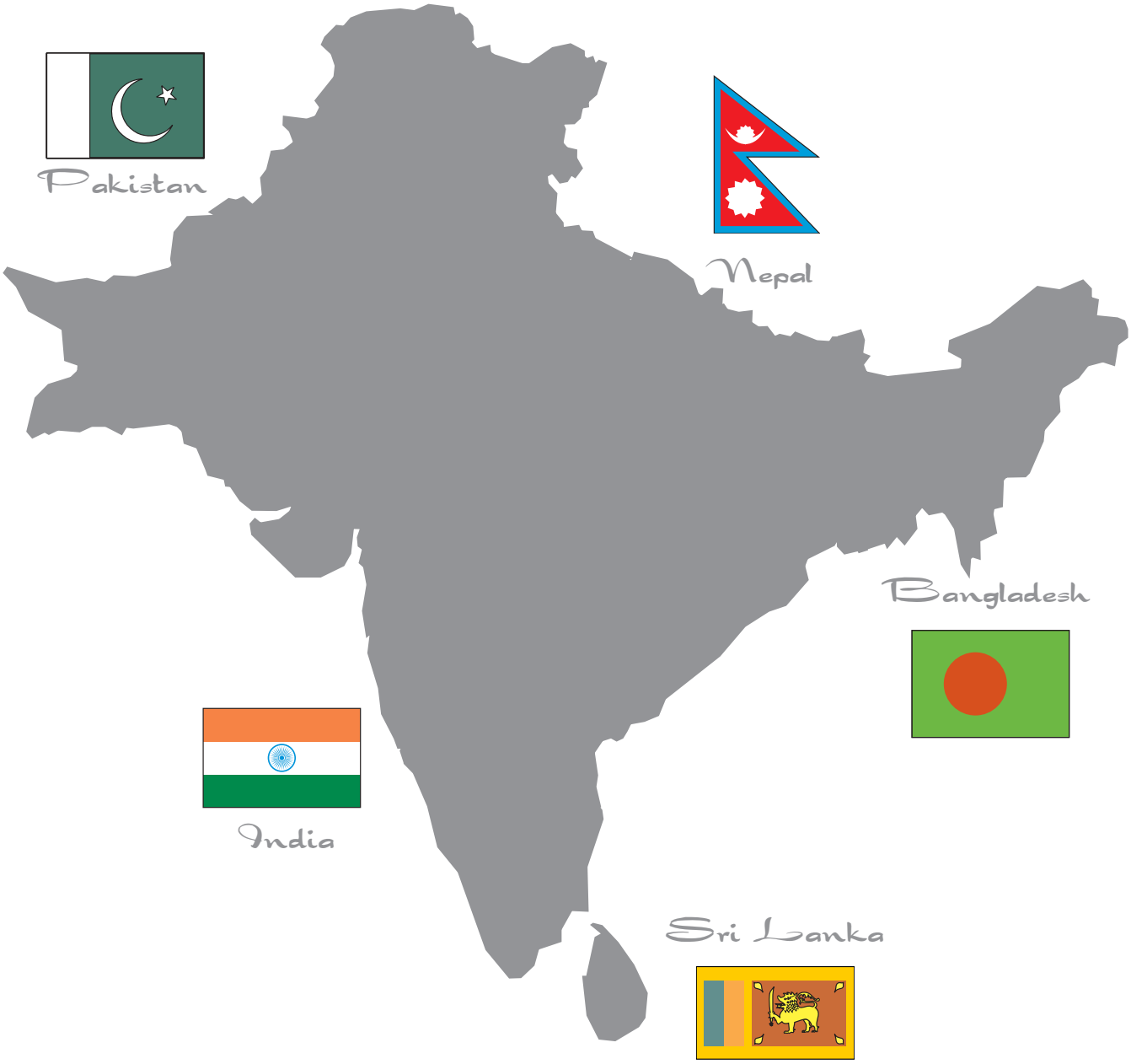
South Asia Trade Action Plan



November 2001

Department of Foreign Affairs and International Trade
Ministère des Affaires étrangères et du Commerce international

Canada

South Asia Trade Action Plan

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Unless otherwise specified, monetary figures in this document are in Canadian dollars.

More background and sector information can be found at: **http://www.infoexport.gc.ca**

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Introduction

Background

In 1998, the *India Trade Action Plan* was launched with the following objectives:

- to bring all Team Canada Inc members together to develop a joint strategy to assist Canadian clients interested in the Indian market;
- to identify priority sectors in India on which Canada's trade promotion resources should be focussed; and
- to provide information to Canadian business clients about specific opportunities, trade promotion activities and market intelligence.

In the past three years, several factors have affected trade between Canada and India. In addition to a necessary updating of the trade action plan, it was felt that expanding it to cover the entire South Asia region would make it even more useful to business clients.

A Word of Caution

The Department of Foreign Affairs and International Trade has made every effort to review the information contained herein, and believes it to be correct and accurate at the time this publication went to print in November 2001. The Department does not, however, accept any responsibilities for errors, omissions, misuse or misinterpretation of the information.

Why a regional approach to business development?

Because of its sheer size — economic, geographic and demographic — India is a giant in South Asia and will always be its main market. Nevertheless, the other countries in the region are also significant trading partners with Canada, and deserve to be seriously considered by Canadian exporters. While the overall volume of trade with these countries does not warrant separate trade action plans, it makes sense to include them in the same plan as India for many reasons:

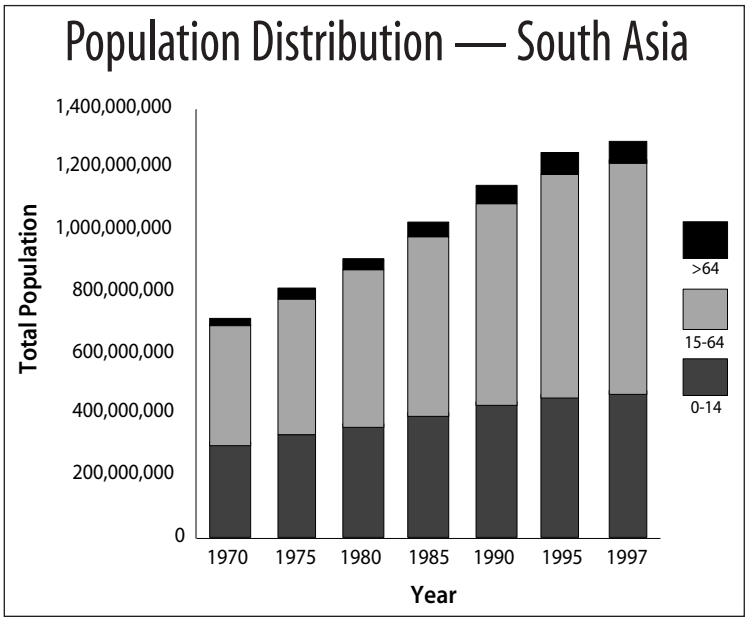
- South Asia is a relatively small region, where geographic features (and thus natural economic opportunities in areas such as hydro-electric development, mining, farming, etc.) cross national boundaries.
- The countries of the region share a common business language (English) and many other cultural similarities.
- Regionalism in some non-resource market segments transcends nationalism.
- For many exporters, critical market mass does not exist if each national market is looked at independently, but may exist if the market is looked at in supra-national terms.
- Some trade events are of interest not only in the country in which they are held, but also to industry stakeholders in neighbouring countries.
- Similarly, and in another break with the traditional country focus of action plans, there are trade events outside the region that are important to the region's decision makers. We have included those we felt appropriate, and we would welcome your comments at Fax: (613) 996-5897.

Coming soon: the Internet Version

Keep your virtual eye on the Department's Asia-Pacific Web site (**http://www.dfait-maeci.gc.ca/asia**) for the regularly updated, on-line version of the *South Asia Trade Action Plan*.

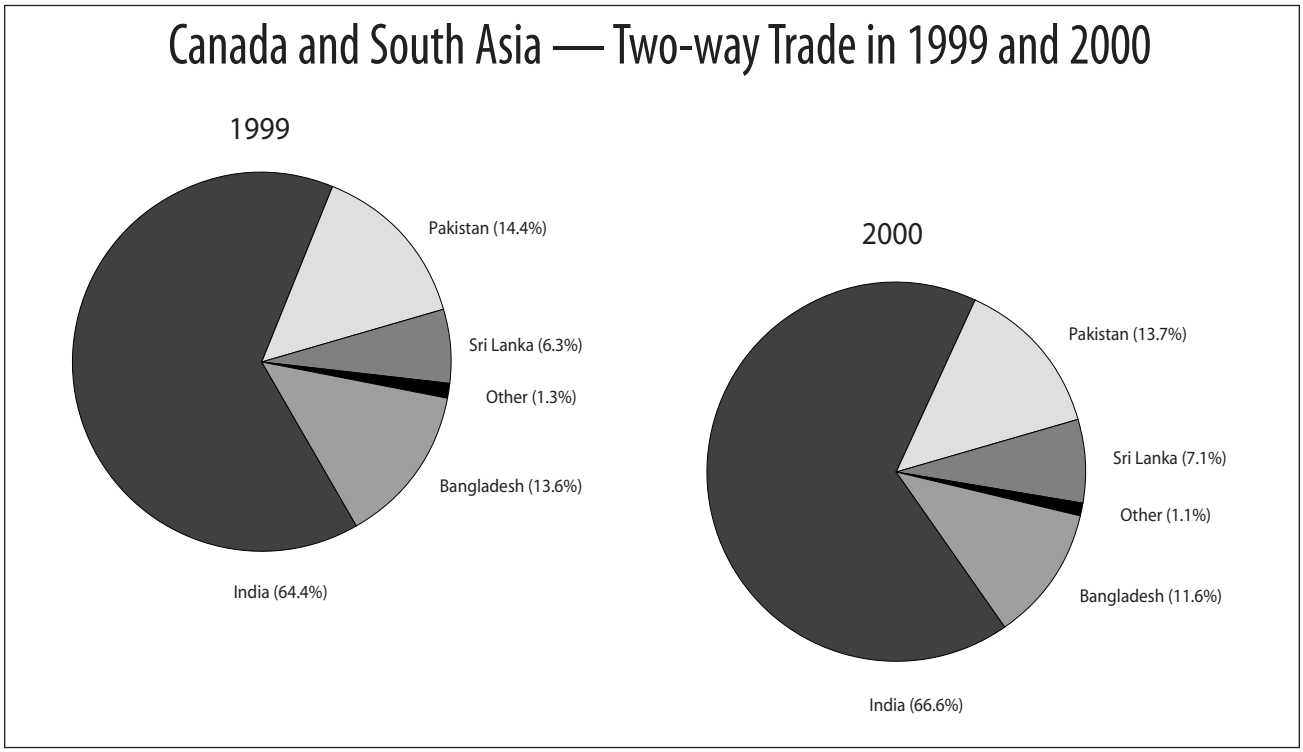
Regional Overview

A quarter of humanity resides on a land mass half the size of China. This area, referred to as South Asia, includes the countries of Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka. Together, they constitute a formidable market for the supply of Canadian goods, services and technologies. In 2000, our two-way trade with the region was a modest $2.6 billion. Our exports of $754 million resulted in a Canadian trade deficit of almost $1.1 billion.



A Growing Market

During the last decade, this area has experienced an exciting and historic transformation. South Asia remains a land of huge contrasts where in many rural villages life has remained unchanged for centuries while the urban centres are wired and Web-enabled. Even some hill villages have Internet links — usually wireless!



Gross Domestic Product (GDP) at Market Prices

The expansion of infrastructure beyond the major population centres remains uneven at best and non-existent all too frequently. As a result, major opportunities still exist in all facets of infrastructure development, from telecommunications to roads and ports and railways, to health-care facilities and programs. Some of the projects are funded by local (national or lower-level) governments, others by multilateral bodies such as the Asian Development Bank (ADB) or the World Bank. The Canadian International Development Agency (CIDA) is active in much of the region, and increasingly, area governments are — in a departure from the past — encouraging private investment from abroad.

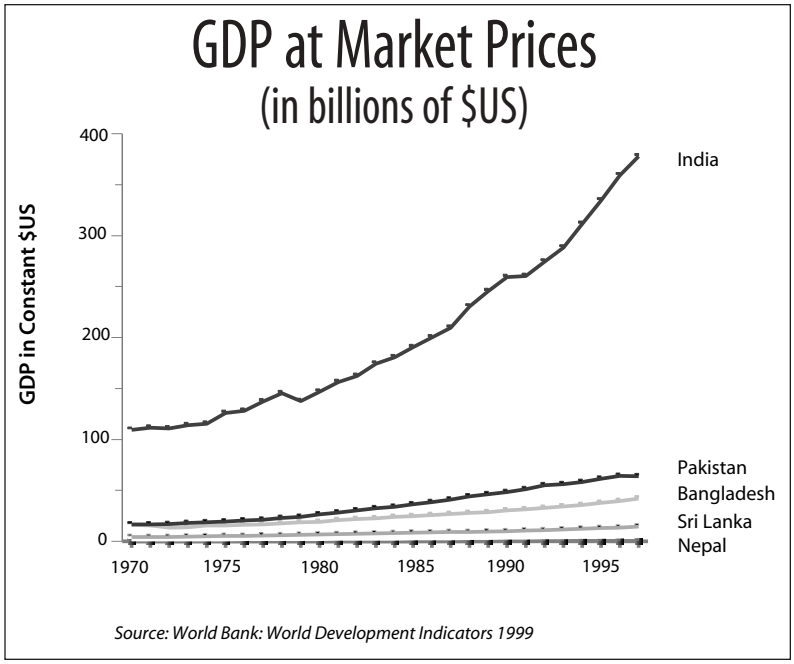
Domestic markets have opened to international trade, and the standard of living in parts of the region has risen dramatically. A growing middle class with disposable income and a thirst for new goods and services presents a growing market for selected Canadian consumer goods. Not only have new markets opened up for Canadian goods and commodities, but there is a growing demand for a range of services.

With a rapidly expanding capacity for and interest in exporting, many prosperous firms in South Asia are seeking foreign expertise and partnerships to upgrade their operations to international standards. This also provides exciting new opportunities for Canadian firms.

A Word of Caution

The South Asia region has long been reputed to be a "difficult nut to crack" for many reasons. One of the reasons many people cite, and the press promote, is a perceived predilection toward what might be viewed in a North American context as corrupt business practices, despite the existence of local statutes outlawing corruption. Not only are officials at many levels reputed to be more inclined to action (or a lack of action) after receiving an *ex gratia* payment, some also would contend that the judicial and law enforcement systems can be subject to manipulation. The so-called *Tehelka.com* affair in India can only reinforce this impression. Transparency International, a group frequently cited for its annual *Corruption Index*, has a Web site at **http://www.transparency.org** that gives a broad overview of the situation in South Asia.

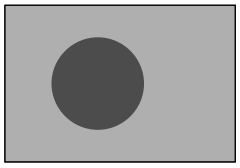
In the fall of 1999, the ADB held a workshop on combatting corruption in Asia. The ADB also maintains information on corruption on its Web site at: **http://www.adb.org/Anticorruption/default.asp**



Source: World Bank: World Development Indicators 1999

Country Overview

Bangladesh



With 130 million people living in an area not quite twice the size of New Brunswick, Bangladesh is one of the most densely populated countries in the world — and a sizable market. While still one of the world's poorest nations, relatively high growth rates in recent years have created a growing middle class with increasing purchasing power and demand for various products and services, although basic food items, such as wheat and pulses, remain in demand.

