over the years, Singapore has developed a good knowledge base in logistics and supply chain management. Also, it has competencies in cold chain management, particularly in the storage and transport of food items, and in managing their supply and demand networks. There are players with expertise in cold chain logistics, food retailing, refrigerated transport and temperature controlled container handling in the airport and sea port. Some companies have also developed standards for dairy and meat, and training courses in cold chain logistics.

Current State of Indian Agricultural Industry

In India, 52% of total land is cultivable as against 11% in the world. It has all the 15 major climates of the world. There are 20 agro-climatic regions in the country, nearly 46 soil types out of 60 in the whole world. Sunshine hours and day length are ideally suited for round-the-year cultivation of crops. India is the mega centre for biodiversity in plants, animals, insects, and micro organisms, and accounts for 17% animal, 12% plants and 10% fish genetic resources of the globe. In the live stock sector, India has 16% of cattle, 57% of buffalo, 17% of goat and 5% of sheep population of the world. Agriculture contributes 24.2% to the gross domestic product, 15.2%

of total exports and provides employment to 58.4% of the country's work force.

India is an agro-based country, and is the second highest fruit and vegetable, and milk producer in the world, fifth largest producer of eggs, and the sixth largest producer of fish. In the next 10 years, food production is targeted to double. These produces, if processed and marketed smartly, can make India a leading food supplier of the world. In spite of the vast natural resources and abundant agricultural produce, India ranks below 10th in the export of food products.

The food processing industry has an important role to play in linking the farmers to the consumers in the domestic as well as the international markets. Food processing, combined with marketing, has the potential of solving the basic problems of agricultural surpluses, wastage, rural unemployment, and poor remuneration to the growers. It is expected that by 2008, the food processing industry would reach US$50 billion. It is currently at US$40 billion.

The single most important problem facing the Indian agricultural industry perhaps is the less-than-efficient supply chain. By building an efficient and effective supply chain, it is possible to serve the population with value-added food in addition to providing remunerative prices to the farmers for their produce without incurring additional burden of subsidies.

Joint India-Singapore Projects

There are several models possible for Singapore companies investing in India. Foreign participation in this business can take any of the following forms:

a) Joint venture with a local company;
b) Investment in public-private partnership projects;
c) Investment in an agri-export zone;
d) Investment in a special economic zone;
e) Government lead consortium; and/or
f) Technical collaboration.

Opportunities for Collaboration

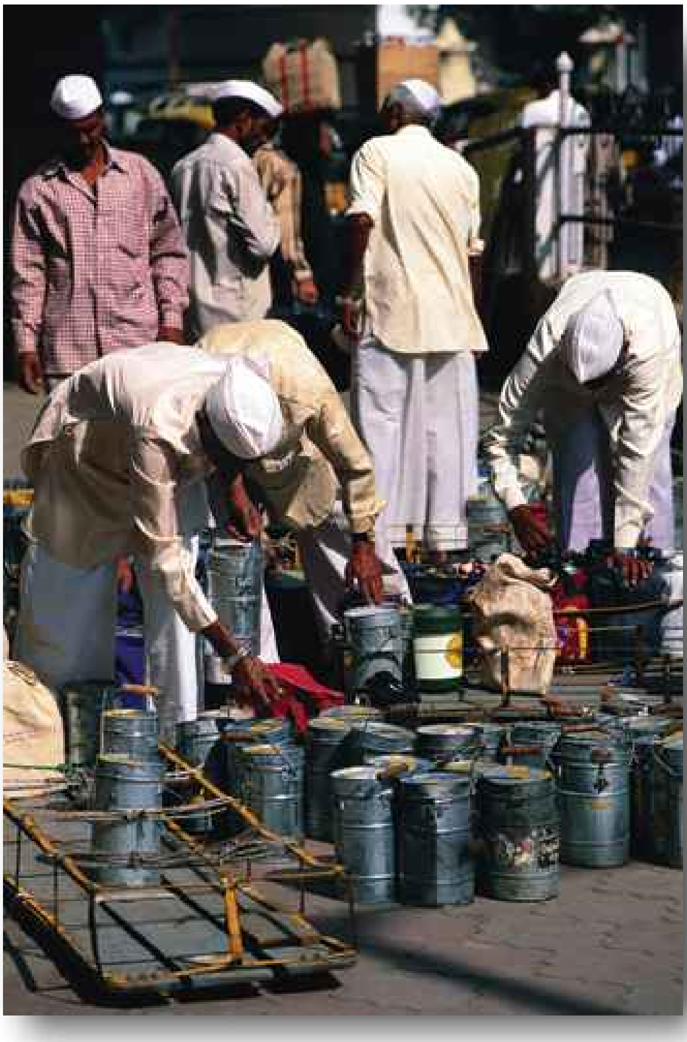
The following are some of the opportunities for collaborative ventures:

Real estate and infrastructure: Investments in real estate and cold chain infrastructure are capital intensive and will yield slow returns. However, 100% foreign direct investment (FDI) is allowed in this sector. The infrastructure consists of coolers, warehouses, refrigerated trucks, carriers, shopping malls, etc. One needs to study the potential risks and the returns on investment for this activity. A good proposal might be for a group of companies and the Singapore government to invest in a cold chain infrastructure for a food processing industry in a SEZs or an agri-export zone jointly with a state government or the Indian government.

Food processing plants: The Indian government allows 100% FDI in this sector. There are incentives for setting up processing plants either in agri-export zones or outside of them. Sourcing of raw materials is easier with the agri-export zones since there are already participants with knowledge about the industry's standards. There are opportunities to create a *halal* hub, a vegetarian hub, an organic food hub and a seafood hub.

If Singaporean companies plan to enter this domain, the aim should be to manufacture for their own retailing or to have joint ventures with large multinational food manufacturers to create the hubs mentioned above.