Since the early 1990s, Bangladesh has adopted a number of policies to facilitate the expansion of the private sector, recognized as the engine of growth, and increase the inflow of foreign direct investment (FDI). Although the transition process from an agrarian to an industrial economy has only recently begun, there is agreement among the political parties on the need for a market-oriented economic policy and foreign companies are welcome. The Bangladesh economy is in need of major investment to upgrade its infrastructure and the size of the investments needed are beyond the capacity of the public sector. Investment opportunities exist in power generation, telecommunications, transportation and a wide range of related and complementary services. To encourage these investments, Bangladesh offers one of the most liberal FDI regimes in South Asia, with no prior approval requirements, no limits to equity participation, and no restrictions on repatriation of profits and income.

In addition to offering opportunities for investment and sales in infrastructure areas, Bangladesh offers major reserves of natural resources, in particular natural gas. These resources have attracted the attention of major corporations such as Shell, Unocal and Cairn Energy.

A market of 130 million in itself, the country also offers access to neighbouring regions of South Asia (Bhutan, parts of India) and can serve as a base for labour-intensive manufacturing operations.

Economic growth

Four successive bumper harvests between 1998 and 2000 have led to a revival of the agricultural sector. The industrial sector has largely restocked after the floods of 1998, and is expected to return to its previous growth trend of 6%. The export sector has been performing well, although the deteriorating political situation will hinder economic growth in 2000-2001. Increased confidence and stability after the 2001 general election should improve conditions that are more conducive to economic growth.

The government forecasts GDP growth rate at 6.2% for 2000-2001, although the ADB has forecast a more modest figure of 5.7%.

Strong agricultural production helped to lower inflation to 2.2% year on year in August 2000, and to 2.4% for the year to August 2000. As industrial demand increases and higher prices of industrial raw material filter into the index, inflation is forecast to increase to 4.2% in 2001 and 4.5% in 2002.

Relations between Canada and Bangladesh are excellent. The Bangladesh business community is well disposed toward Canada, and business opportunities with Canadian firms will expand as the economy grows.

India

Economic Reforms

The economic reforms that began in 1991 cover the spectrum of government policies and have received broad, albeit not universal, support:

- Tariff and tax rates have been simplified and slashed.
- The rupee has been made partly convertible.
- Regulations and approval mechanisms have been eliminated or have been changed to ease and simplify foreign direct investment (FDI).

The government is now pushing ahead with the "second generation" of reforms, especially in banking, insurance, telecommunications, labour, intellectual property, privatization, further deregulation and strengthening of regulatory authorities.

Recent Developments

The main recent development has been the earthquake, which hit Gujarat in late January 2001. A recovery from the cyclical downturn of the late 1990s had been well under way; instead, the quake is expected to have a significant impact on manufacturing output throughout the country.

- Gujarat is one of the main manufacturing regions of the country where significant productive resources have now been flattened.[1]
- Significant capacity nation-wide will be directed to recovery and restoration efforts.
- These efforts will have multisectoral ramifications, and may be subject to some degree of government direction/prioritization.
- In the week following the quake, the Indian government announced a 2% surcharge on both corporate and personal income taxes.[2] In related moves, excise taxes on goods imported for relief and rehabilitation will be waived, and the tax deductiblity of donations to registered charities for relief and rehabilitation works will rise from the standard 50% to 100%.

India's economy is the fourth largest in the world (after the U.S., China and Japan) in terms of purchasing power parity.[3] Annualized economic growth in the recent past has been robust, running in the 6% to 8% range. GDP growth for the last year has been estimated as follows:

- Manufacturing was at 7%.
- Construction was at 9%.
- M1 money supply was up 11.2% in the year ended mid-November 2000.
- M3 money supply was up 16.6% in the same period.[4]
- The early December bank rate remained at the previous year's level of 8%.
- The prime rate was also unchanged from the previous year at 12% to 12.5%.
- Exports were up almost 20% in dollar terms, and a slower rise in the level of imports shrank the trade deficit by 10%.
- The balance of payments has survived the twin shocks of the East Asian crisis and the post-Pokhran (nuclear weapons testing) sanctions, with a low current account deficit and sufficient capital inflows. Foreign exchange reserves, excluding gold and SDRs, remained at just under two months of imports, despite a 14% increase in the monthly level of imports.

1 Information from the British Geological Survey (**http://www.gsrg.nmh.ac.uk/india.htm**) suggests that this quake is a "200-year event."

2 *Hindustan Times*, February 2, 2001, "Centre Announces 2 Percent Quake Tax".

3 World Bank economic indicators, cited in **http://www.financialexpress.com**

4 Government of India, Ministry of Finance, *Monthly Economic Report*, December 2000.

Overall, the Wholesale Price Index was up 7.5% for the year ended in the first week of December 2000. This rise was fuelled by a 30.3% increase in fuel prices: manufactured products has risen 3.2% and primary products 2.7% in the same period. The rate of consumer inflation stood at 2.8% for the year ended in October 2000, above 1999 levels but well below recent highs.

Primary Sectors for Canadian Business/ Investment Interests

India offers significant opportunities for Canadian trade and investment, particularly in areas of traditional Canadian strengths. It is important to note that a major percentage of the new investment being sought relates to infrastructure. Canada has a mix of technologies, products, processes and experiences that respond to India's needs. The key sectors include oil and gas, hydro and other forms of energy, mining, construction, transportation, telecommunications, environmental technologies, forest management, agriculture, food products and food processing, and information technology.

Total Canada-India merchandise trade for 2000 reached a record of $1.41 billion ($396 million in Canadian exports to India and $1.016 billion in Canadian imports from India). However, these figures understate Canadian exports to India since they do not include goods transhipped via the U.S. or the Gulf and Singapore, nor do they include services, especially consulting engineering, software and financial services in our bilateral trading relationship. In addition to merchandise trade, joint ventures and other forms of industrial collaboration and investment are of increasing importance to the Indo-Canadian commercial relationship.

Investment Potential

Canadian Investment in India

India is considered one of the most promising developing countries over a 10-year investment horizon, according to an Export-Import Bank of Japan survey. Since reforms began in 1991 to liberalize foreign investment and simplify the approval process, the level of FDI in India has grown considerably. The major investments flow from the U.S., the U.K., Japan, Germany and Singapore. A change in policies of the Indian government, and its efforts to privatize the telecommunications, power, insurance and other sectors, have attracted interest from foreign investors.

However, one of the biggest challenges is India's poor infrastructure and unstable policy environment, which hamper long-term investment. Canadian investment in India is significant, with approved investments of $229 million (1998) in services, the financial sector, oil and gas, telecommunications, agri-food and metals. There are opportunities for Canadian investors, especially in telecommunications, power, infrastructure, aviation, and environmental technologies.

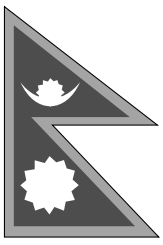
Indian Investment in Canada

India is a modest investor in Canada, making investments valued at $12 million in 1997, principally in pulp and paper, IT and financial services. There is scope for further Indian investment in Canada in IT (particularly strategic alliances for the North American market), pharmaceuticals, metals, pulp and paper, petrochemicals, and auto ancillaries.

Legal Framework

Canada is negotiating a Foreign Investment Protection Agreement (FIPA) with India.

Nepal



With a 1999 per capita GDP of US$220, Nepal's 22.9 million people remain among the world's poorest. 80% of the economically active population

live in rural areas and depend on subsistence farming. This sector, combined with forestry and fishing, accounts for 40% of GDP (July 2000). Manufacturing, hindered by a small local market and difficult transportation, contributes less than 9.5% of GDP in 1999/2000. The services sector, most significantly tourism, accounts for almost half of GDP.

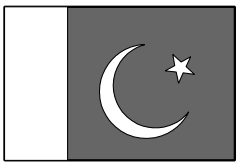
Installed hydro-electric capacity is less than 1% of potential and provides just over 1% of the nation's energy needs. Petroleum-based energy provide 9%, coal 2.5% and the balance is supplied by firewood and farm and livestock residue. Development of Nepal's hydro resources is constrained by a number of factors including topography, a lack of investment capital, and political considerations.

Transportation is difficult in the mountain kingdom. The road network totalled less than 14 000 km in early 2000, less than one third of it paved. There is a total of 51 km of rail line. Kathmandu has the only international airport and most of the domestic airfields can only be used by STOL (short take-off and landing) aircraft. Many communities can be reached only on foot or by pack animal. Telecommunications, theoretically liberalised, effectively remains a state monopoly.

Canadian trade with Nepal is at a level of approximately $10 million annually, with export and import figures being roughly equal. Major Canadian exports have been in the area of aircraft and parts, paper products and food products. While these sectors will remain strong prospects, infrastructure projects in road construction, power and mining offer increasing potential. Food products such as edible oils and grains, and some mining endeavours appear commercially viable.

The Nepalese market may be seen as an extension of the Indian and Bangladeshi market (equally, Kathmandu is only a three-hour flight from Bangkok, Kuala Lumpur or Hong Kong).

Pakistan



Pakistan's population of 140 million occupy an area about three-quarters the size of Ontario. Borders with Iran, Afghanistan, China, India and the Arabian Sea make Pakistan geopolitically important in the South Asia region. Pakistan's GDP, estimated at around US$60 billion[1], makes it a medium-sized economic power and economically important in the region. The size of the market, the wide scope of its needs and requirements, as well as the Government of Pakistan's (GoP) traditionally open economic policies make it an attractive, albeit tough, place in which to do business.

Year 2000 in Review

Fiscal year 1999-2000 (FY00) with an estimated GDP of US$60 billion saw three remarkable developments. First, the change of government in October 1999 leading to structural reforms and accountability. Second, the absence of international financial institution (IFI) assistance, along with drastic increase in international oil prices and its adverse effect on the external account. Third, a substantial improvement in agriculture in the pre-drought period.

These developments affected Pakistan's economy in various ways, for example, credit use by the private sector decreased due to uncertainty resulting from the army take-over. The decline in economic growth was also a partial result of the subsequent accountability drive of the new GoP, slow progress in negotiations with the International Monetary Fund (IMF), and a number of unresolved legal disputes.

Despite these challenges, the turnaround in fiscal year 2000 was led by the agriculture sector (wheat, cotton crops were well above expected levels),

1 Fiscal Year 2000, July 1,1999 to June 30, 2000. The US dollar GDP for fiscal year 2001 is expected to be essentially unchanged.

which in turn provided great support to the textile industry, the mainstay of large-scale manufacturing, Exports showed improvement, helped by the recovery of key export markets. On the downside, the rebound in large-scale manufacturing was unable to lead the economy to a full recovery and growth in the sector remained well below the target of 5.8%, at 1.1%. This set-back was attributed to a disappointing sugarcane harvest. Small scale production, on the other hand, registered a growth rate of 5.3%. Also the broad category of non-oil, non-food imports registered an increase for fiscal year 2000, indicating that the recovery was more broad-based. As a result, GDP grew by 4.8% (as against 3.1% a year earlier) and this strength is predicted to continue over the current fiscal year, barring unforeseen circumstances such as continuation of present drought conditions. The drought conditions of the last few years, evidenced by well below average rain fall and lower than normal snowpack on the Northern mountains, resulted in lower reservoir levels. If the monsoon season does not bring relief, the economy may receive a further set back. Current estimates of losses in the agriculture sector are approximately US$2 billion.

The government's documentation and tax recovery drive started in earnest in May 2000. Although faced with initial strong opposition from traders, it eventually received acceptance and was extended to 13 cities, resulting in declaration of previously undeclared assets amounting to about US$1.8 billion, generating a revenue of approximately US$170 million.

The fiscal year 2000 inflation rate of 3.6% was the lowest recorded for the last three decades. Contributing factors to this are: monetary expansion of 9.4%, greater availability of agriculture and food products, growth in production of non-consumer goods, relative stability in exchange rate and lower cost of capital. Coupled with the country's current external obligations and strength of international oil prices, Pakistan's liquid foreign exchange reserves came under stress during the last part of fiscal year 2000. Lack of financial assistance from IFIs and donor agencies resulted in net capital outflow. The trade deficit widened during the same period to US$1.7 billion, against a target of US$0.8 billion.

Outlook

In January 2001, the IMF approved a long awaited and much anticipated US$596 million standby facility for Pakistan — the release of the last three tranches of the loan have been linked to improvement in areas such as government revenue collections, exports, and foreign exchange reserves. The existence of this facility marks the reinstatement of Pakistan into the field of IFI assistance and has mitigated one of the major risks to the economy: the inability to service Pakistan's external debt.

Key elements of the GoP plan include the restoration of growth, mobilization of tax revenues, increase in exports, reduction of government borrowing, activation of privatization processes, rationalization of oil and gas prices, and deregulation of imports. It is thought that the successful implementation of the program and the finalization of major structural reforms should lead to medium-term financial support from the IMF under the IMF-sponsored Poverty Reduction and Growth Facility.

Implications for Canada

To achieve its economic growth objectives, the GoP continues to enact legislation supporting fundamental reform and restructuring, both inside and outside the financial sector. These directives are often accompanied by expansive and imaginative development programs — all of which are to be in place before the planned completion of municipal, regional and national elections in October 2002.

The tax system is being simplified, privatization is being accelerated and foreign investment is being stimulated. Notably, the GoP has determined to resolve many of the issue-oriented legacies of the preceding government and is taking a more aggressive stance in seeking and promoting FDI through ministerial travel and other high profile promotions.

Priority development sectors identified for Pakistan include, agri-food, IT and telecommunications, oil and gas, power and energy with selected opportunities in financial services, transportation, mining and environment. Opportunities for doing business with Pakistan are widespread: Canadian companies of all sizes continue to sign business for their

products and services in infrastructure, resource development related endeavours and beyond.

- Pakistan's financial sector is solid and vibrant. Banks are doing well.
- There are excellent investment opportunities in the IT and telecommunications sector. For instance, the Pakistan Telecommunications Company will soon be privatized, and is a bargain in itself with a record of successive years of profit returns.
- Minority shares of government-owned oil and gas fields are being offered. New policies with attractive incentives for frontier and offshore exploration are soon to be announced, and should be of interest to Canadian petroleum firms already active in other South Asian markets. At present, there are 26 offshore entities active in the petroleum sector, none of which is Canadian.
- The agricultural sector is expected to again see record export activity. Further investment is being encouraged in the agri-food business — notably, specialty fruits, seeds, chicks-livestock and horticulture. Still underdeveloped, the offshore fishery should offer high dividends.
- The mineral sector awaits further development.
- The textile sector continues to receive capital reinvestment from both local and foreign sources and is preparing to face a world without quotas.
- Electrical generation capacity must increase to keep pace with demand.
- All aspects of the transportation infrastructure are in need of upgrading and expansion, from seaports to airports, railways to roads.
- And in carrying out all the above developments as well as industrial expansion and accommodating a growing population, the environment needs to be considered, protected, and in some cases, remediated.

Sri Lanka

Sri Lanka is 70% dependent on trade and has benefited from the recent recovery of the world economy, with continuing growth in agriculture, construction, telecommunications, services and small business making a positive contribution to high overall economic growth. Although growth moderated in the second half of 2000 to approximately 5.5% from 7% in the first half, Sri Lanka's annual growth was higher than predicted.

Year 2000 in Review

In spite of improved growth performance, the government budget and the balance of payments were expected to show a considerable deterioration in 2000. Due to a shortfall in government revenue and expenditure overruns, arising largely from the unplanned sharp increase in defence expenditures, the budget deficit was expected to increase to about 8.7% of GDP in 2000. The overall reduction in revenue was estimated at Rs. 2,040 million[1], mainly reflected in lower income tax and GST collections. The increased demand for domestic resources by the government raised domestic interest rates by about 2.5 percentage points during 2000, pushing the prime to a July 2001 level just over 20%. This high interest rate scenario is likely to continue, crowding out private investment, while there has been a lull in private investment itself in a period of high uncertainty. The high deficit, in addition to exerting pressure on interest rates, has added pressure on foreign reserves due to the high import content of the additional security expenditure.

The revised balance of payments projections indicate a more favourable outlook for exports than expected at the beginning of the year.

1 There are about 59 Sri Lankan rupees to one Canadian dollar.

Economic Growth

In the first half of 2000, GDP grew by 7% over the corresponding period of the previous year, while gross national product (GNP) grew by 6.8%. Production levels increased in manufacturing (by 11.9%), construction (by 8.1%), services (by 7.1%), agriculture (by 2.9%), and mining and quarrying (by 6.8%). The services sector contributed the highest share to GDP growth at 54%.

International Trade Relations

The Indo-Lanka Free Trade Agreement signed by the governments of Sri Lanka and India in December 1998 came into effect in February 2000. The export of tea and garments commenced in April 2000, with exports to India increasing by 12% during the first half of 2000, mostly in the period March to June. Companies may now look at entering the Sri Lankan market as a first step toward entering the Indian market.

The second meeting of the Bangladesh, India, Myanmar, Sri Lanka, Thailand Economic Co-operation (BIMST–EC) Trade and Economic Ministers was held in April 2000. Ministers agreed to establish an expert group to prepare a concept paper on possible approaches toward a preferential trading arrangement leading to a free trade area in the region.

The Market in Nepal

Agriculture and Food Products

Nepal's economy is dominated by agriculture (80% of employment and 40% of GDP) and would not normally be a market for agricultural and food products without food aid. However, pulses and edible oils have a definite commercial market in Nepal. For Canadian suppliers, processed foods (biscuits, confectionaries, cereals, dairy products, peas and pulses, and edible oils such as canola) are the most promising areas.

Nepal produces both fruits and vegetables, but more than half of this production is wasted due to a lack of proper handling, storing and processing facilities. Food processing is a priority area where there is definite potential for joint ventures.

Electrical Generation

Nepal's installed electric generation is currently around 300 MW and consumption or demand is at the same level. Fully 80% of this is hydro-electric, a level that is approximately 1% of Nepal's potential of hydro-electricity generation, according to experts. Estimated potential is 83 000 MW, half of which is currently economically viable for development and export to the power-hungry Indian market.

Private investment in Nepalese hydro-power generation has been growing rapidly in both small and medium-sized projects since 1995, when Nepal offered investors certain tax and duty incentives and a commitment to purchase all power produced. Certainly the export of 'white gold' to Nepal's southern neighbour offers an attractive road to development.

Information and Communications Technology

The linking of the national telephone network to satellite networks in 1998 saw a major change in telephone links between Kathmandu and the rest of the world. However, only a third of Nepal's 4000 villages have telephone service. In theory, the telecoms sector has been liberalized, with the Nepal Telecommunications Authority as the regulator, and licences for various services are auctioned to both private and government-owned firms. In practice, the Nepal Telecommunications Corporation (NTC) holds a monopoly on fixed-line services and is also the sole licence holder for cellular phone services. The capacity for mobile phones is around 10 000 but, due to high fees, only 1000 subscribers in the Kathmandu Valley have signed up. The rural telecommunications sector holds interesting potential for Canadian suppliers: a World Bank project has been developed to acquire equipment for the Nepal Ministry of Information and Communication, and to expand telecommunications service into rural areas.

Transportation

Canadian assistance to Nepal has been focussed on the aviation sector and includes an MOU with the Royal Nepal Airline Corporation for the upgrading of its fleet. In addition to aid-related projects, the market for commercial leasing of aircraft, aircraft parts and services, though not substantial, will draw some attention from Canadian companies. In transportation-related infrastructure development, such as airport and road construction, projects funded by the ADB and other IFIs carry some potential.

Nepal, a land-locked country, has only 101 km of narrow gauge railway track near the Indian border and has no potential for expansion.

Other Opportunities

Aid-related Market Opportunities

There is potential in the Nepalese aid-related market for expertise in power development and related consulting engineering, water, sewage and irrigation, aviation, road construction, tourism development, communications equipment, agriculture, training services, tax and financial sector reform, and medical equipment. It is likely that in the short term, much of the funding in these areas will come from IFIs or aid programs. While the market is small, current development of the infrastructure can draw on the strengths of many Canadian firms. Canada has a long and positive relationship with Nepal and this will be of considerable benefit to Canadian firms in the market.

Agriculture and Food Products

India

Crying out for Foreign Investment, Ideas and Innovations

Why is this a priority?

How about a McChicken and fries, chased down later with one of Baskin & Robbins 31 flavours? Or Kentucky Fried Chicken? A Domino's pizza? They're all available in today's India. "Slow food" is out, fast food is "in", at least for the middle class in the major centres. Nowhere else is the "contrast" of "this land of contrasts" summed up as succinctly as in the country's approach to food. Food used to be a fairly simple thing in India: some had it, most didn't. Now, the 28% of the population living in the cities (up from 20% in 1971) has access to a range of convenience foods similar to the array available in Canada.

Nonetheless, agriculture remains a pillar of the Indian economy and accounts for approximately 30% of GDP. India produces 78 million tonnes of milk per year, making it the largest producer in the world, and is the world's second largest producer of rice, fourth grower of wheat, and is one of the largest fruit and vegetable producers in the world. The sector's beneficial impact is restricted, however, by post-harvest wastage and loss in the distribution and processing stages.

Given Canada's expertise in bulk grain handling, storage and transportation, and supply of value-added food products, as well as our food processing know-how, this sector offers vast opportunities for Canadian companies.

The Government of India (GoI), therefore, has given top priority to the development of this sector and has removed the last remaining quantitative restrictions (QRs) on the import of processed food items on April 1, 2001.

Which products and services?

The following products/services have excellent opportunities for Canadian suppliers:

- Bakery products: biscuits, cookies
- Breakfast cereals, breakfast food
- Dairy products: cheese, milk powder
- Confectionery: chocolates, sugar candies, etc.
- Fruit juices, sauces, etc.
- Frozen food products
- Canola oil
- Alcoholic beverages: wines, ice wine, beer, whisky, etc.
- Bulk grain handling, storage and transportation systems
- Setting up of cold chain for preserving horticultural crops
- Agricultural inputs: muriate of potash, sulphur, organic fertilizers
- Post-harvest technologies
- Agricultural biotechnologies
- Joint ventures for retail stores

What's new in the marketplace?

Since the removal of QRs on imports of consumer goods and the reduction in the rate of import duties, India has become a very lucrative market for value-added food products. All major foreign suppliers are concentrating on this market.

The current government has realized the importance of infrastructure development to avoid continuing losses due to wastage. Two major projects of bulk grain handling, storage and transportation; and creating cold chain for preserving horticultural crops are currently under consideration by the Indian government. Foreign investment up to 100% will be automatically approved for these projects. Indian

public- and private-sector companies are also interested in putting equity in these projects.

Business environment

At present, the business environment in India is very good. The government is stable and forward looking, QRs have been phased out, and import duties are being lowered. All major foreign players are exploring the market, and some have already set up joint ventures. Two Canadian companies, Seagram and McCain Foods, have set up wholly-owned subsidiaries in India.

Challenges

Bureaucratic delays in approvals, multiplicity of authorities, lengthy and complicated contract negotiations are some of the challenges that Canadian companies should keep in mind while looking at this market. An issue of access of Canadian bovine genetics into India is already with the Sanitary and Phytosanitary Committee of the World Trade Organization (WTO).

Currently, India's requirement for Import Permits is under review, and some confusion exists. Imports of genetically modified organisms (GMO) are generally not permitted, nor bovine semen from Canada, and labelling requirements are in flux. If exporters are uncertain about any of the above requirements, they should contact the High Commission in New Delhi (**delhi.commerce@dfait-maeci.gc.ca)** to determine the current requirements.

However, these challenges are being addressed and while a resolution for all may not be imminent, the future remains bright for the export of Canadian food products, services and technologies.

Hot leads

- Processed food: Hotel, restaurant, institutional, new middle class with North American experience, supermarkets/convenience stores, changing patterns.
- Bulk Grain Handling, Storage and Transportation System: Government has issued a National Policy on Handling, Storage and Transportation of Food Grains as guidelines to implement the above project. A global tender is likely to invite foreign companies to invest in creating bulk grain silos of 0.5-0.8 million tonnes each at 20 locations in wheat-growing areas of Punjab, Haryana and Uttar Pradesh. The project will be in the private sector, but government will guarantee 100% utilization for the first 10 years and 75% utilization in the next 10 years. The Government of Punjab is also seriously considering developing bulk grain storage facilities in the state, which is considered to be the "grain bowl" of India. These projects will provide an opportunity for the supply of related equipment, technology, and consulting services.
- Cold chain for preserving horticultural crops: The National Horticulture Board under the Ministry of Agriculture has been mandated to create cold chains in the country to preserve fruits, vegetables and flowers for further processing for value-addition, for both domestic and export markets. Canada has the equipment, technology and the ability to supply all necessary components.
- Supply of peas and pulses: India is a major importer of all varieties of peas and pulses, with annual imports in the region of 1 million tonnes. In 2000, the export of Canadian peas and pulses to India reached an all time high of $107 million (385 474 tonnes), making Canada the single largest supplier of peas and pulses, an increase of 63% from 1999's exports of $66 million (240 441 metric tonnes). Canada's market share was in the 20% range, but has the potential to reach the 50% level.

Canadian promotional plans

- *Focus India*: Agri-food newsletter: This newsletter, published every two months, for major Canadian agri-food companies and industry associations is designed to inform them about current developments in the sector and changes in import policy, customs tariffs, competition, and scheduled trade shows in India.
- Outgoing STEP pulse mission to India, consisting of Pulse Seminars in four major centres. Timing is expected to be early in 2002.

Market reports

- The following two market studies have been completed, and are posted on DFAIT's Info-Export Web site: **http://www.infoexport.gc.ca**
  - *Opportunities for Selected Canadian Value-Added Food Products,* January 2001
  - *Pulses*, June 2000

Links

- National Informatics Centre (look for Ministry of Agriculture or Department of Food Processing Industries): **http://www.nic.in**
- Agriculture Information Centre of FICCI: **http://www.agroindia.org**
- Agricultural and Processed Food Products Export Development Authority, Ministry of Commerce: **http://www.apeda.com**

Pakistan

Why is it a priority?

Post-harvest wastage in Pakistan in grains as well as in fruits and vegetables accounts, in many cases, for almost one third of the yield. Opportunities exist for transfer of technology, not only to improve yields, but also in processing, transportation and storage. Upgraded production and processing technology will enable Pakistan to explore export markets in the Middle East where there is a substantial requirement for fresh produce and numerous food items.

The use of conventional methods of cultivation, a shortage of fertilizers and a reduced or uneven supply of water quite often result in low yields of crops such as wheat, pulses and lentils, cotton, oilseeds etc., resulting in huge imports.

The export market for Canadian pulses and lentils in Pakistan is booming. Purchases from Canadian exporters in 2000 were approximately US$30 million. Thanks to the regular introduction of new varieties and a systematic marketing campaign by Pulse Canada in co-operation with the High Commission in Islamabad, Canada is now viewed as the pulse supplier of choice in Pakistan.

Opportunities also exist in the processing industry, and Canadian technology and brand names can do good business.

Which products and services?

Commodity imports:

- Lentils and pulses
- Wheat (depending on local production)
- Cooking oil (canola)
- Confectionery items

Equipment for the processing industry:

- Fruit juices
- Fresh fruits and vegetable production and packaging
- Processing of fresh and frozen fruits and vegetables
- Production of dairy products
- Processing seafood
- Processing of value-added seafood
- Processing of fish
- Beef and dairy cattle breeding and export
- Slaughter of animals and meat distribution
- Water-saving irrigation technology and equipment

What's new in the marketplace?

The well publicized drought facing Afghanistan is also having a major impact on Pakistan, where a history of water surplus (and consequent systemic inefficiencies and lack of planning for a shortage) and below-average rain and snow-fall levels in the last several years have combined to create an unprecedented and ongoing water crisis. These two factors have reduced both hydro-electric generating capacity (40 % of the nation's electricity is generated by hydro

power) and agricultural output. The short term outlook does not promise any increase over recent rainfall levels and the internal situation is expected to continue deteriorating on three fronts: (a) electrical generating capacity will be further reduced, (b) agricultural yields will again be disappointing, and (c) the already contentious issue of the internal distribution/division of water will become more divisive.

Business environment

Agriculture products are, in general, either exempt from customs duties (agri-food products *per se*) or the tariffs have been decreased (production inputs) to encourage technology transfer, the import of machinery, etc. Opportunities exist in setting up new joint ventures with local businesses, or in engaging in partnerships with existing businesses eager to expand and improve their production and products.

Recently, a US$23 million Agriculture Linkages Program (ALP) was implemented. Under this joint USDA[1]-PARC[2] program, an Agricultural Research Endowment Fund has been created that will enable scientists from the PARC to establish research linkages with the U.S. and other international agricultural scientists.

Challenges

Australia is a significant exporter of lentils and pulses to Pakistan while Burma at times captures market share. However, Pakistani importers like Canadian lentils and pulses. As a result, Canadian exports have gradually risen over the past several years.

Although long-established multinationals make market penetration difficult for newcomers, a carefully selected local partner can make things easier. To further increase the export of lentils and pulses, the shipment time from Canada needs to be reduced. In addition, some importers have reported quality variations and would like to see grading done in Canada prior to shipment.

Canola and rapeseed are now treated as the same product by the GoP for duty purposes. If the consignment is marked as canola seed imported for oil extraction, the importer no longer pays 15% duty on it. This is now identical to rapeseed imported for the same purpose, which carries no duty. Our High Commission lobbied the GoP to treat canola and rapeseed as one and the same, and thus a resolution was obtained in October 2001.

Canadian trade promotion efforts

- The next **Gulfood** will be held in 2003.

Market reports

- A market study on the import of agri-food products by Pakistan has been completed, and is posted on DFAIT's InfoExport Web site: **http://www.infoexport.gc.ca**
  - *Market Study of Imports of Agri-Food Products*, April 2001

Other links

- The Federation of Pakistan Chambers of Commerce and Industries: **http://www.fpcci.com**
- Karachi Chamber of Commerce and Industry: **http://www.karachichamber.com**
- Lahore Chamber of Commerce and Industry: **http://www.lcci.org.pk**

1 United States Department of Agriculture

2 Pakistan Agricultural Research Council

Sri Lanka

Why is this a priority?

Sri Lanka's staple food is rice, the local production of which has not kept up with the increasing demand. Consequently, dependence on wheat and other pulse crops, all of which are imported, has increased. The export of agri-food products from Canada to Sri Lanka has increased dramatically over the past five years, and the potential for future grow remains strong.

Which products and services?