Wholesale: This is the format that Metro adopts in Bangalore where 100% FDI is allowed. The infrastructure and real estate can be completely owned by foreign companies.



Retail: There is a huge opportunity in this area. However, 100% FDI is not allowed. Singapore companies need a joint venture partner. Here, entering the Indian market with a dominant player and differentiation are important. India presents a huge opportunity and is set for a big retail revolution. India is the least saturated of global markets with a small organised retail sector. It is also the least competitive of all global markets.

Logistics: Movement of materials in the food supply chain is an important element for success. This is an area for active consideration. It is also highly asset intensive. Third-party logistics providers would be in demand if large international retailers move into India.

Technology: Safety concerns, competitive pressures and regulatory requirements are creating demand for more traceability in the food service industry. There is also an increase in the use of information technology to track sales and for demand forecasting.

Conclusion

India is set to become the food supplier of the world. It has the cultivable land, all the seasons for production of most varieties of fruits and vegetables, and a well developed agri-business system that works in its own way. The business system is tuned to food habits (cooking at home) and convenience (*kirana* stores) of rural and urban folks of the previous generation.

The situation is fast changing. This provides huge opportunities for investments for processed food manufacturers, restaurants, retailers with supermarket and hypermarket formats, food supply chain managers and many others.

With its expertise in the cold chain and food retail, and the good relationship it enjoys with the Indian people and the government, Singapore stands to gain substantially from the opening up of the cold chain sector in India. ■

Conference on Agriculture

ISAS will organise a conference on the agriculture sector in India, with speakers from India and Singapore. It will examine the current state of the sector and will highlight growth areas and potential business and investment opportunities, with particular focus on cold chain management.

Governance and Economic Development in Indian States

Dr. S. Narayan
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Comments about India invariably start with the democratic institutions of the country, and the manner in which they have helped or hindered the economic transformation process. India today is the fourth largest economy in the world, in terms of purchasing power parity (PPP), next only to the United States, China and Japan, and likely to overtake Japan in the next few years. The opening up of the economy has integrated it more closely with the rest of the world, with trade registering an average of over 24% growth year on year for the past five years. Trade as a share of GDP has grown from under 22% in the early nineteen nineties to over 37% in 2004-2005, and exports grew to over US$7.2 billion in July 2005, the third successive month that exports have crossed the US$7 billion mark. Imports, monthly at over US$10 billion, have been recording a healthy 33.2% year on year growth. The stock markets as well as the commodities markets have touched an all time high, and the overall picture appears to be very positive, with a lot of opportunities for overseas investors and for trade.

For the Singapore investors, looking at opportunities in manufacturing, infrastructure, real estate, food processing, trade and logistics, this macro picture has to be supplemented with more intimate knowledge of the states of India, and the conditions there.

Interestingly, there have been several recent surveys in the media in India comparing the performances of the different states, from the point of view of business climate and investment friendliness. Most surveys place Gujarat at the top, followed closely by Tamil Nadu and Maharashtra.

At the Institute of South Asian Studies in Singapore (ISAS), recent research has focused on identifying growth opportunities in Indian states by looking at parameters of governance and economic development. Rather than arrive at estimates of the current business climate of states, it attempts to analyse the reasons why certain states have forged ahead more than others, and the likelihood of continuity of policy and opportunity. It is thus not a snapshot, but an attempt to forecast credible environment for the future.

The federal structure in India has resulted in considerable developmental responsibility in the hands of the individual states, especially in areas of roads, urban infrastructure, education, health etc. The states' own revenues have been inadequate to meet these development needs and have had to be supplemented by central grants and programmes. The nature of balance between regional and national politics has resulted in uneven development across states, with inter-state disparities on the increase in recent years. These would have important consequences for future investments. Among the larger states, per capita income is highest in Gujarat at S$751.94, followed by Maharashtra, Haryana, Punjab, Tamil Nadu, Karnataka and Kerala. It is the lowest in Bihar at S$156.25. The ratio between the highest per capita income state and the lowest is around 4.6, showing huge disparities in income, that have been growing over the years. The study has attempted to identify indices of governance based on the methodology adopted by the World Bank in similar studies across countries and, not surprisingly, the governance indicators correlate closely with the per capita income and development indicators.

Voice and accountability is an important indicator of governance, and is a measure of the responsiveness of the government to the expectations of the citizens. Another measure is peace and stability, especially of the industrial environment, which is measured by the number of industrial disputes in each state. Ranking of these administrative measures indicates that the states of Gujarat, Maharashtra, Haryana, Punjab, Tamil Nadu and Karnataka again score high, with Madhya Pradesh, Orissa, Uttar Pradesh and Bihar bringing up the tail end of the list.

The financial health of some of the states causes concern. Results of the study indicate that the debt to gross state domestic product (GSDP) ration or the indebtedness of the state governments, is quite high, the highest being Orissa (62.93%). States such as Bihar (55.33%), Punjab (48.51%), and Rajasthan (45.38%) have also unsustainable debts. While it is understandable that states low on development indicators including Bihar and Orissa show poor management of state finances, even states such as Punjab and West Bengal have high debts. It is only high growth states such as Gujarat, Haryana, Tamil Nadu and Karnataka that have managed their finances reasonably well so far. States such as Punjab and West Bengal are poor in tax collection as well, with low tax GDP ratios.

Another indicator of governance is the health of institutions such as cooperative banks, and local bodies. Data on rural indebtedness indicated high levels in Andhra Pradesh, Punjab and Karnataka, and these are the very states where the cooperative banks, that have the responsibility for providing rural credit, are in poor shape.