Wheat, pulse crops, peas, lentils, potatoes, mustard and coriander are products with the best export potential for Canadian agri-business. Sri Lanka is, in fact, the largest importer of lentils in the world.

What's new in the marketplace?

Just recently, canola oil was introduced to the Sri Lankan market. The importation of wheat flour was liberalized in February 2000. The import duty on wheat flour is now fixed at 10%.

Business environment

Although the market is dominated by private-sector concerns, the Co-operative Wholesale Establishment (CWE) continues to import lower-priced commodities for distribution by the government. The demand for products in this sector is still very much price-driven, although as Sri Lankan urban consumers become more sophisticated in their tastes, quality is becoming an ever-increasing factor in purchase decisions.

Challenges

A recent development in the agri-food sector in Sri Lanka is the move to introduce regulations that will require certification of genetically modified (GM) foods and seeds that are imported into Sri Lanka. Alongside this is another administrative requirement imposed by the central bank that letters of credit for the import of legumes stipulate the provision of a phytosanitary certificate for every shipment made with a clause confirming that the product is fit for human consumption. These two requirements pose an interesting challenge to the Canadian exporter and will definitely have an impact on future trading. Although Canadian trade and agricultural officials are currently striving to mitigate the impact of these requirements, in the short term, the relevant exporters must be prepared to make provisions to comply with these regulations.

Market reports

- A market study of the agri-food sector in Sri Lanka is being undertaken, and will be posted on DFAIT's InfoExport Web site: **http://www.infoexport.gc.ca** by March 2002.

Electrical Generation, Transmission and Distribution

Bangladesh

Why is this a priority?

Although the installed capacity in Bangladesh is around 3200 MW, peak production is around 2200 MW, with peak hour demand at 3000 MW and rising. Breakdown is common, and investment to bridge the gap and meet growing demand is badly needed. The Private Sector Power Generation Policy was announced in 1996, under which the power companies are exempt from income tax for 15 years. Opportunities exist in developing new plants (large, small or mini), constructing transmission and distribution systems, rehabilitating or upgrading existing plants, and supplying a variety of support services, including engineering and consulting, as well as equipment of various kinds. Some opportunities are available on a build-operate-transfer (BOT) or build-operate-own (BOO) basis.

Challenges

Companies wishing to take advantage of the opportunities presented in this sector must pay special attention to the way they package and present their proposals to government. The challenge lies in having to work with state agencies that have little or no experience in dealing with BOO/BOT projects.

India

Why is this a priority?

India is the second-largest market for electric power in the world. Installed capacity needs to double in the next ten years to keep pace with demand.

Development of this sector is critical not only to the success of India's economic liberalization efforts, but to India's core development efforts. India's power sector promises to be one of the fastest growing in the world (9% to 10% annually), and during the current five-year plan (1997-2002) 40 000 MW of power generation capacity is to be added to the current installed capacity of about 100 000 MW. Demand is expected to grow to 212 000 MW by 2012. The GoI is encouraging private participation in all aspects of power generation, transmission and distribution activities.

The current ratio of hydro power to thermal is around 25:75. The Indian government is eager to increase the hydro level close to 40%, and this would translate into even greater opportunities for Canadian companies. Canada is committed to remaining India's preferred partner for hydro-electric projects.

Which products and services?

India offers huge commercial opportunities for Canadian companies in the areas of power generation (hydro, thermal, co-generation), transmission and distribution, modernization and renovation of old power plants, small and mini hydro projects, captive power generation plants and alternate energy (solar, wind and biomass).

On the equipment and supply side, the Indian industry is well developed and organized and can meet most requirements of the industry from indigenous sources. However, there is scope for Canadian companies to explore opportunities for supplying products and equipment for transmission lines and projects, including High Voltage Direct Current (HVDC) transmission projects. Simulation equipment, Supervisory Control and Data Acquisition (SCADA) systems, and supplies for refurbishing old projects are also in demand.

What's new in the marketplace?

The Indian government has taken a number of initiatives to attract private investment, including:

- foreign investors are allowed 100% equity in power generation projects
- concessional rate of custom duties
- new power projects are eligible for a five-year tax break
- debt-equity ratio up to 4:1
- a 16% return on equity assured for generating companies
- special depreciation rates for plant and machinery

Other initiatives include:

- automatic approval for foreign direct investment in power projects
- relaxation of 40% cap for debt exposure by IFIs
- raising the CEA clearance requirements to Rs. 400 crores ($142 million approximately) and above for generation projects

Business environment

Unlike the initial phase of reforms, the government's focus will now be in more challenging areas, such as tariff rationalization, reduction of transmission and distribution (T&D) losses, restructuring the state electricity boards (SEBs) and full metering of consumers. Fortunately, it has now been realized that there can be no progress on investing in new generating capacity, or in attracting private participation, including foreign investment, unless and until the problems of the distribution system are resolved.

A second priority is "unbundling" the SEBs into separate generation, transmission, and distribution utilities; rationalizing tariffs; setting up independent regulators at the central and state levels; and getting the SEBs to clear their outstanding debts with central utilities.

Canadian companies need to be committed to this market and have patience as projects require a longer gestation period than in North America. Depending on what is being exported (i.e. product or technology), a local agent or joint-venture partner would be required. In the case of power generation, transmission and distribution projects, equity participation and foreign financing would be required for the project.

Challenges

The Indian power sector remains fraught with difficulties, delays and changes, and Canadian companies need a clear, transparent and stable regulatory framework. India will continue to need massive investment in power, but demand projections may be scaled down as lower system losses reduce demand growth.

Hot leads

Leads on commercial opportunities include tender inquiries, World Bank and ADB financed opportunities and market intelligence. These leads are sent regularly to the International Business Opportunities Centre (IBOC) Web site (**http://www.iboc.gc.ca**), the National Electricity Roundtable and Industry Canada (**http://www.ic.gc.ca**) for distribution to Canadian industry.

Canadian promotional plans

- Outcalls/outreach in India by the Commercial Officer to gather market intelligence and commercial leads
- Priority sector in Canada Trade Mission, 2002

Other trade events

Power Tech India 2001 (Mumbai, November 21–24)
Organizer: India Tech Foundation
A–8 Rizvi Nagar, Santacruz (West)
Mumbai 400054
Tel.: (011-91) 22-610 3824, 3921
Fax: (011-91) 22-616 2459
E-mail: **indiatec@bom7.vsnl.net.in**

Energy Summit 2002
(Chennai, November/December)
Organizer: Confederation of Indian Industry
35/1 Abhiramapuram 3rd Street
Alwarpet, Chennai 600018

Tel.: (011-91) 44-466 0571
Fax: (011-91) 44-466 0312
E-mail: **krish@sr.cii.ernet.in**

Power Gen 2003 (New Delhi, January 2003)
Organizer: Interads Limited
A-113 Shivalik, New Delhi
Tel.: (011-91) 11-6688928/6683018
Fax: (011-91) 11-622 8928
E-mail: **power@interadsindia.com**

Market reports

- Market studies on the electrical power sector in India have been completed, and are posted on DFAIT's InfoExport Web site: **http://www. infoexport.gc.ca**
  - Profile: *India Power Sector and Canadian Interests*, August 2001
  - *Electrical Power Market*, April 2000

Links

- Power Line: **http://www.indiapowerline.com**
- Ministry of Power: **http://www.nic.in/powermin**
- Central Board of Irrigation and Power: **http://www.cbip.org/**
- Yahoo!: Regional: Countries: India: **http://dir.yahoo.com/Regional/Countries/India/**
- Asian Development Bank: **http://www.adb.org**
- International Financial Institutions net: **http://www.dfait-maeci.gc.ca/ifinet**
- Industry Canada, Strategis: **http://strategis.ic.gc.ca**
- InfoExport: **http://www.infoexport.gc.ca**

Pakistan

Why is it a priority?

Canadian companies have been active in Pakistan's electrical generation sector for many years. Opportunities exist in all areas of Canadian expertise, including renewable energy.

Pakistan's estimated requirement for electric power is increasing at approximately 6% per annum. Notwithstanding the suppressed demand due to low-level growth, it is estimated that power shortages in the system will manifest themselves by 2003[1]. Under the prodding of the IMF and with assistance from the World Bank/Asian Development Bank, the Water and Power Development Authority (WAPDA) has embarked upon a major restructuring exercise to divide WAPDA into eight distribution corporations, three generation companies and one transmission corporation and then privatize the network.

Under the independent power plants (IPPs) policy, Canadian firms invested in the 117 MW Raiwind diesel-fired thermal power plant, which came on line in July 1999.

Which products and services?

- Hydro-electric generation systems (turbines, control software, etc.)
- Thermal power generation (gas turbines, gas control equipment, SCADA systems)
- High-voltage transmission hardware (cable, conductors, towers, grid stations, etc.)
- Distribution systems hardware, and software (SCADA systems to integrate the controls to check power pilferage, billing systems, and to detect and identify line faults, etc.)
- Conversion of state-owned utilities into eight or more independent, privately-held corporations for generation, transmission and distribution

1 The current drought could impact output and utility revenues as early as this year.

What's new in the marketplace?

The 1994 IPP incentive policy brought in investment of over $3 billion in 1995-1996. Since then, several unresolved disputes over power tariffs and other issues with IPPs dampened investor confidence in the power sector. WAPDA was able to resolve its major disputes with all IPPs in December 2000, and is now working to implement the structural reforms. Canada's traditional involvement has been in providing hardware and software technology support for hydro-electric power generation,

high-voltage transmission lines and technology for distribution systems. Recently, ADB has provided a $300 million energy restructuring loan, which is intended to complement a similar sized loan from the World Bank. Part of the restructuring loan will be used for the maintenance and upgrading of existing systems.

Business environment

Power generation, transmission and distribution are the responsibility of the two vertically integrated state-owned utilities, WAPDA, for all of Pakistan except for the city of Karachi and the Karachi Electric Supply Corporation (KESC). Several private-sector IPPs generate electricity using oil and gas fired thermal plants. Two publicly owned nuclear power plants generate a total of 437 MW of power. Peak demand for electric power in Pakistan grew from 184 MW in 1960 to 11 395 MW in May 2000, representing an average annual growth rate of around 12%. The existing rated capacity of the power generation units in Pakistan is in excess of 17 000 MW. Some important power statistics are as follows:

- WAPDA system: total 9732 MW power (4825 MW hydel; 4907 MW thermal power)
- Additional power from IPPs: 5732 MW (all thermal)
- KESC system: total 1735 MW (all thermal)
- Additional power from IPPs: 262 MW (all thermal)
- Nuclear power plants: 437 MW (Chashma NPP 300 MW; Karachi NPP 137 MW)

KESC privatization will be largely guided by Price Waterhouse Coopers, hired through an ADB-funded $1 million technical assistance (TA) loan.

The GoP has decided to accelerate its development of hydro-electric resources, and foreign firms are free to compete in the local market. IFI-funded projects are advertised in the local and international newspapers. The GoP has taken several (reluctant) steps toward deregulating and unbundling the state-owned utilities to corporatize (and later privatize) these entities. The steps included:

- In 1997, the GoP passed a National Electric Power Regulatory Authority (NEPRA) Act establishing a power regulatory authority.
- Subsequently, the GoP also set up a holding company, Pakistan Electric Power Company (PEPCO), to hold the assets of WAPDA pending corporatization and privatization.
- WAPDA's proposed scheduled for unbundling the utility has been initiated by setting up eight separate electric supply companies (ESCOs), which are being managed by separate boards of directors, accounting systems, etc. One thermal power generation corporation has already been established (Kot Addu Power Company — KAPCO, which is jointly managed by WAPDA and National Power U.K. — 26% stakeholder). This will be followed by two more thermal power corporations — to be privatized through the sale of shares to strategic investors. The last phase will include setting up a power transmission and dispatch company.
- PEPCO is expected to hire the services of foreign/local consultants to carry out an evaluation of assets. Canadian firms can work through joint ventures, local agents or independently.

Challenges

- Promulgation of the privatization law (it is ready but not yet promulgated)
- New policy to exploit potential for hydro-electric power
- Enhance capacity of NEPRA

- Rationalization of power tariffs and social subsidies
- Indigenous coal base power plants — infrastructure/incentives
- Managerial autonomy, accountability and profit incentives for the corporatization and privatization of WAPDA through PEPCO

Hot leads

- Energy restructuring loan US$300 million World Bank/ADB (still under negotiation). Fifty per cent expected to be converted to developing and maintenance of the existing infrastructure: power generation, power transmission, distribution hardware.
- Conversion of (imported) oil-fired thermal power plants to (domestic) natural gas.
- Privatization of distribution companies (once the draft privatization law is approved).
- SCADA systems for controlling line losses.
- Malakand hydro-electric Power Project — 75 MW.

Canadian trade promotion efforts

- Posting of periodic newsletters on the InfoExport Web site on the evolution and implementation of privatization policy and law.
- The Canadian High Commission continues to work closely with individual companies and their local representatives on realizing opportunities.

Market reports

- A market study on power in Pakistan has been completed, and is posted on DFAIT's InfoExport Web site: **http://www.infoexport.gc.ca**
  - *Power Sector*, November 2000

Links

- State Bank of Pakistan (contains information about foreign exchange regulations affecting repatriation of profits): **http://www.sbp.org.pk**
- Board of Investment (contains information on investment regulations and important contacts that can assist foreign investors): **http://www.pakboi. gov.pk**
- Privatisation Commission: **http://www. privatisation. gov.pk**
- Industry Canada: English: **http://napoleon. ic.gc.ca/ttcelectrical** French: **http://napoleon. ic.gc.ca/eccelectrique**
- Asian Development Bank (contains details on upcoming projects in Pakistan's energy sector): **http://www.adb.org/Documents/Profiles**

Sri Lanka

Why is this a priority?

Sri Lanka plans to almost double its generating capacity in the first decade of the new millenium, adding 1500 MW of generating capacity by 2010, an investment of approximately US$2 billion. The country has traditionally relied upon hydro-power to generate electricity, but the island's hydro potential is now nearly exhausted, and the existing plants are highly vulnerable to poor rainfall. As a result, the new capacity must come from thermal and "alternative" sources.

The total installed capacity increased by 100 MW, to 1750 MW by the end of June 2000 through the commissioning of a second diesel power plant (40 MW) in October 1999 and a barge-mounted power plant (60 MW) on a BOT basis in June 2000.

Despite a substantial drop in hydro generation, total generation expanded by 13% to 3349 GWH during the first six months of 2000 in comparison to a 7% increase during the same period in 1999. Increased demand was entirely met by thermal power sources, with hydro power generation dropping to a record low of 44% of all generation, from 69% the previous year. The Ceylon Electricity Board (CEB) had to use all available thermal power sources to their maximum to meet demand.

Which products and services?

Both thermal and mini-hydro power generation plants, as well as related power transmission and distribution networks present opportunities. Given the island's lack of fossil fuel resources, reliable, proven "alternative" sources of generation will be seen positively.

There are opportunities for exporters who can increase the efficiency of the island's existing power transmission grid. Although the current rate of loss, around 17%, is one of the lowest in the region, lowering the island's tranmission loss rate to Canadian levels would add over 150 MW to the supply. This would not only save some $200 million in new investment, but reduce the need for imported fuels and ease the environmental impact of grid expansion.

What's new in the marketplace?

As Sri Lankans become more aware of energy conservation as an answer to rising energy demands, opportunities for the sale of conservation technology are materializing.