Data on power consumption for industry reveals that Gujarat, Punjab, Maharashtra and Tamil Nadu have the highest ratios of industrial to domestic power consumption, and Gujarat and Maharashtra account for the greatest output from the factory sector, followed by Tamil Nadu. Maharashtra scores highest in approvals for Foreign Direct Investments, followed by Gujarat, Tamil Nadu and Andhra Pradesh.

It is possible to draw several conclusions from the study. First, it is clear there are some states that rank high on economic development, and others such as Bihar, Orissa, Madhya Pradesh, Uttar Pradesh, that rank low. Next, even among the states that have good economic development rankings, there are fiscal and financial stresses in some states such as Punjab and Andhra Pradesh. High level of rural indebtedness is an indicator of significant intra-state differences in incomes, and of rural impoverishment. It is interesting that there have been several cases of debt related farmer suicides in Andhra Pradesh, Karnataka and even Punjab, giving credence to the above analysis.

The states of Gujarat, Tamil Nadu, Maharashtra, Karnataka, Haryana, Punjab and Andhra Pradesh, emerge as strong candidates for development opportunities, given their development ratings as well as governance indicators. Interestingly, these are not the states that score high on indicators of human development. The ISAS study examines social indicators such as education, access to health facilities, drinking water availability, etc., across states, and the findings indicate that Kerala scores highest on the human development index indicators, followed by Punjab, Tamil Nadu and Maharashtra. Kerala has the highest female literacy rates, and the lowest rates of infant mortality. High levels of education and health contribute to high social welfare, though poorer governance indicators bring down levels of economic development indices.

The study also finds considerable opportunities in the smaller states of Delhi, Goa, Himachal Pradesh, Uttaranchal and Chhatisgarh. Governance as well as development indicators are high, and several of these states have high social development indices. Good governance is also due to the proximity of the decision makers to the people, and the hypothesis that smaller states are better for development and investment, is clearly borne out by the results of this work - a conclusion not surprising, viewed from Singapore.

There appears to be a common thread linking the high-performance states that has remained unbroken through changes in political and economic management. These states have a tradition of administrative capability that has remained intact through several structural changes. They share a high level of literacy, social awareness and public participation in governance. They have been fortunate, by and large, in having political leaderships with a governing philosophy possessing attributes that made them responsible for performance. A combination of expectant and aware citizenry, capable administration, and a positive governing philosophy, are the ingredients of sustainable change and development. States that have a cohesive organisational structure of conceptualisation and implementation, an integration of the political and the administrative decision making process, and a closer response to the articulated needs of the people, would be the states that are candidates for further growth and opportunity. Gujarat, Maharashtra, Haryana, Punjab, Tamil Nadu, Karnataka and Andhra Pradesh among the larger states, and Delhi, Goa, Himachal Pradesh and Uttaranchal among the smaller states are clear candidates for development, and offer the best investment climates. ■

Book Launch

ISAS will launch the book, *Growth Opportunities in Indian States: Issues of Governance and Economic Development*, in November 2005. Written by Dr S. Narayan, Visiting Senior Research Fellow at ISAS, the book examines interrelationships between economic development, governance and business climate in the different states of India. It also offers pointers to future opportunities for growth in these states.

It's Time for Pakistan to Play a Larger Regional Role

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Asia has been in news lately, more so because of the alliances that the Asian countries are trying to build with their immediate and distant neighbours. The visit of the Pakistani Prime Minister, Mr Shaukat Aziz, to Singapore, Malaysia, Thailand and Brunei in May 2005, bears testimony to this trend of bilateral alliance. The seemingly obvious reasons for this visit were to promote an environment of economic prosperity and security. To this effect, the Memorandum of Understanding (MoU) on Counter Terrorism was signed and progress was made on the negotiation process of the Pakistan-Singapore Free Trade Agreement. Also, it was decided that an 'early harvest' agreement will be signed between Malaysia and Pakistan in October 2005. There is no denying that Pakistan, with a growing economy and disinvestment agenda, has a lot to offer and Southeast Asia is a region with the right opportunities.

The visit by Prime Minister Aziz to the various Southeast Asian countries and the call for greater commitment to trade and investment, and security cooperation are clearly reflective of Pakistan's effort to bring itself closer to the region. The time is also right for Pakistan with a GDP growth rate of 8.4% (as of May 2005), and under the able leadership of the Prime Minister Aziz, the economy is definitely booming. Pakistan is also opening its economy and welcoming investment by its neighbours in Asia. In March 2005, Temasek Holdings bought a 25% stake in Pakistan's NIB Bank for US$46 million.

It is important to note that Pakistan has received extremely encouraging and positive response to its initiative to move closer to the countries of Southeast Asia in economic and commercial fields. For example, Thailand's Prime Minister, Dr Thaksin Shinavatra, assured Prime Minister Aziz that Thailand would extend support to Pakistan in its bid to become a full dialogue member of the ASEAN. Thailand also signed a protocol for the implementation of a four-year (2005-2009) Cultural Exchange Programme, which covers culture, sports, youth affairs, archaeology, tourism, education and media development.

Pakistan's contribution towards the war against international terrorism has earned it immense goodwill and prestige among the countries in East and Southeast Asia. Pakistan is perceived as a key state in the war on terror. Since these countries are themselves faced with terrorist threat, they have sought close cooperation with Pakistan to share intelligence, expertise and experience in combating international terrorism.

However, one cannot help but wonder if some of it has to do with the need to "catch up" with India. The impetus for greater co-operation between India and the ASEAN can be attributed to India's "Look East" policy that was first advocated by Narashima Rao, India's former prime minister, in 1991. India's "Look East" policy was aimed at renewing political contacts with ASEAN, enhancing economic interaction and forging defence links and understanding. Successive Indian prime ministers continued to advocate the same policy with equal fervour and enthusiasm. India's "Look East" policy has certainly borne dividends.

Trade between India and ASEAN has grown from a mere US$3 billion in 1992 to more than US$12 billion by the end of 2003. It is expected to hit US$15 billion by the end of 2005. Beyond trade, India is a strong political and security partner of the ASEAN. It became a sectoral partner of ASEAN in 1992 and a full dialogue partner in 1995. In 1996, India became a member of the ASEAN Regional Forum, aimed at confidence building, conflict resolution and preventive diplomacy. And in 2003, India and the ASEAN signed the ASEAN-India Framework Agreement on Comprehensive Economic Agreement. Pakistan on the other hand developed its "Strategic Vision East Asia" initiative in 2003. Its trade and investment ties with the Southeast Asian region are small by any standards, but there is potential for growth in this area. Trade between ASEAN and Pakistan has only shown a very marginal increase from US$341mn in 2002-03 to $342mn in 2003-04.

Although Pakistan has a sectoral partnership with ASEAN, since its economic relations had not reached significant levels, a full dialogue partnership was denied to it in 1996. Pakistan had since been lobbying for not only a full dialogue partnership, but for a membership in the ASEAN Regional Forum (ARF). ARF membership requires the consensus of all members. Hence, Pakistan was invited to join the ARF in mid-2004, only after India agreed. India's willingness to accept Pakistan into the ARF can also be attributed to the new ground gained in confidence building measures and negotiations between the two countries.

Pakistan realises the need to be more proactive and engaging in Southeast Asia, lest it be left behind in the relationship-building race with its neighbour. It cannot compete with India on the economic front, but can develop strong ideological and strategic alliances with the Southeast Asian region.

It is evident that Pakistan wants to play a larger role in the region and the time is right to do so, as the Pakistani economy is doing well, and its relations with India are improving. Therefore, Pakistan has the time and resources to divert towards the rest of the region and promote economic and political integration as well as security cooperation, and make up for the lost time. ■

This article was first published in the Business Times, 21 June, 2005.

Gandhara
- Buddhist Sculptures from Pakistan

Dr. Gauri Parimoo Krishnan
Senior Curator (South Asia)
Asian Civilisations Museum, Singapore

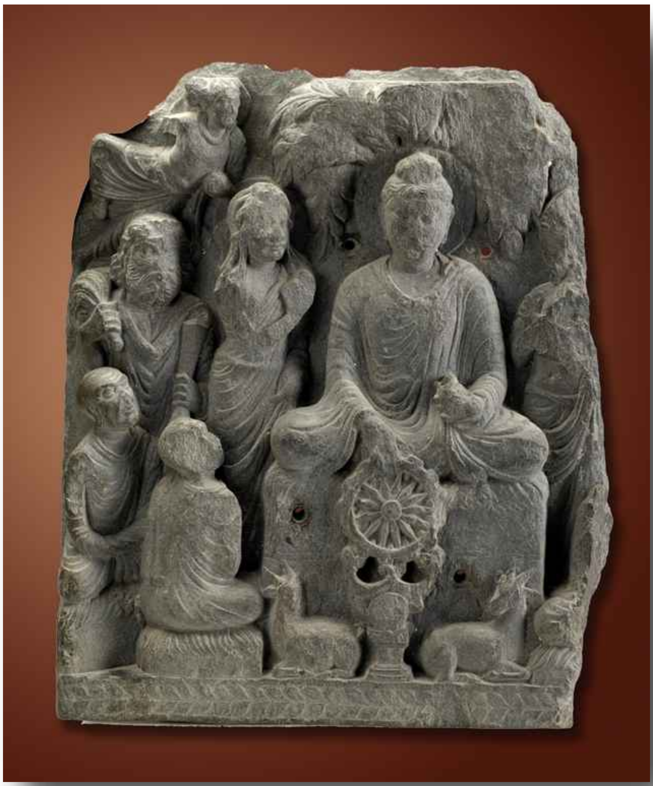
In Singapore, a rare exhibition of Buddhist sculptures from Pakistan was on view for the first time during the Vesak celebrations in May and June 2005. Full moon in Vesak (Sanskrit: Vaishakha, a summer month in Hindu and Buddhist calendar), is celebrated as Buddha Purnima, to commemorate the birth, enlightenment and nirvana of Gautama Buddha on the same day. He is supposed to have died in his 80th year after completing Sahasra Chandra Darshana, that is, 1,000 full moons during his lifetime. This exhibition was at the Kong Meng San Phor Kark See Monastery in Bright Hill. It was commissioned by the monastery and curated and coordinated by the Asian Civilisations Museum. It also coincided with the visit by Pakistan's Prime Minister Shaukat Aziz to Singapore.

Where is Gandhara?

Not many of us are familiar with this region, and very few possibly know its association with Buddhism and that it is located in Pakistan. Culturally, Gandhara refers to the land of the Peshawar and Swat valleys, and the entire region west and north of river Indus in the present-day north-west frontier province of Pakistan. In the west, it stretches all the way along Kabul River and sites in Panjshir and Ghorband valleys to sites along Amu Darya, northwest of the Hindu Kush Mountains in Afghanistan. Being a frontier region, it was vulnerable to many invasions and cultural influences, notably Greek, Chinese and Persian. It has also witnessed a confluence of religious practices, firstly Hindu, followed by the Buddhist, and finally the region was swept over by Islam. The artistic region we know as Gandhara is much larger with centres around Swat, (ancient name Uddiyana), Taxila (ancient name Takshashila), Peshawar, Zar Dheri, Hadda and Bamiyan, formerly located in northwest India; the latter two are in Afghanistan (ancient name Kapisha).