Business environment

This sector is open to foreign participation, and the private sector is expected to play a key role in its future development. The Government of Sri Lanka (GoSL) plans to employ private-sector financing, on a BOO/BOT basis, to undertake future power generation projects. Soft loans and other types of public financing, will therefore not be used in this sector.

Challenges

Companies wishing to take advantage of the opportunities presented in this sector must pay special attention to the way they package and present their proposals to government. The challenge lies in having to work with state agencies that have little or no experience in dealing with BOO/BOT projects.

Links

- Sri Lanka — the Gateway to South Asia: **http://www.boisrilanka.org/boihome/invest.htm**

Environment

India

A Clean Wind of Change

Why is this a priority?

Commuter chaos reigns as 90% of a 12 000 strong bus fleet sits idle. No taxis are in sight. Hours long waits for the few buses remaining on the roads. Despite a three-year warning, that was the result of a Supreme Court of India edict requiring buses — and taxis and autorickshaws — to convert to natural gas or get off the road by April 1, 2001. And such is the power of environmental concern that the Supreme Court order stands, although bus and taxi owners were given a six-month extension until October 1, 2001.

There is increasing awareness in India regarding environmental issues, not just among the judiciary, and many large projects face opposition from both environmental activists and the general population. Legislation has been enacted to restrain air, water, and land pollution and is being enforced by the administration and the judiciary. Most major projects, whether expansions, upgrades, or new developments, require an environmental review and approval from the central and state governments. The central government's Ministry of Environment and Forests through its Impact Assessment Agency and state-level pollution control boards oversee pollution issues.

Tremendous opportunities, estimated to be around US$2 billion, exist for environmental goods and services for the Indian market, specifically in the field of wastewater treatment, solid waste management and hazardous waste management.

Which products and services?

The following products, services or specialization, currently offer the best opportunity for Canadian firms wishing to export to this marketplace:

- water/wastewater treatment
- sea water desalination
- durable membrane-based reverse osmosis
- recovery and reuse of mercury from mercury cells for various industries
- flue gas desulphurization of thermal power stations
- clarifloculators and fibre recovery in pulp mills
- use of fly ash from thermal power stations
- waste management involving hazardous waste incineration and mechanical sludge
- dewatering special instrumentation for continuous operation using, *inter alia*, beta-absorption, UV fluorescence

What's new in the marketplace?

With the increased awareness of environmental laws, the implementation of new pollution legislation, and the stricter implementation of existing environmental laws, new and expanding opportunities are open for Canadian firms. The continuing and growing awareness of the importance of environmental protection ensure this will be one of the fastest growing sectors in India for the foreseeable future. Canadian firms with the following technologies will find significant opportunities in this marketplace:

- Hazardous waste management (industrial and medical)
- Solid waste management
- Clean production technologies
- Clean fuel technologies
- Water/wastewater management

In order to more effectively meet Canada's climate change commitments under the Kyoto Protocol, DFAIT and NRCan have agreed to deploy three

climate change trade promotion officers, for an initial period from January 1, 2002 through March 31, 2006, worldwide. One of these officers will be located in New Delhi.

Business environment

- The government has recently enacted new environmental laws aimed at controlling air pollution, specifically in New Delhi, but to be expanded in future to the entire country. Similarly, water/wastewater pollution is of major concern throughout the country to both the federal government and state governments. All levels of government are receptive to proposals, in the aforementioned sectors, to alleviate this situation.
- For more and more projects in this sector funding is being made available through IFIs.
- The government is trying to reduce its role by experimenting with the private sector to manage selected municipal areas, encouraging the private sector to set solid and hazardous waste management facilities on a BOT basis.

Challenges

- Increased competition is coming from the United States, France and Australia.
- The tendering process as utilized in India is long and cumbersome, a source of frustration to many companies.
- A business relationship must be developed if one is to be successful in this marketplace. This is a process that requires an investment of time (and money) over a period usually exceeding eight months.
- Bureaucratic delays can be expected when dealing with government.

Hot leads

- Information on potential opportunities for Canadian firms are forwarded to the Canadian Environmental Industries Association for appropriate distribution.

Canadian promotional plans

- *Canadian Environment News*: quarterly newsletter for the Indian audience prepared by the Delhi post.

Upcoming trade events

- Environmental technologies seminars in four cities, various times during 2001/02
- Canadian Pavilion at **Water Asia**, New Delhi, January 30 to February 1, 2002
- Officer from India, and Mission to attend **Globe 2002**, Vancouver, March 13–15, 2002

Market reports

- Market studies on the hazardous waste market, the water and wastewater treatment market and a profile of India's environmental sector have been completed, and are posted on DFAIT's InfoExport Web site: **http://www.infoexport.gc.ca**
  - *Export Initiatives: Compendium of Global Activities and Reports*, July 2001
  - *The Waste Management Market in India*, July 2001
  - *Environmental Sector Profile*, May 2000

Links

- Ministry of Environment and Forests: **http://envfor.nic.in**
- Central Pollution Control Board: **http://envfor.nic.in/cpcb/cpcb.htm**
- Associated Chambers of Commerce and Industry (ASSOCHAM): **http://assocham.org**
- Confederation of Indian Industry (CII): **http://ciionline.org**
- Federation of Indian Chambers of Commerce and Industry (FICCI): **http://ficci.com**
- Indian Environmental Association: **http://iea.org.in**

- Tata Energy Research Institute: **http://www. teriin.org**

Pakistan

Why is it a priority?

While the environmental sector may not top the list of priorities in Pakistan, there is a recognized need for rehabilitation of existing plants and infrastructure as well as an awareness of the importance of including environmental considerations in new projects. IFIs with a long-term vision, such as the World Bank and ADB, are now funding projects in this sector. Canada enjoys a good reputation in this market in addressing environmental concerns.

Which products and services?

- Municipal solid waste management
- Proper municipal drainage projects
- Water treatment projects
- Hospital waste management projects
- Irrigation water management projects
- Salinity, water logging and land reclamation projects
- Vehicular emissions
- Industrial waste management projects
- Chemical effluent treatment
- CNG stations

Business environment

The Pakistan Environmental Protection Ordinance (1983) provides the legislative framework for the establishment of the Pakistan Environmental Protection Council (PEPC) and provincial environmental protection agencies. On December 6, 1997, the GoP, following a process of consultation with stakeholders, revised the Pakistan Environmental Protection Ordinance into the Pakistan Environmental Protection Act, thus making it a more comprehensive statute. The Act provides for the protection, conservation, rehabilitation and improvement of the environment, prevention and control of pollution and promotion of sustainable development.

PEPC is the federal body responsible for the formulation of national environmental policies and programs within the framework of the 1992 National Conservation Strategy. PEPC has established National Environmental Quality Standards (NEQS) and made advances in dealing with critical national environmental issues such as deforestation, industrial and vehicular pollution and hazardous/hospital wastes.

Environmental concerns are evident from the Federation of Pakistan Chambers of Commerce and Industry's (FPCCI) decision to publish a monthly newsletter entitled *Environment* and to establish an environment committee. Very few local companies are active in this sector, but many are eager to find North American collaboration in specific fields, to complement their activities or product lines with environmental capabilities.

Challenges

While Pakistan has laws to control the environmental damage caused by industries, vehicular traffic etc., there is public-sector apathy toward the implementation of international standards and a lack of knowledge of the long-term effects of environmental neglect. Private-sector enterprises reflect this attitude and are reluctant to invest in technologies to clean waste products regularly dumped by all industrial sectors, especially textile and leather, into sewers, canals, rivers, the sea and any open space available. However, industry may be interested in investing in technologies with a profit potential.

Canadian trade promotion efforts

The Canadian Trade Office in Karachi maintains regular contact with industry associations and major local consultants in environmental engineering to identify and monitor specific opportuni-

ties in this sector, of interest to Canadian firms and/or which are open to international bidding. Canadian environmental engineering firms and consulting firms interested in representation in this market and able to undertake project work or provide consulting or other services should send their profiles and specific fields of expertise/interest to the Karachi Trade Office (**cancom@fascom.com**).

Market report

- A market study on the environmental sector in Pakistan has been completed, and is posted on DFAIT's InfoExport Web site: **http://www.infoexport.gc.ca**
    - *Environmental Sector Profile*, May 2000

Links

- Environmental Technologies Program for Industries, Federation of Pakistan Chambers of Commerce and Industries, Karachi: **http://www. etpi.org**
- Ministry of Environment and Local Bodies, Islamabad: **http://www.environment.gov.pk**
- Lahore Chamber of Commerce and Industries: **http://www.lcci.org.pk**

Sri Lanka

Why is this a priority?

Spectacular beaches and imposing rainforests are among Sri Lanka's most valuable assets — and their protection from environmental degradation is only one of the motivators behind the nation's interest in preventing and remediating environmental pollution. Sri Lanka's recent commercial and industrial development has resulted in a growing range of environmental challenges and a greater understanding of the environment's importance to the country's overall development. Although Sri Lanka faces tremendous environmental challenges, solutions to many of them have already been perfected by Canadian companies.

Which products and services?

Solid waste disposal, water pollution, and air pollution are the major environmental problems facing Sri Lanka today, especially in the larger urban areas. Opportunities exist for Canadian exporters offering services or technologies in these areas. Municipalities in and around Colombo currently generate about 1000 MT of solid waste per day. Authorities are looking for both technological and funding solutions to this problem. Opportunities also exist for consultancy services in this regard.

Sri Lanka is heavily dependent upon "sand and surf" tourism, built upon the fauna, flora and marine life of the island's increasingly polluted coastal belt. As a result, opportunities exist for Canadian companies that can offer technologies and services to arrest and reverse the deterioration of the island's coastal and forest ecosystems. In particular, consultancy services dealing with marine pollution prevention and management; forest management; coastal conservation; air pollution; industrial waste management; as well as coral reef and marine resources management are in demand. Opportunities also exist for consultants who can advise government on the establishment of appropriate conservation and pollution-prevention regulatory frameworks.

Business environment

The GoSL has very little funding available to devote to environmental issues and will be relying, at least in the near term, on IFIs such as the World Bank and ADB for project funding. The ADB, in particular, has a number of projects in the pipeline intended to kick-start activity in this sector.

Challenges

Given the rudimentary level of Sri Lanka's current environmental regulatory regime, ascertaining exactly where the appropriate decision-making centres are situated can be a major challenge in this sector. Central government operating agencies do

not always agree with provincial environmental authorities on how to approach problems. As a result, exporters wishing to take advantage of the opportunities presented in this sector must be prepared to deal with the challenge of working with more than one arm of government.

Another challenge lies in the financing of projects. The need for Sri Lanka's various urban centres to find solutions — and to find them quickly — to the problem of solid waste disposal is self-evident to the island's municipal authorities. However, as mentioned, funding is a major problem. Nor, is it realistic to expect IFIs to fund all such projects. As a result, the ingenuity employed in financing a project can be an important factor in awarding contracts.

Hot leads

Sri Lanka's Western Provincial Council (WPC) has recently called for consultants to assist them in making plans to deal with the solid waste management problem. The Western Province is Sri Lanka's most populous, and greatest waste-producing, region. It is also home the great majority of the island's "sand and surf" tourist resorts, making the need for a solution all the more pressing for the country's economy.

The ADB is also looking for companies to bid on a coastal management project it has under consideration.

Canadian promotional plans

The Trade Section of the Canadian High Commission is actively seeking companies that are willing to bring suitable environmental technologies, complete with feasible financial packages, into Sri Lanka. The Trade Section will then assist such companies in offering their packages to the Sri Lankan government, and provide follow-up advice as the proposal works its way toward a decision.

Links

- World Bank: **http://www.worldbank.org**
- Asian Development Bank: **http://www.adb.org**

Financial Services

Pakistan

Why is it a priority?

A total of 45 financial institutions are currently operating in Pakistan, 18 of which are foreign entities, including European, Middle Eastern, Japanese, Bangladeshi and Sri Lankan banks.

The expansion, deregulation and (imminent) privatization of financial services in the deregulated environment presents several opportunities for Canadian financial institutions.

Which products and services?

- Banking services
- Leasing
- Mutual funds
- Brokerage services
- Insurance
- Financial consultancies
- Pre-shipment export finance guarantee services
- Institutional services through development finance institutions (DFIs)

Business environment

The GoP, at the urging of donor agencies, has embarked on a plan to introduce reforms in the fiscal sector and is now preparing a comprehensive report, which will be used to develop an implementation program of fiscal reforms. Some elements of these reforms include:

- improving the efficiency of the banking sector through privatization;
- improving the regulatory environment; and
- reforming the laws to improve off-site monitoring and regulation of the State Bank of Pakistan.

In addition, a consortium has been established among domestic financial institutions for funding small and medium-sized enterprises (SMEs).

Privatization of financial institutions is being driven by Pakistan's membership in the WTO. By focussing on privatization of public-sector banks, the GoP hopes it will be able to open up the banking sector in Pakistan through the transfer of the strategic management of inefficient domestic banks to foreign bankers. While privatization of assets will enrich the banking system with foreign experience, the introduction of regulatory changes will allow the GoP to focus on its primary role, i.e., devising policies and regulating and monitoring financial institutions.

The GoP has drafted the laws necessary to initiate the reform process. These laws, when they take effect, will introduce the structural reforms required to introduce a "governance and credit culture", including changes in the role of the central bank, a strengthening of the foreclosure law, and the establishment of the Corporate and Industrial Restructuring Corporation (CIRC). There are increasing opportunities for foreign banks and financial institutions to venture into the capital markets of Pakistan, either on their own or with local partners.

As a result of corporate adjustment in the region, two U.S. bank branches — American Express and Chase Manhattan — have been sold to the GoP-owned Union Bank, while the Standard Charter Bank has emerged as the biggest foreign bank operation in the region after acquiring the assets of ANZ Grindlays Bank. Canadian financial institutions have working relationships with Habib Bank Limited and the Muslim Commercial Bank (both GoP-owned), both of which have indicated an interest in opening branches in Canada.

Hot Leads

Current opportunities include:

- The privatization of Habib Bank Limited and United Bank Limited as well as the sale of the GoP's remaining shares in the Muslim Commercial Bank and Allied Bank Limited offer opportunities for a merger/joint venture and/or portfolio investment.
- Mergers and acquisitions of smaller financial institutions
- Consumer banking
- Technology financing
- Internet banking

Canadian trade promotion efforts

- Posting of periodic newsletters on the Info-Export (**http://www.infoexport.gc.ca**) and Canadian High Commission Islamabad Web sites on the privatization policy and the privatization law.
- The Canadian High Commission continues to work closely with individual companies and their local representatives on realizing opportunities.

Links

- Ministry of Finance and Economic Affairs: **http://www.finance.gov.pk**
- Privatisation Commission: **http://www.privatisation. gov.pk**
- Securities and Exchange Commission of Pakistan: **http://www.secp.gov.pk**
- State Bank of Pakistan: **http://www.sbp.org.pk**
- Directory of banks and non-bank financial institutions (NBFIs): **http://www.sbp.org.pk/downloads/Banksaddresses.xls**

Housing and Building Products

India

Building Confidence

Why is this a priority?

More than a million homes damaged or destroyed. Seventy-three percent of over 1300 primary schools destroyed. Millions left homeless. These are just a few of the impacts of the January 2001 earthquake, centred in Gujarat, India. The tremor, felt as far away as Nepal, affected 7904 cities, towns and villages, caused 20 000 deaths and uncounted property damage in Gujarat. Both the World Bank and the ADB have announced programs to assist with the rebuilding.