Buddhism and Gandhara

Buddhism in Gandhara has Mahayana leanings from around the beginning of the first century AD, although the earlier phase also saw Hinayana roots sown deep down. Of the Hinayana period, Ashokan monasteries (3rd-2nd century BC) at Dharmarajika in Taxila and the Great Stupa at Butkara I of the Mauryan period are noteworthy. During this period, Gautama Buddha was depicted by aniconic symbols such as his feet marks, lotus, umbrella or pillar of fire.



Buddha's First Sermon, Dharmachakrapravartana, Dharmarajika, ca 2nd century AD, Archaeological Museum, Taxila

The Fourth Buddhist Council was held in Kashmir in circa 100 AD under the patronage of Kushana king Kanishka I. Stupa sites such as Takht-i-Bahi, Julian, Mohra Moradu, Zar Dheri, Shah Ji ki Dheri, flourished during Kushana reign, although no exact dates of donation have been found. Most Buddhist sites are in ruins now but the excavations have exposed and preserved the original structures which help us to reconstruct the original glory of these monasteries, stupas and temples. Most of the relief and round sculptures, relics and caskets containing them have been moved to various site museums in Peshawar, Taxila, Lahore, Karachi, Islamabad, etc.

There is clear evidence to ascertain that Buddhism was patronised by the Mauryan and Kushana kings in Gandhara just as elsewhere in India. It has also been recorded that there were more than 1,400 monasteries in Swat alone according to Chinese pilgrim Fa-Hsien in 400 AD. The Swat region of Gandhara is also well-known as the birthplace of Padmasambhava, the revered teacher who taught Vajrayana Buddhism in Tibet. Both Xuan Zhang (early 7th century) and Fa-Hsien (early 5th century) mention Peshawar in their records while it is widely believed that Purushapura, Kanishka's capital, was Peshawar and was the centre of Buddhist learning and Mahayana Buddhism.

Storyline in the Gandhra Exhibition

The Gandhara exhibition told the story of the Life of Buddha in linear narrative with the help of narrative panels from ancient stupas and monasteries which are now deposited in site museums in Pakistan. There were three main lenders of artefacts to this exhibition: Archaeological Museum, Taxila; Islamabad Museum, Islamabad, and Archaeological Museum, Saidu Sharif at Swat. The key episodes from Buddha's life namely his Birth, the Great Departure, his Enlightenment and Great Decease were illustrated and elaborated upon. The central theme of the exhibition was Buddha's enlightenment which is one of the key events celebrated at Buddha Purnima. This was illustrated with a replica of the Fasting Siddhartha from Sikri (Mardan) Stupa, now kept in Lahore museum.

Fasting Siddhartha, Sikri, (Mardan), 2nd - 3rd century CE, Lahore Museum

Another significant sculpture in this selection was the relief from Dharmarajika of the First Sermon in which the Wheel of Buddhist Law is displayed which Buddha is turning with his right hand. The sculptures from Swat valley, especially from the site-Nimogram, were carved with precision and detail in

Birth of Siddhartha and his taking seven steps, Nimogram, (Swat), 3-4 th century AD, Archaeological Museum, Swat

Phyllite. Birth of Buddha from a stupa drum was the most noteworthy. The relief sculptures were carved like a chapter or a scene from a story, in episodic narrative divided by columns inspired from Greco-Roman artistic tradition which was already extant in the region.

Gandhara Sculpture

The influence of Hellenistic idiom prevalent in the region through Parthian influence can be easily noticed in the drapery folds, contraposto posture of standing with a slight bend in one leg as well as in facial features and decorative motifs. From the Indian tradition, iconography was adapted, as was the narrative technique which had already materialised on the Great Stupas at Barhut and Sanchi. In the depiction of the Buddha image, sanctioned by the Mahayanist cult practice, the features of mahapurushalakshana (signs of a Great Man) were absorbed, which could be identified with ushnisha (the wisdom bump on the head) urna (tuft of hair in the middle of the eyebrows) and long earlobes, to note a few. The iconography of the Buddhas and Bodhisattvas already depicted in the Indian tradition in the Mathura region around the 1st century BC to 1st century AD were further realised in the Gandhara region with the numerous images of Buddha in monastic garb and Bodhisattva Maitreya in princely attire. The eclectic style of Gandhara sculpture was due possibly to varying calibre of artist-guilds throughout the region.

Several waves of influences travelled to Gandhara, which, according to pioneering archaeologist John Marshall, have two distinct phases – the first flourished in the 1st and 2nd centuries and the second in the later part of 4th and 5th centuries. Stone was used in the first and lime-stucco in the second. John Marshall points out that "it was under the Philhellene Parthians who succeeded the Sakas in the northwest in the 1st century AD that the Partho-Hellenistic art played an all important part in the subsequent evolution of the Gandhara School." The Gandhara style matured during the Kushanas, and declined due to several reasons including lack of patronage by late 5th century.

The exhibition attracted approximately 15,000 visitors. It presented Pakistan's Buddhist heritage to the people of Singapore. The exhibition also highlighted the close cultural affiliations between countries in South Asia and Southeast Asia. ■

Snippets on South Asia

Alicia Wong
Executive, ISAS

Presidential Elections in Sri Lanka

Sri Lanka's Supreme Court has ruled that presidential elections must be held this year, putting an end to President Chandrika Kumaratunga's hopes of remaining in power for another year. President Kumaratunga, who is in her second term, had argued that she was entitled to stay in office for one more year because she had called a snap election a year before her first term ended. In a unanimous ruling on 26 August, Sri Lanka's Supreme Court said the country's next presidential elections must be held in 2005, which means the president's term ends in December this year. The constitution does not permit the President to run for a third time. The current Prime Minister, Mahinda Rajapakse, is the candidate of the ruling Sri Lanka Freedom Party, while former Prime Minister Ranil Wickremesinghe will run for the opposition United National Party. The other parties contesting the elections include the Tamil National Alliance, the Janatha Vimukthi Peramuna and the Jathika Hela Urumaya.

The election comes as Sri Lanka grapples with a crisis in the peace process to end the two-decades-long conflict with Tamil Tiger separatists. Following the assassination of the foreign minister in August, relations are at a low, and there are fears that a three-year-old ceasefire could collapse. Regional political analysts say any prospects of reviving the peace process will be put on the back burner until the presidential elections are over.

First Fall in GDP Expected for Maldives

For the first time in two decades, Maldives' economy is set to shrink in 2005. Tourist arrivals have fallen by more than 50% due to the tsunami in December 2004. The GDP which totalled around $700 million in 2004 is expected to fall by 2.4% this year. Annual growth had averaged around 8% since Maldives revived its tourist industry. The average occupancy rate is 70%, with the average tourist staying eight days and spending about US$400.

Tourism is Maldives' largest industry and accounts for 20% of GDP and more than 60% of Maldives' foreign exchange receipts. Over 90% of government tax revenue comes from import duties and tourism-related taxes. Nine months after the disaster, arrivals number 180,000 compared to 600,000 in 2004, before the tsunami hit the cluster of islands. It is unlikely that Maldives will be able to make up even 50% of arrivals by the year's end.

Donors for post-tsunami reconstruction have firmly committed around US$90 million worth of tsunami aid so far, but the overall total of pledges is still shy of the US$470 million, the government estimates it will cost, to repair damaged infrastructure and communications. However the government remains confident the contraction in GDP will be a blip and that the economy will return to growth in 2006.

Outlook for Bhutan 2005-2007

Bhutan's GDP growth is expected to average about 8% annually between FY2005 and FY2007. Total budget expenditures are expected to decline. The outlook for economic growth over the medium term appears favourable, with continued reliance on the two avenues, power and construction.

The hydropower project at Tala is expected to be completed by end 2005. Its export of power to India will eventually decrease the trade deficit and increase government revenues. Currently 75% of the government's revenue comes from the sale of hydropower to India. Bhutan's primary economic partner is India as its border with China is closed. Bhutan's currency, the ngultrum, is interchangeable with the Indian rupee, which is also recognised as an official currency in Bhutan. The industrial sector is minimal and any production is usually connected to the cottage industry. Tourism, which is the major source of hard currency income, has expanded rapidly and, with FDI in luxury hotels and resorts, will contribute significantly to private sector development and absorb part of the labour force.

ISAS Management Board

New Members

The following members have been appointed to the ISAS Management Board for a term of two years:

Professor Wang Gungwu
Director
East Asian Institute
(with effect from 30 May 2005)

Professor Christopher Earley
Dean, School of Business
National University of Singapore
(with effect from 3 June 2005)

Mr Sat Pal Khattar
Chairman, Network India
Singapore Co-Chairman of the Singapore-India Partnership Foundation
Consultant, Khattar Wong & Partners
(with effect from 10 June 2005)

Mr Peter Ong
Permanent Secretary
Ministry of Trade and Industry
(with effect from 8 July 2005)

Stepping Down

The following members have stepped down from the Board:

Professor Lim Chin
Acting Dean, School of Business
National University of Singapore

Mr Heng Swee Keat
Managing Director
Monetary Authority of Singapore

ISAS would like to express its appreciation to Prof Lim Chin and Mr Heng for their invaluable contributions on the Board.

ISAS New Research Staff

Dr Maathai Mathiyazhagan
Research Fellow

Dr Maathai Mathiyazhagan completed his Post Doctorate at the London of Economics, London School of Hygiene and Tropical Medicine, UK. He also has a PhD in Economics from Annamalai University.

He has a MSc (Career Development in Health Economics) from the London School of Economics, London School of Hygiene and Tropical Medicine, UK; a Post Graduate Diploma in Econometrics and an MPhil, from Annamalai University, Annamalai Nagar, India; an MA in Economics from Bharathidhasan University, Thiruchirapalli, India; and a BA in Economics from the University of Madras in India.

Dr Mathiyazhagan has a deep interest in health economics and has acted as consultant with the World Bank for many of their programmes.

He is a regular contributor to journals and writer of books in economics and health economics.

Dr Rahul Mukherji
Visiting Research Fellow

Dr Rahul Mukherji holds a PhD in Political Science from Columbia University, New York. He is on leave from the Centre for Political Studies, Jawaharlal Nehru University, where he is Assistant Professor with tenure.

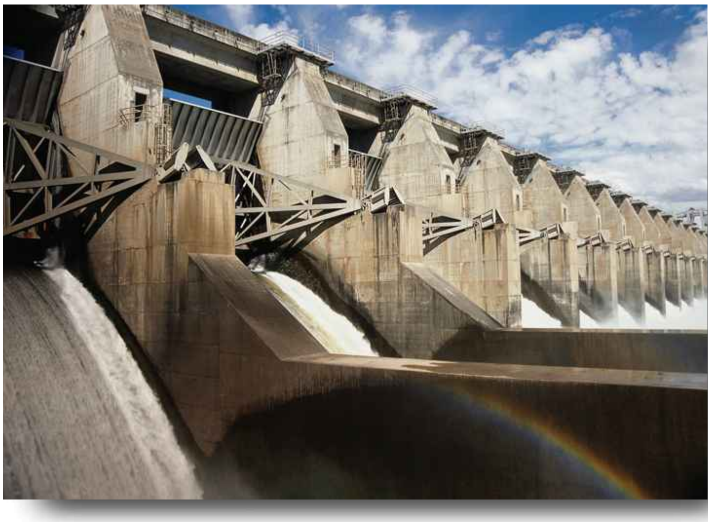
Dr Mukherji's specialisation is in the field of international and comparative political economy of South Asia. His scholarly papers have appeared in journals like *Pacific Affairs*, *Economic and Political Weekly* and *India Review*. He is a Contributing Editor of the *Frank Cass Journal India Review*, and has served as referee for *Asian Survey* and *Pacific Affairs*. Dr Mukherji has been a consultant with the World Bank on a service delivery project in India, and has held a Visiting Fellowship at the Australian National University. He has been associated with projects at the University of Michigan (Ann Arbor), the University of Pennsylvania (Philadelphia), and the University of California (Berkeley). He is editing a reader on India's Economic Reforms, to be published by Oxford University Press in 2005.