Natural disasters aside, India faces a shortage of residential housing, commercial and office space, and manufacturing facilities and India's housing, construction and building products market is another sector fundamentally changed by the opening of the Indian economy to world competition. Starting with almost no international involvement in the early 1990's, a significant number of international companies are now active in India in the areas of housing technologies, construction equipment, building products and technical services. Significant government support and reforms, such as increased tax write-offs, and the repeal of the *Urban Land Act* have released land for development and encouraged private-sector development. In addition, ambitious project plans have been announced for mass housing. The new policies target the building of two million housing units per year, 1.2 million in rural areas and the balance in urban areas. This increased emphasis on reforms in India's housing sector will lead to a tremendous increase in demand for building products, much of which will have to be imported.

In short, there is a huge demand for construction of all types and the market is open to international suppliers.

The Canada Mortgage and Housing Corporation (CMHC) is taking an active role in India's housing sector. On April 25, 2000 CMHC signed an agreement with India's Building Materials and Technology Promotion Council (BMTPC) and the Housing and Urban Development Corporation (HUDCO). The purpose of the agreement is to forge collaboration in housing-related matters by way of consultations, information exchange and promotion of joint efforts. This first initiative between Indian and Canadian agencies in the field of housing and urban development has been followed by another agreement related to housing finance between CMHC and India's National Housing Bank (NHB).

Which products and services?

- **Housing technologies:** low-cost and mass housing; technologies for speedier, earthquake resistant construction, especially for high rise structures
- **Building products:** doors and windows; security equipment; bathroom and spa fittings; kitchen cabinets; curtain walling, lumber, panelling, flooring, plywood, roofing materials, siding
- **Technical services:** architectural and project management services; geo-technical services, town planning and design services

What's new in the marketplace?

- India needs US$20 billion worth of urban housing and has set a target of two million units per year, which has resulted in strong demand for low cost mass housing.
- Urbanization is driving the rapid growth of the middle class and a greater demand for high-quality housing.

Business environment

The construction and housing environment in India over the past few years has been conducive to the entry of international companies. Indian consumers, with ever-increasing aspirations toward world-class lifestyles, supported by rising affluence among the upper middle class, have created a growing demand for internationally popular products and services. However, pricing remains the key to the success of imported products and services, given that the local Indian industry manufactures a wide variety of products.

Challenges

- lack of a country wide building code
- lack of standards for items such as doors and windows
- wood is very scarce in India and thus not commonly used with a resultant lack of knowledge about its use

Hot leads

- Gujarat reconstruction
- Regional and city authorities are planning low-cost mass-housing projects.
- Half a dozen luxury hotel projects are under development in Mumbai, and more are planned

Canadian promotional plans

Ongoing:

The British Columbia Wood Products Showroom opened in April 2001 to showcase woods and wood products from BC. Quebec subsequently joined the showroom, which has now been renamed the *Canadian Wood Products Showroom* to reflect the national nature of the showroom.

Upcoming:

- Commercial officers' participation in **Construct Canada**, November 2001
- Series of seminars on valued-added wood products, year round, in association with the Canadian Wood Products Showroom
- Study of Gujarat Housing Requirements

Market reports

- A market study on India's market for building products is posted on DFAIT's InfoExport Web site: **http://www.infoexport.gc.ca**
  - *The Building Products Market in India*, July 2001

Links

- Builders Association of India: **http://www.buildersindia.com**
- Consulting Engineers Association of India: **http://www.ceaindia.com**
- Construction Industry Development Council: **http://www.fortuneindia.com/cidc/home.htm**
- Housing and Urban Development Corporation (HUDCO): **http://www.hudco.org**
- Building Materials and Technology Promotion Council: **http://www.bmtpc.org**
- Overseas Construction Council of India: **http://www.exploreindia.com/occi/occi.html**
- India's infrastructure sector business opportunities (Indian government site): **http://www.nic.in/indiainfra/**
- Ministry of Road Transport & Highways, Government of India: **http://www.nic.in/most**
- National Highway Authority of India: **http://www.nhai.org/index.html**

Sri Lanka

Why is this a priority?

Sri Lanka launched an ambitious "Housing For All By 2000" program about 10 years ago. Much of it has not been achieved, but the government is still committed to the principle and continues to find cheaper alternatives to the brick and cement houses that characterize traditional houses in the country.

A need for low-cost housing has sparked the interest of firms in a number of countries, including Canada.

Which products and services?

There is a great need for low-cost, quickly-constructable housing, and related technologies and services. Currently there are projects in hand for the construction of 100 000 low-cost houses, with the potential to be tripled in a year's time, if the right technology-to-cost ratio can be found.

Opportunities also exist in related subsectors such as heat control, energy-saving measures in industry, and high-tech security systems for high-rise buildings.

There is also a demand in this sector for construction-grade timber and aluminium.

What's new in the marketplace?

In November 1999, EDC (Export Development Corporation) signed an MOU advancing a $25 million line of credit to the Sri Lankan Private Sector Infrastructure Development Corporation (PSIDC) for Canadian exports to draw upon. All of this credit remains available.

For years, the Sri Lankan building sector was dominated by a traditionalist "brick-and-cement" mind set. The tastes of the Sri Lankan middle-class are becoming more sophisticated, however, with the result that both architects and builders are beginning to look for — and experiment with — alternative sources of construction materials.

The burgeoning need for low-cost, quickly-constructable housing, is also a recent development, affording Canadian exporters the opportunity to enter a relatively untapped market.

Business environment

Given the government's statement that housing-for-all is one of its priorities, the prognosis for this sector is good. Moreover, when peace eventually returns to the north and east of the island, plans exist for massive building and reconstruction projects. Those companies that have already established a presence in Sri Lanka are most likely to be the ones that benefit most from the contracts that will flow from such reconstruction plans.

Challenges

The biggest challenge in this sector is attitudinal. Despite the changing tastes described above, many Sri Lankans remained wedded to the notion that a building must be constructed of bricks and cement. Many in the industry refuse to accept that in a tropical, monsoonal, termite-prone environment, any material except bricks and concrete can hold up. Companies wishing to take advantage of the many opportunities presented in this sector should be prepared to expend some effort — at least initially — in demonstrating to Sri Lankans that Canadian building techniques, technologies, and materials can indeed be more cost-effective and durable than traditional ones.

Hot leads

A recent presidential directive has ordered the building of 1000 low-cost housing units in the Vanni region of northern Sri Lanka. These units will house many of the people displaced from their homes because of the war.

The National Housing and Development Authority, a state agency, is looking to form joint-venture partnerships with outside providers of good technology, as well as with financiers who are capable of building the thousands of mid-range housing units currently required by the country's burgeoning middle class.

Market reports

- A market study of the construction and building materials sector in Sri Lanka is being undertaken, and will be posted on DFAIT's Info-Export Web site: **http://www.infoexport.gc.ca** by March 2002.

Information and Communications Technology

Bangladesh

Why is this a priority?

Seven private operators and the soon-to-be-privatized Bangladesh Telegraph and Telephone Board (BTTB) provide telecommunications services in Bangladesh. BTTB, the largest of the telecommunication companies, currently has approximately 480 000 lines out of a total 603 000[1] (to serve a population of 128 million), and plans to increase its total to 1.3 million lines by 2002.

On the cellular front, GSM (global system for mobile communications) is the predominant technology, used by three providers, while one provider uses CDMA (code division multiple access).

On the information technology side, the market for computer hardware, software and peripherals has been estimated at US$30 million annually, with a growth rate of 20-25% since the elimination of duties in 1998. Most of the 180 000 desktop PCs in Bangladesh are locally assembled clones. There is potential for software development drawing on a competitively priced local labour pool.

Which products and services?

- Equipment supply and/or joint ventures with mobile phone operators, Internet service providers, card phone services, software developers
- Public data network systems, transmission lines, distribution systems and VSAT links
- Equipment supply to the BTTB and private sector operators
- Computerization of offices — equipment supply, turnkey installation, support services
- Software development

What's new in the marketplace?

Through the Equity and Entrepreneur Fund (EEF), the Bangladesh government is extending equity support to eligible companies with a view to encouraging investors. Equity support to any eligible company from the EEF can be up to 49% of the total equity of the company.

Entrepreneurs involved in the development of IT training and the export of services are also being offered preferences and equity support by the government of Bangladesh.

Internet service providers (ISPs) no longer have to be formally approved by the BTTB in order to be eligible to establish a service company.

Business environment

Regulatory reforms and growing pressure to further de-regulate the sector is providing the necessary impetus amongst investors to explore and invest in this sector.

Financing is an issue for many contracts: supplier credits or the willingness to invest through a BOT or BOO model can be the deciding factor in securing a contract.

In addition to their expansion plans, it is worth noting that about 60% of BTTB's lines use analog switching technology from Siemens and will be coming due for replacement upgrading.

1 Due to the explosion in cellular subscribers — one provider has gone from 100 000 subscribers when the total phone estimate was made to 200 000 users in less than a year — these numbers are understated but nonetheless give a valid overview of the potential.

Hot leads

- The BTTB has issued a Request for Proposal (RFP) to establish a mobile phone network to cover the entire country.
- BTTB has issued an RFP for 300 000 line digital exchanges and more, similar RFPs are to come.

Canadian promotional plans

- An information technology and telecommunications mission to Bangladesh (total 6 to 10 companies) is tentatively scheduled for March 2002, with support from DFAIT, International Trade Centres (ITCs) and Industry Canada.

Market reports

- A market study on the telecommunications and IT sectors in Bangladesh has been completed, and is posted on DFAIT's InfoExport Web site: **http://www.infoexport.gc.ca**
  - *Telecom and IT*, February 2001

India

Why is this a priority?

The call centre you talked to last night, the one you thought was in Chicago? It might have been 24/7 Customer.com, in Bangalore, India, one of three call centres in India which has applied for COPC certification[1]. India's ICT industry has grown beyond, well beyond, sub-contract coding to include wide range of support services and finished products. Demand runs from movie effects in Bollywood to call-centre suppport in Delhi, software development in Bangalore to rural, wireless internet in Kerala to phone lines everywhere.

The Prime Minister of India predicts economic growth at over 6% in 2001-2002, and has announced policies to make India more ICT enabled (e.g., opening national long distance operations in telecommunications to all comers and ending the monopoly by crown corporation Videsh Sanchar Nigam Ltd. over international bandwidth, which has been causing a bottleneck in India's IT development). With the aim of increasing foreign direct investment into the country, the government has said it would reduce customs and excise duties on the import of every kind of IT hardware and the states will not levy sales tax on e-commerce for a period of three to five years. There is also the possible introduction of Kμ-band broadcasting and DTH services in the not so distant future.

Which products and services?

- **E-commerce/m-commerce:** application development including business to business (B2B) and business to customer (B2C) solutions, smart cards, secured transactions, transaction servers and bar coding
- **Banking software:** smart card processing, Web-enabled applications and solutions, front office and back office automation, customization, e-commerce solutions, EIS/MIS, transaction switches
- **Telecommunications software:** telecommunications system software, including switching, network management and data communications, operation support systems, including billing, customer care, fault repair and fraud management
- **Emerging technologies:** simulation technology, electronic war games, wireless communications technologies (WAP, Bluetooth, Jini, PDA), ISDN and SSI protocol stacks, voice-over IP technology
- **Multimedia and animation:** educational computer-based training (CBT) for academic and professional courses, Web-based course

1 COPC-2000® Standard (Customer Operations Performance Center), one of very few operating standards specific to the call center industry was written in 1995 by a core group of users (including representatives from American Express, Dell Computer Corp., Microsoft, Novell, L.L. Bean) and is based on the Malcolm Baldrige National Quality Award criteria and framework. There are currently 34 locations around the world certified to the standard.

delivery, computer testing, animation for education and entertainment applications, broadband broadcasting

- **IT-enabled services:** call centres, help desk, data processing and medical transcription
- **Internet service providers (ISPs):** Internet connectivity, e-mail and Web hosting, basic/cellular services

What's new in the marketplace?

In this knowledge- and innovation-driven global economy, India enjoys tremendous advantages, based on a well trained, available, low-cost labour force and a relative lack of a regulatory bureaucracy, in its booming telecommunications, software and information technology sector. This sector has experienced a 30% to 35% growth rate per year, with exports of about US$4 billion for fiscal year 2000-2001. The software industry today represents about 2.5% of GDP and should see its share increase dramatically, with sales growing to between US$50 and US$70 billion over the next 10 years. Although the IT industry represents 15% (and growing) of total Indian market capitalization, fully 60% of the aggregate turnover of Indian stock exchanges is driven by technology and software stocks.

Business environment

India has one of the largest telecommunication networks in Asia, comprising over 25 394 exchanges with a capacity of 27.22 million lines and 22.63 million working connections as of September 1999 — a significant increase from 1994's eight million lines. However, a telephone density of only two per 100 people means there is still considerable opportunity for growth in telecommunications services. Since the deregulation of the economy in July 1991, the entire telecommunications equipment manufacturing industry has been open to competition.

The prospects are huge in this country for companies that have the sustaining capacity and interest for emerging markets. The newly announced Ministry of Information Technology is in charge of e-commerce but the Ministry of Telecommunications, Ministry of Information and Broadcasting, Ministry of Commerce and Ministry of Finance are also important in this sector. There is a proposal to treat the ICE (information, communication and entertainment) sector, as it has been named in government circles, as one for regulatory purposes. The passage of the Communications Convergence Bill in January 2001 has paved the way for the establishment of The Communication Commission of India, a super-regulator.

Challenges

B2B e-commerce in India has enormous potential, but not before the creation of a payment infrastructure, legal support and matching technology among trading partners.

It is also imperative that other requirements in the form of institutions like digital certificate agencies and secured transaction systems are in place to govern e-business practices and ensure their success. Indian businesses are no longer insulated from global trends, e-business is clearly the next phase of business evolution for them. Information exchanges with the customer are the primary reason for companies to get into e-business.

Another potentially limiting factor will be the availability of bandwidth.

Cultural sensitivity and relationship management are necessary and important.

Aggressive competition is coming from the United States, the European Union, Japan and China. Though the ICT business in India is still in its infancy and may take three to five years to be all pervasive, the winners will be companies that enter the market now.