India's Energy Security: Challenges and Prospects

Dr Rahul Mukherji
Visiting Research Fellow, ISAS

Surging oil prices have brought worries about India's energy security to the fore. The average price of crude oil, which was US$27.8 per barrel in 2003/04 rose to US$50.8 per barrel in the April-June quarter of this year. Current crude oil prices have ranged between US$60 and US$70 per barrel. This poses a challenge for India. The economic growth of India and China will depend to a great extent on their access to energy sources.

India produces 25% to 30% of its oil requirements and pays an import price of US$27.3 billion. Domestic oil prices have risen in September 2005 but this rise is much less than the rise in international prices. The under recoveries of Indian oil marketing companies in the first quarter of this year was greater than S$3.5 billion. A rise in the price of oil and diesel is known to have an inflationary impact. President Dr Abdul Kalam's speech on Independence Day and Prime Minister Dr Manmohan Singh's initiative on energy policy reveal a strong commitment to reformulate India's energy policy. More recently, a concerned Indian Prime Minister set up a committee headed by the Chairman of the Prime Minister's Economic Advisory Council, Dr C. Rangarajan, to work out a subsidy sharing formula.



The Prime Minster's Office (PMO) has initiated an inter-ministerial coordination on energy policy, reminiscent of the initiatives that produced successes in the IT and telecommunications sectors in India. The PMO often takes a view that is different from any one of its bureaucracies, which it is able to push rather forcefully in times of a crisis. The close understanding between Dr Singh and the Deputy Chairman of the Planning Commission, Dr Montek Ahluwalia, will further facilitate this coordination. The Energy Coordination Committee, headed by Dr Singh, will be serviced by the PMO and the Planning Commission. The Ministers of Power, Finance, Petroleum and Natural Gas, and Coal and Non-Conventional Energy Sources, are members of this committee. In addition, the Deputy Chairman of the Planning Commission, the Chairman of the Prime Minister's Economic Advisory Council, the National Security Advisor, the Cabinet Secretary and the Prime Minister's Principal Secretary will contribute significantly to the technocratic competence of this committee.

Challenges

India began participating actively in the geopolitics of energy exploration in 2000 when the Oil and Natural Gas Commission (ONGC) began operating ONGC Videsh. Petroleum Minister Mani Shankar Aiyar is committed to improving India's relations with China and Pakistan. Yet competition persists between India's ONGC and the China National Petroleum Corporation (CNPC). CNPC has outbidded ONGC from a number of oil exploration projects. ONGC officials were concerned about the manner in which CNPC won a US$4.18 billion bid over ONGC from PetroKazakhstan. What made the Indian officials unhappy was that ONGC was given a week to come back with a refined offer, but the offer was made to CNPC just two days beyond that date. It is well known that China has influence in Central Asia. India has only an observer status in the Shanghai Cooperation Organisation whose members are China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. India is working with Russia to find a role in Central Asia.

Will China and India compete or cooperate for oil supplies critical for their economic growth? Minister Aiyar's suggestion of cooperating on energy with China, despite the PetroKazakh setback, was appreciated by CNPC. The basis of Sino-Indian cooperation in energy will depend on a positive cooperative approach and on the strengths of ONGC Videsh in the area of oil exploration. It is to be seen whether the cooperative sentiments expressed by the Indian and Chinese delegates at the World Petroleum Congress in Johannesburg in September 2005 are converted into action.

There have been extensive discussions about the undersea and overland pipeline for carrying natural gas to India from Iran's South Par's field. The pipeline could fetch 20 million of the 114 million tonnes of crude oil required by India. This pipeline would pass through a 760 kilometre stretch in Baluchistan in southern Pakistan. In order to increase Iran and Pakistan's commitment to the maintenance pipeline, it was suggested that Iran and Pakistan could construct the pipeline up to the Indo-Pakistan border. This project, while economically viable, faced opposition from the United States. The United States worries about Iran diverting its oil revenues to its nuclear programme.

India's power sector, which is capital intensive and needs foreign investment, suffers from governance problems. Only 1% of the energy demand for the power sector come from oil. At 633.3 billion Kwh in 2003/04, electricity shortage amounted to 6% of total demand, rising to 12% at peak times. About 30% to 40% of power was lost in transmission and distribution. This constituted power-theft. Farmers, small industrialists and middle class consumers were either unwilling to pay or were stealing power on the sly. Proposals for initiating tariffs for farmers met with disastrous electoral consequences. Only the big industrialists paid for power and often found captive generation a cheaper alternative.

The quality and quantity of power poses a major bottleneck to India's development. The average cost of producing power is S$0.15 per unit, when the same figures for the United States and South Korea are S$0.07 and S$0.09 respectively. Efficient production will demand greater accountability from the State Electricity Boards, effective regulation and rational cross-subsidisation. The Electricity Act 2003 has made positive noises in the right direction. It will be interesting to see how GE, Bechtel and some Indian financiers revive the Dhabol Power Corporation, which was promoted by Enron.

The Way Ahead

India is subjecting its exploration policy with respect to oil, gas and coal to competitive bidding. The privileges of the old state-owned monopolies will become fewer. The Prime Minister's Energy Coordination Committee has suggested competitive bidding of captive coal mines in the cement, iron and steel sectors. The foreign investment limit for captive mining in these sectors has been raised from 74% to 100%. The Ministries of Coal and Law are exploring the formats for the bidding process. It must be remembered that Posco, the steel producer from Korea, was given captive mining rights in the US$12 billion foreign investment deal, struck between the Korean steel maker and the government of Orissa.

President Kalam has called for a thrust on nuclear, hydro-electric, biomass, solar, wind and ocean power in this year's Independence Day address. These will require research and development initiatives that are within the bounds of technological development in the immediate future. Efficient nuclear power, using abundantly available thorium deposits, has been suggested. India, the United States and the European Union have agreed to collaborate on the civilian uses of nuclear energy.

Second, oilseeds have been used successfully by the Indian Railways to convert oil into power. 600 million hectares of wasteland can be used to cultivate oilseeds out of the jetropha plant at a cost of S$0.76 per litre. This could service up to 20 million tonnes of oil out of India's total need of 114 million tonnes. Third, the combination of solar energy and desalination has been suggested for pumping water for irrigation. Breakthroughs in nano technology, which could increase the efficiency of solar energy cells is likely to be an important area of research. Fourth, harnessing wind power is being given some priority. Tamil Nadu has recorded the best success in this area. ONGC, Reliance and Indian Oil Corporation have announced their plans of entering the renewable energy sector. India has shale deposits in the north-eastern states of Assam and Arunachal Pradesh, enough for 100 years at an output level of 140 million tonnes a year. Converting oil from shale becomes economically viable when oil prices are higher than US$35 per barrel. Second, this extraction needs hydro resources, which are abundantly available in north-eastern India. China has already pledged US$15 billion on a similar project. Suggestions about the possibility of exploring shale oil have been discussed in New Delhi.

The Petroleum Ministry is committed to increasing India's refining capacity. Reliance Industries has found future profits to be made from increasing its refining capacity. It has pledged US$5.7 billion to double the capacity at one of its refineries in the state of Gujarat. This could bring down refining costs. There are rumours about Reliance's bid to acquire BP's wholly-owned subsidiary, Innovene, with revenues of US$15 billion. Planning foreign acquisitions of this size are rare in India's corporate history. A mature corporate India will increasingly be able to partner in the initiatives of the government.

Will India be able to use an impending crisis driven by energy costs to reform the sector? The good news is that crises are opportunities for the PMO to overcome obstacles to reform. Dr Singh's energy initiative will benefit from the experience of previous successes in the IT and telecom sectors. The challenges lie in enhancing India's success in oil exploration and refining. One can expect a greater commitment to harnessing non-renewable and non-traditional sources of energy. Reforming the state electricity boards will be the toughest of the tasks ahead. ■

Study On Healthcare

ISAS and the Confederation of Indian Industries (CII) are undertaking a six-month study on the healthcare sector in India.

The main objective of this project is to understand the healthcare sector in India and identify possible business opportunities and investment potentials for Singaporean and Indian investors, business enterprises and corporate bodies. More specifically, the study will examine the needs of the healthcare sector in India; key players in the Singapore and India healthcare sectors; existing policies as well as measures needed to promote the sector. It will also examine the additional potentials in the healthcare sector arising from the conclusion of the India-Singapore Comprehensive Economic Cooperation Agreement.

The study will be completed in January 2006. Both ISAS and CII will organise a joint seminar to share the findings and provide a platform for Indian and Singapore companies interested in the healthcare sector to meet and explore business partnerships and investments.

ISAS: Recent Events

Seminar by Dr Urjit Patel, Executive Director, Infrastructure Development Finance Company Limited, India, "High Finance and Small Change: Reform Strategies in the Indian Financial Sector", 28 June 2005.

The CECA seminar series by ISAS, Singapore Business Federation, Singapore Indian Chamber of Commerce and Industry, IE Singapore, Network India and Ministry of Trade and Industry: Guest-of-Honour: Mr Lim Hng Kiang, Minister for Trade and Industry, 15 July 2005.

Seminar by Dr Narendra Jadhav, Principal Adviser and Chief Economist, Department of Economic Analysis and Policy, Reserve Bank of India, "Liberalising India's Financial Sector: Constraints, Challenges and Prospects", 4 August 2005.

The CECA Sectoral seminar on “Real Estate, Infrastructure and Construction”, by ISAS, Singapore Business Federation, Singapore Indian Chamber of Commerce and Industry, IE Singapore, Network India and Ministry of Trade and Industry, 27 July 2005.

Second SICCI-ISAS Global Business Leaders Lecture by Mr Buddhadeb Bhattacharya, Chief Minister of West Bengal, India, "Economic Opportunities for Singapore and India: The Way Ahead with West Bengal", 23 August 2005.

Seminar by HE Mr Mohammedmian Soomro, Chairman, Senate of Pakistan, "Liberalising Pakistan's Economy: Challenges and Prospects", 30 August 2005.

The CECA sectoral seminar on "Investment and Tax", by ISAS, Singapore Business Federation, Singapore Indian Chamber of Commerce and Industry, IE Singapore Network India and Ministry of Trade and Industry, 2 September 2005.

The CECA sectoral seminar on "Manufacturing and Merchandise Trade", by ISAS, Singapore Business Federation, Singapore Indian Chamber of Commerce and Industry, IE Singapore, Network India and Ministry of Trade and Industry, 16 September 2005.

The CECA sectoral seminar on "ICT, Healthcare and Services", by ISAS, Singapore Business Federation, Singapore Indian Chamber of Commerce and Industry, IE Singapore, Network India and Ministry of Trade and Industry, 26 September 2005.

Dialogue session with the India-Singapore Parliamentary Forum, 3 October 2005.