Hot leads

While customized market information and intelligence will be provided to Canadian companies according to their requirements, future opportunities are seen in the following areas:

- Spectrum management/radio wave monitoring/inter-connectivity/rural telecommunications/national long-distance operations

- Consultancy/distance education/Internet kiosks/e-governance projects/high-tech satellite townships
- Power grid/state electricity boards/oil and gas grid/railways telecommunication networks
- IT-enabled services/application service providers (ASPs)/m-commerce/high-speed broadband connectivity
- Private FM broadcast/cable broadcast
- Investment from India into Canada for offshore development and R&D centres and sales and marketing offices in IT

Canadian promotional plans

- Focus on ICT in the Canada Trade Mission to India, 2002
- Indian delegation to Canada for **Softworld 2001** (Vancouver, November 4–7)
- Canadian participation in **NASSCOM 2002**, IT Summit — Mumbai, February 5–9, 2002
- Commercial officer to identify opportunities in India and develop/strengthen relations with decision makers through visits to Chennai, Hyderabad, Kolkata (formerly Calcutta), Bhopal, Kerala, Mumbai and Bangalore

Other trade events

- **IT.Com** — Bangalore, November 1–5, 2001
- **ICE India** — IT, Communications and Entertainment — Mumbai, December 6–8, 2001
- **The Broadband Show for New Generation Networks** — conference and exhibition — New Delhi, March 6–8, 2002

Market reports

- Profile of India's ICT market is available through DFAIT's InfoExport Web site: **http://www. infoexport.gc.ca**
  - *Information and Communication Technologies including Broadcasting*, July 2001

Links

Key players in the government:

- Planning Commission, Telecommunications Regulatory Authority of India (TRAI): **http://www.trai.gov.in**
- Videsh Sanchar Nigam Ltd. (VSNL): **http://www.vsnl.net.in/**
- Mahanagar Telephone Nigam Limited (MTNL): **http://delhi.mtnl.net.in/**
- Department of Telecommunications: **http://www.dotindia.com/**: DTS / DTO, Wireless Planning and Coordination Wing (WPC), TEC and Telecommunications Consultants India Ltd. (TCIL)
- Ministry of Information and Broadcasting: **http://mib.nic.in/**
- Ministry of Infotech: **http://www.mit.gov.in/**

Important associations and organizations:

- The Associated Chambers of Commerce and Industry of India (ASSOCHAM): **http://www.assocham.org**
- Confederation of Indian Industry (CII): **http://www.ciionline.org/**
- Federation of Indian Chambers of Commerce & Industry (FICCI): **http://www.ficci.com/**
- Electronic and Computer Software Council of India (ESC): **http://www.escindia.com/**
- NASSCOM: **http://www.nasscom.org/**
- Manufacturers Association of Information Technology (MAIT): **http://www.mait.com/**
- Electronic Component Industries Association (ELCINA): **http://www.elcina.com/**
- Association of Internet Service Providers: **http://www.ispai.org/**
- Association of Basic Telecom Operators (ABTO): **http://www.abto.org/**
- Cellular Operators Association (COAI): **http://www.coai.com/**
- Software Technology Parks of India (STPI): **http://www.soft.net/**

- National Informatics Centre: **http://www.nic.in**
- Indian Sources: **http://www.indiansources.com**

Pakistan

Why is it a priority?

With a population of 140 million people and despite all the expansion and modernization in the last decade, telephone penetration in Pakistan is still under three lines per hundred people. With the conversion of the state-owned telephone department into a limited company — PTCL — to be privatized within a year, and the expiry of its monopoly over fixed-line domestic and international telephony[1] by December 2002, this sector, with enormous opportunities for expansion, will open to foreign participation.

Realizing the unprecedented importance of IT in the global economy, the GoP has developed a national IT policy and action plan. The guiding theme is that the government will be the facilitator, enabler and promoter to encourage the private sector to lead in the development of Pakistan's IT sector.

Which products and services?

As telecommunications is a growing sector, investment opportunities for foreign investors exist in every segment, ranging from operations to manufacturing to consulting. Opportunities include:

- Privatization of PTCL
- Rural telephony and wireless local loop
- Opportunities in cable transmission and satellite services
- Consulting opportunities with PTCL and PTA
- Manufacturing opportunities

In the information technology sector, opportunities exist in the following areas:

- E-commerce
- Banking software
- Telecommunications software/systems design
- Emerging technologies
- IT-enabled services
- Internet
- Software development

What's new in the marketplace?

To boost the development of the information technology and telecommunication (ITT) sectors, the GoP has recently created a new ITT division within the Ministry of Science and Technology, which is headed by a federal secretary (i.e. deputy minister). The expiry of PTCL's monopoly over fixed-line domestic and international telephony by December 31, 2002, will open opportunities for foreign investment. A fourth cellular telephone network commenced operation on January 29, 2001 in Islamabad and Rawalpindi, and will gradually extend operations to other cities like Lahore and Karachi.[2] Three private-sector operation and maintenance (O&M) contractors of PTCL commenced prepaid calling card service for international calls from any digital telephone in Pakistan.[3] PTCL also recently introduced value-added services, including hotline, call transfer on busy or no reply, call waiting, do not disturb, absent subscriber, advanced free-phone services, prepaid calling services, voice mail and messaging services, calling line identification, etc.

Challenges

The biggest challenge is competing with existing multinationals, which have been here for some time and know the market well. However, no barriers exist that prevent Canadian companies from

1 Wireless communications are provided by four licencees.

2 Cellular licences are granted for country-wide operations, not restricted to any one province or city.

3 Most exchanges in the main cities are now digital.

entering this market as demonstrated by the recent success of a Canadian company in winning a contract for the supply, installation and commissioning of the fourth cellular telephone network.

Hot leads

- Privatization of PTCL.

Market reports

- A market study on the telecommunications sector in Pakistan has been completed, and is posted on DFAIT's InfoExport Web site: **http://www.infoexport.gc.ca**
  - *Telecommunication Sector*, November 2000

Links

- The Ministry of Science and Technology, Islamabad, Pakistan: **http://www.most.gov.pk**
- The Pakistan Telecommunication Authority: **http://www.pta.gov.pk**

Sri Lanka

Why is this a priority?

Sri Lanka's information technology and telecommunications (ITT) sector continues to grow qualitatively and quantitatively. On the telecommunications side, the government is gradually privatizating local telecommunications services and is pledging to remove its monopoly on the provision of international direct dialing (IDD) facilities by 2002. This will open the sector to a sharp increase in foreign investment and interest.

To meet the growing demand, Sri Lanka Telecom, (a state-owned entity) is implementing a number of major telecommunications projects with assistance from donors such as the Japan Bank for International Corporation (JBIC), the Swedish International Development Agency (SIDA) and the Economic Development Co-operation Fund (EDCF) to augment its capacity and to improve the telecommunications infrastructure.

Which products and services?

Given the low telephone density in the country, the sector has potential for a full range of communications services, including payphones, cellular, wireless loop systems and normal land phones. Business opportunities lie in all aspects of the communications field, but primarily in specialized areas such as fibre optics, cable-less transmission coverage to rural areas, spectrum management, satellite linkages for distance education, etc.

The IT field also offers a full range of opportunities, including the facility of offshore software development for Canadian companies. Television and broadcasting, computer-based education, e-commerce and banking software are some of the areas of potential in the sector.

Business environment

Ongoing regulatory reforms are designed to bring uniformity into and maintain a level playing field in this sector.

Other trade events

- An annual IT and Telecommunications exhibition is held by local organizers, in which Canadian firms are welcome to participate. Generally, the show occurs in the fall.

Market reports

- A market study of the information and communications technology sector in Sri Lanka is being undertaken, and will be posted on DFAIT's InfoExport Web site: **http://www.infoexport.gc.ca** by March 2002.

Mining and Minerals

India

Digging Wealth

Why is this a priority?

India produces over 84 minerals valued at approximately US$8.6 billion, exports US$7.2 billion[1] and imports US$7.8 billion[2]. The sector accounts for 11% of India's total industrial production — with the potential to contributing 20% to 25%.

Gone now are the days of reliance on Soviet technology. Development of this sector is a government priority. With major changes in the laws regulating the ownership of mines and expanding opportunities for FDI, the Indian mines, minerals and metals market is becoming more attractive to foreign companies and domestic investors both. Canada is well-known in India as a major world player in the mining industry and so Indian mining companies are very interested in our technology and equipment.

Excellent opportunities exist for joint ventures for prospecting, exploration and mining of base metals, industrial minerals, beach sand, bauxite, gold and diamonds.

Which products and services?

- Export to India of minerals, including coal and asbestos
- Mining prospecting, exploration and mineral processing
- Mining equipment and products
- Services, including geomatics and mine development
- Indian investments in Canadian mining, including the newly developing mines for Canadian diamonds
- Canadian investment in Indian deposits

What's new in the marketplace?

Economic liberalization in India has changed this sector in an astounding way. Coal mines, nationalized in the 1970s, are being privatized. The Indian government is encouraging FDI. Some state governments are streamlining the procedure of granting leases for mining exploration while the central government is pushing other states to cut down bureaucratic hurdles. A recent change in taxation rules has reduced the corporate tax rate from 65% to 30%. One hundred percent foreign ownership of most mines is now permitted. In short, this sector is one of the most attractive in India — as attractive to foreign companies as to domestic investors.

The government will amend the *Coal and Mines Nationalisation Act* to allow unrestricted entry to private players in the exploration and production of coal. The goal is to promote administrative reform and lay down clear, non-discriminatory guidelines as recommended by the Expenditure Reforms Committee. The regional offices of coal-controller will be closed to give greater autonomy to Coal India (a state owned enterprise) and prospective entrepreneurs. The requisite amendments to the Act have been tabled in Parliament and are expected to be passed before the end of 2001.

Electrical generation and mining are becoming ever more interrelated as more and more Indian companies open captive coal mining, aluminium processing and coal washery ventures, all of which present opportunities for foreign suppliers and partners. There are excellent joint venture opportunities in prospecting, exploration and mining of base

1 Including mica, iron ore, manganese ore, chromite, granite, cut and polished diamonds, and gems.

2 Imports include metallurgical coking coal, gold, copper, lead, nickel, tin, rock phosphate, asbestos and potassium chloride.

metals, industrial minerals, beach sand, bauxite, gold and diamonds.

To increase investment in the mining sector, the Indian government now allows 100% foreign investment for all minerals except diamonds and precious stones. The areas in which 100% FDI have been allowed include exploration, mining, mineral processing and metallurgy. In the case of diamonds and precious stones, foreign equity up to 74% will be automatically allowed for both exploration and mining operations. Proposals for 75% or greater foreign ownership of gemstone developments must be reviewed by the Foreign Investment Promotion Board (FIPB),which has undertaken to reach decisions with a minimum of delay.

Business environment

The business environment in the last few years has come to be much more attractive to international companies. Foreign ownership is encouraged, tax burdens have been reduced, state control limited.

Although natural resources are constitutionally the responsibility of the central government, there has been a decision to devolve some of this power to the state level. Some states have welcomed this change and acted decisively to reduce red tape. Other states have seen the devolution as an opporunity to increase their bureaucracies and, in consequence, have not seen an increase in mining activity.

Challenges

Some of the traditional problems/challenges of the market remain, such as bureaucracy, distance, and a shortage of information sources in India. The linkages Canada has with India in terms of experts with key knowledge of the Indian mines and metals sector help in overcoming some of the hurdles.

Hot leads

The Steel Authority of India Limited (SAIL) has traditionally purchased coking coal from Australia but is now seriously considering sourcing coking coal supplies from Canada. A Canadian delegation composed of suppliers and researchers visited India in March 2001 to explore the feasibility of exporting Canadian coking coal to SAIL. Work is currently underway to determine the suitability of the Canadian product.

The Indian Ministry of Coal recently approached Canada to re-engage the Working Group on Coal (WGC). This group, composed of Canadian and Indian government representatives, seek to develop co-operation in the coal sector (for electrical generation) as well as conduct joint research and development, and to define specific opportunities for the development of coal resources to the mutual benefit of both parties. The WGC met in March 2001 where several topics were discussed, the most important of which was the expansion of the Rajmahal Open Pit Coal Mine.

Indian states like Rajasthan, Karnataka and Madhya Pradesh are giving exploration leases to mining companies in a streamlined fashion, attracting junior mining companies from all over the world. In mineral and coal processing, major Indian companies such as Tata Steel, Coal India, and Hindustan Copper are looking for foreign collaboration.

Canadian promotional plans

- A Canadian mining mission to India in November 2001 to visit four major centres and to participate in the International Mining and Metallurgical Exhibition (IMME), in Kolkata (formerly Calcutta).
- Preparation of a report on the Indian mining industry outlining opportunities for Canadian suppliers of mining equipment and services.
- A proposed incoming coal mission to Canada in 2002, led by the Minister of Coal, to visit Canadian coal mines, equipment and service suppliers.
- The next meeting of the WGC is scheduled for the Spring of 2002 in Canada.
- Outreach activities in the mining sector are under way, including updating and distributing an Indian mining sector profile to Canadian companies.

Links

- Confederation of Indian Industry: **http://www. ciionline.org/**
- Indian Ministry of Coal: **http://coal.nic.in/**
- Indian Ministry of Mines and Minerals: **http:// www.nic.in/mines**
- Indian Bureau of Mines: **http://ibm.nic.in/**
- General information about Indian mining industry: **http://www.mining-technology.com/industry/india.html** or **http://www. miningindia.com/**

Pakistan

Why is it a priority?

The GoP seeks investment to develop identified deposits of semi-precious stones, minerals and other metals. Major coal deposits are at an early stage of development and offer opportunities for Canadian mining firms while Canadian firms supply coal to Pakistan Steel Mills in Karachi. Both the mining and marketing of semi-precious stones offer potential for Canadian firms.

Which products and services?

- Geomatic services (for mapping and identification of reserves)
- Joint ventures and specific technologies (stone polishing and cutting machinery)

Business environment

Under the Constitution of Pakistan, geological surveys for mineral exploration are a federal function, while regulatory control over development of solid minerals falls under the provincial governments. Available geological information shows Pakistan has significant deposits of coal, as well as a number of other minerals. Mining activity is, at present, confined to industrial and construction minerals, and to a lesser extent, precious and semi-precious stones. Overall, the sector's contribution to GDP is less than 1%.

In 1995, the GoP announced a National Mineral Policy to regulate mining activity. The policy seeks to satisfy several important objectives, including:

- expansion of employment opportunities
- sustained development of mineral deposits
- expanded business opportunities for local industries
- increased revenue flow to the provincial and federal governments
- technology transfer, as well as developing an improved database of Pakistan's mineral resources

Some specific opportunities are described below.

- **Coal:** A 9000 km^2 area of coal deposits in the eastern part of Sindh province, with estimated reserves of 175 billion tonnes of coal. The coal is of lignite quality and has a heating value of over 6000 BTU/lb on a moist mineral matter-free basis. The coal field is 400 km away from Karachi, and is considered suitable for large-scale power generation.
- **Bulk transport of minerals:** Large, low-grade porphyry copper ore bodies and deposits containing gold are found on a regional scale in a calc-alkaline belt approximately 480 km long and 140 km wide in the Chagai District of Balochistan province. The Geological Survey of Pakistan (GSP) has located a number of porphyry deposits in this regional calc-alkaline belt, some of which are better in grade than Saindak deposits. BHP and Lake Resource of Australia are exploring in the Chagai area.
- **Iron ore for local consumption:** There is a 200 million tonne iron ore deposit at Dilban. Located 30 km from Quetta and near the Quetta-Karachi Railway line, Dilband iron ore has been found suitable for blending by Pakistan Steel.

Other opportunities include the following:

- Coal briquetting plant
- Gasification of coal tar
- Mineral exploration (chromite, lead-zinc and silver)
- Precious group metals (platinum, palladium, etc.)
- Precious stone mining, cutting and polishing
- Gypsum
- Gold and base metals in northern areas

Canadian trade promotion efforts

- Posting of periodic newsletters on the InfoExport and Canadian High Commission Islamabad Web sites on the evolution and implementation of privatization policy and law.
- The Canadian High Commisssion continues to work closely with individual companies and their local representatives on realizing opportunities.

Links

- Ministry of Petroleum and Natural Resources (contains information about the Ministry's current activities): **http://www.mpnr.gov.pk**
- State Bank of Pakistan (contains information about foreign exchange regulations that affect the repatriation of profits and assets by foreign investors): **http://www.sbp.org.pk**
- Board of Investment (contains useful information on investment regulations and important contacts that can assist foreign investors): **http://www.pakboi.gov.pk**
- Privatisation Commission: **http://www.privatisation.gov.pk**
- Asian Development Bank: **http://www.adb.org/Documents/Profiles** for detail on upcoming projects in the energy sector in Pakistan

Contacts

Ministry of Petroleum and Natural Resources
21-E, Huma Plaza, Blue Area
Islamabad, Pakistan
Contact: Rashid Hussain Malik,
Director General of Minerals
Tel: (011-92) 51-920-2337
Fax: (011-92) 51-920-4077

Oil and Gas

Bangladesh

Why is this a priority?

The official estimate of Bangladesh's proven natural gas reserves is 10.7 trillion standard cubic feet (TCF) and some experts believe there are significant unproven reserves. Unocal, United Meridian International and Okland, along with the Scottish firm Cairn Energy have exploration contracts in place while Enron/Okland, Pangaea, Unocal, and Shell/Cairn are in negotiations with the Bangladesh government. Chevron, Texaco, Unocal, Mobil, and Union Texas Petroleum, among others, have placed bids for exploration. The gas distribution network is seen as a bottleneck impeding growth at a national level and international lenders such as the World Bank and the ADB are funding projects as well as prodding the government to allow more private sector participation.

Development in the oil and gas sector depends largely upon the Bangladesh government's decision to allow natural gas exports. This decision is not expected until late 2001. All the major oil companies and other supporting companies in this sector have adopted a "wait and see" strategy.

Which products and services?

- Equipment supply and support services to exploration and production companies
- Pipeline equipment
- Project engineering
- Institutional development support in gas network management
- Environmental and safety management
- Logistic support services

What's new in the marketplace?

The Joint Bangladesh-USGS (United States Geological Survey) study on gas reserves in Bangladesh was officially published on February 15, 2001. It is based on scientific studies aimed at getting a probable figure of gas reserves. According to this report, the actual undiscovered reserve could be as much as 65.7 TCF with recoverable reserves of approximately 32.1 TCF.

A decision by the Government of Bangladesh (GoB) as to whether to allow gas exports is expected in the latter part of 2001: a choice to allow the export of gas would give the industry a major boost.

Business environment

The joint study is a step forward in helping Bangladesh reach a decision on its gas resources. The possibility of offshore gas and availability of gas in areas not explored before will, in all probability, lead to a third round of bidding. Canadian companies should closely monitor the gas scenario in Bangladesh to position themselves for potential exploration opportunities.

Petrobangla (the state oil and gas company) and its subsidiaries regularly publish international tender notices.

Canadian promotional plans

- An oil and gas mission to Bangladesh (total 6 to 10 companies) is tentatively scheduled for spring 2002, with support from DFAIT, International Trade Centres (ITCs) and Industry Canada.

Market reports

- A market study on the oil and gas sector in Bangladesh is being prepared, and will be posted on DFAIT's InfoExport Web site: **http://www.infoexport.gc.ca** by March 2002.

India

Looking Ahead

Why is this a priority?

Despite low per capita consumption levels[1], India is currently the world's sixth-largest consumer of energy, ahead of France (seventh), the U.K. (eighth) and Canada (ninth), and is expected to become the world's fifth-largest consumer in the next 20 years. Oil demand is expected to reach 155 million metric tonnes (MMT) by 2006, an average annual increase of about 6.2% from 2001 levels. Investments of the order of US$150 billion will be required over the next 10 to 12 years to meet this demand. Domestic production, currently 35% of the total demand[2], might not cover even 25% of the increased demand unless it rises significantly.

With known reserves of almost 7 billion tonnes[3] (2.5 currently recoverable) and estimated reserves around 28 billion tonnes, there is lots of room for exploration and new production. New government policies on exploration, production, distribution and sales are opening this sector to direct investment by private industry. Foreign companies are most definitely welcome as both investors and suppliers.

Which products and services?

- **Exploration and Development:** Vertical cable marine seismic survey, seismic information generation from sub-volcanic sediments, ocean bottom cable, 3-D basin evaluation, high-resolution modern 3-D seismic API, reservoir stimulation, monitoring predication and integrated evaluation, modern logging and its requirements, especially permeability logging through casing logging, etc.
- **Drilling:** High-tech directional drilling, latest techniques in well construction and well engineering.
- **Production:** Effective work-over, subsea completion, near well borne stimulation, advanced recovery techniques, all techniques and services for rehabilitation and redevelopment of producing fields, well productivity, gas gathering and gas storage, heavy oil recovery, safety and maintenance of offshore platforms, etc.
- **Deep Water:** Drilling, work-over, flow lines, flow metering, risers and subsea completion.
- **Coal Bed Methane Exploration:**
  - **Natural Gas:** Transportation network and distribution technologies, compressed natural gas (CNG) conversion technologies.
  - **Refining:** Technologies to improve the quality of petroleum products, reformulated gasoline producing units, hydro-crackers, hydro-treaters, hydrodesulphurizers, safety, sulphur processing, etc.
  - **Pipelines:** Supervisory Control and Data Acquisition (SCADA) systems, leak-detection technologies, laying of pipelines, telecommunications along the pipeline, protection coating, pigging, dispatch terminal automation, etc.

1 India's per-capita energy consumption is about 15% of the world average of 1478 kgoe (kilograms of oil equivalent). Per-capita oil consumption, at 72 kg, is only around 1% of the world average.

2 In 1998-1999, domestic production was around 32.78 million metric tonnes (MMT) of oil and around 27.43 billion cubic metres of gas.

3 All reserve figures represent oil and oil equivalence of gas.

What's new in the marketplace?

The Indian government is pursuing the New Exploration Licensing Policy (NELP), which permits foreign involvement in exploration to limit India's dependence on oil imports, an activity long restricted to Indian state-owned firms. To further encourage foreign involvement in India's Oil and Gas Sector, the Ministry of Petroleum opened 48 blocks for foreign exploration under the NELP in January 2001.

To meet the growing demand for natural gas, heavy investments are being made in building liquified natural gas (LNG) terminals and pipelines to support the increased use. The government has finalized a plan to set up 18 new pipelines all over the country.

With the expected dismantling of the administered pricing mechanism (APM) in the oil sector in April 2002, the country's retail market will be opened up to private players.

The Indian government is considering divesting its stake in public-sector oil companies.

Business environment

With nearly US$150 billion of investment required in the major segments of the Indian oil and gas industry, the government is opening up the sector to foreign investment. After the NELP, the government has now allowed 100% foreign investment even in the refinery sector. Until recently, the major importers of oil and gas equipment were government companies; however, with the recent opening up of the market, there will be a large role for the private sector and an increased market for equipment and services.

Under the NELP, 48 blocks were offered in January 2001 for foreign exploration in the current licensing round. To meet the growing demand for natural gas, heavy investments are being made in building LNG terminals (for imported LNG) and pipelines to support increased production. The government has also finalized an extensive plan to set up 18 new pipelines all over the country with government-owned Petronet India Ltd. as the implementing agency.

The Supreme Court has ordered the conversion of buses and taxis to CNG and recently confirmed that order. Accordingly, private and public utilities are planning the expansion of CNG facilities in major cities to service new and converted vehicles.

The country's retail market for transport fuels will be deregulated in the wake of the dismantling of the petroleum sector APM, planned for April 2002. The Petroleum Ministry is planning to allow private and foreign firms to market and distribute transport fuels (aviation turbine fuel, petrol and diesel) at the retail level, currently a monopoly held by state-run firms.

Challenges

Indian companies, public and private, issue public tenders to procure major equipment. The tendering process is often not very transparent, and is often plagued by delays. It is not uncommon for public-sector organizations to invite rebids and clarifications before a tender is finalized. Canadian companies can best deal with this process by exercising patience in the tendering process and by hiring a reputable local agent.

Hot leads

Indian oil and gas companies regularly issue international tenders for their requirements. Copies of all tenders are sent to IBOC, which posts most tenders on its Web site (**http://www.iboc.gc.ca**).

In addition, the Consulate of Canada in Mumbai publishes a monthly newsletter on Indian oil and gas industry, which provides information on international tenders and other business leads. This newsletter is available through the Consulate and will be available on the Web at **http://www.strategis.ic.gc.ca/petroleum**

Canadian promotional plans

- *Petroleum Sector Newsletter*, to be continued to be published every two months, and distributed throughout the petroleum sector.
- Petroleum Safety & Environment Seminars, with emphasis placed on safety and environmental concerns for pipelines. Location and timing to be established.

Market reports

- A market study on the oil and gas sector in India has been completed, and is posted on DFAIT's InfoExport Web site: **http://www.infoexport.gc.ca**
  - *Oil and Gas Sector*, June 2000

Links

- Ministry of Petroleum and Natural Gas: **http://petroleum.nic.in** is a useful Web site providing detailed information on the Indian industry with links to Web sites of public sector oil and gas companies.
- Directorate General of Hydrocarbons: **http://www.dghindia.com** provides detailed information on the NELP and opportunities in the upstream sector.
- Oil and Natural Gas Corporation: **http://www.ongcindia.com** is India's largest exploration and production (E&P) company. It produces 90% of country's crude and natural gas, and holds exploratory licences for 8% of sedimentary basins.
- Indian Oil Corporation: **http://www.indianoilcorp.com** is India's largest company and the only one on the Fortune Global 500 list.
- Bharat Petroleum Corporation Limited: **http://www.bharatpetroleum.com** is the third-largest downstream oil major in India. The Web site provides useful daily news clippings on Indian oil and gas industry (*Petro News*).
- Gas Authority of India Limited: **http://www.gail.nic.in** handles post exploration activities in natural gas. It has a pipeline network spanning over 3500 km. The site also provides information on tenders in the business opportunities section.
- Oil India Limited: **http://petroleum.nic.in/oilil.htm** is India's second-largest E&P company.
- Hindustan Petroleum Corporation Limited: **http://www.hindpetro.com** is the second-largest major oil company in India with a turnover of around US$4.53 billion.
- Reliance Industries: **http://www.ril.com** is India's largest private-sector enterprise. The company has just bid for 14 blocks under NELP with a Canadian company.
- Essar Group: **http://www.essar.com** for Essar Oil, is setting up a 10.5 million metric tonnes per annum oil refinery at Vadinar. The company has the largest private-sector fleet of drilling rigs.
- Madras Refinery Limited: **http://www.mrl.co.in** has two refineries in South India.
- Cochin Refinery: **http://www.cochinrefineries.com** is a 7.5 mmtpa public-sector refinery in South India.
- Engineers India Limited: **http://www. engineersindia. com** provides services to the oil and gas sector.

Pakistan

Why is it a priority?

With over $1.5 billion in recent foreign investment[1], a wide range of opportunities exists in Pakistan's oil and gas sector, particularly in the areas of exploration, production and distribution. This sector continues to play a major role in revitalizing the economy of Pakistan. The current production capacity is approximately 55 000 barrels of oil per day (20% of Pakistan's requirement, the balance is imported) and about two BCF of gas. The development of recent gas discoveries as well as further development of existing oil and gas fields remains high on the agenda of the GoP. Privatization of the sector is pending, as is a new policy framework which will impact both on and offshore exploration and development.

1 US$911 million in 18 months. Source: *Dawn*, 1 June 2001.

Which products and services?

- Drilling/exploration hardware and services
- Oil and gas transmission software and hardware (pipes of various grades and qualities, pipeline-laying equipment, pipeline-monitoring equipment — SCADA, compressors, etc.)
- Gas-processing technologies (software and hardware)
- CNG equipment and conversion kits

What's new in the marketplace?

The oil and gas sector is high on the GoP's privatization agenda. The opportunities are well-defined and the process was initiated through the August 2000 sale of the first of three LPG plants (to Caltex). Subsequent sale of remaining two LPG plants of the two public-sector gas utilities is expected to be completed by end of 2001.

In addition:

- The GoP has signed new gas price agreements with oil and gas exploration firms, which has resulted in increased activity in the development of oil and gas supply systems.
- Opportunities exist for the conversion of existing oil-fired power plants to natural gas under the recently announced GoP policy to use indigenous gas for power production.
- Oil and gas assets have been privatized.
- 150 CNG filling stations have been set up by the private sector in two years. GoP expects the above number to double within the next two years. Big multinationals (e.g., Pakistan State Oil, Shell and Caltex) have also entered the competition to provide the additional facilities.

Business environment

- Foreign companies are free to compete either on their own, or in collaboration with other foreign companies. The requirement for a local agent is not mandatory; although in actual practice, a local agent plays an important role in providing competitive information and details about the development activities of oil and gas firms in both the public and private sectors.
- Other non-core oil and gas business privatization is to follow in next few months. The privatization program includes:
  - Divestment of non-core assets of some of the public-sector entities (LPG, meter manufacturing unit of SSGC, seismic data interpretation unit, etc.). Also, minority share holding in Pakistan Oil Fields and Attock Refinery Limited (35 000 barrels per day refining capacity unit).
  - Privatization of working interests of the GoP in nine oil and gas fields, and the sale of Pakistan State Oil's (PSO) shares in the Pakistan Refinery Limited.
  - Privatization of GoP shares in gas utilities.
- A Gas Regulatory Authority (GRA) will be set up, which would be responsible for regulation of public- and private-sector gas organizations. This is also a prerequisite to the privatization of gas utilities.
- The Ministry of Petroleum recently announced a major development program to increase gas pipeline transmission capacity.
- CNG marketing will begin, including marketing of conversion kits for vehicles and the ubiquitous two-stroke, three-wheeled mini-taxi.
- Additional new exploration/production incentives are pending.

Challenges

- The GRA & PRA (Petroleum Regulatory Authority) ordinance has been announced. The ordinance is in the final drafting stage and should be promulgated in the later half of 2001 following Cabinet approval. Staffing the GRA with professionals will indicate the commitment of the GoP. (Failure to do so will become a barrier for foreign investment. Areas of concern are redress of grievances, a legal system that can respond early on, alternate dispute resolution mechanism, etc.)

- Privatization: The bill, although approved, has to be promulgated to allow the implementation of privatization in general and in particular of the high-profile oil and gas utilities.

Hot leads

Short-term opportunities

In 2001, a capacity-building ADB-funded TA is expected to be approved for the Petroleum Regulatory Board. Other opportunities include:

- Gas pipeline expansion projects
- Conversion of power-generation plants from fuel oil to natural gas
- CNG filling stations (complete packages) and CNG conversion kits

Medium- and long-term opportunities

There are three competing projects for a gas pipeline between Pakistan and neighbouring countries (Iran-Pakistan, Turkmenistan-Pakistan, and Qatar/UAE-Pakistan). Their economic viability rests on gas being transmitted to the Indian market. Political difficulties between India and Pakistan continue to cause uncertainty about implementation timing.

A joint venture has been proposed between Pakistan and the National Iranian Oil Company for a refinery near Karachi. Although a pre-feasibility study has been completed, the project currently lacks strong financial support.

Opportunities exist due to the GoP's divestment of working interests in nine oil and gas fields and privatization of its working interests in the non-core assets of SSGC (LPG meter manufacturing unit), SNGPL and PSO. The privatization of PSO's share in Pakistan Refinery Limited also offers opportunities.

The GoP intends to sell its minority share holding in 18 identified gas fields. Nine of these will be offered in the first phase of privatization.

Other long-term goals include the privatization of Pakistan Petroleum Limited, Pakistan State Oil, Sui Southern Gas Company Limited and Sui Northern Gas Pipeline Limited.

Canadian trade promotion efforts

- Posting of periodic newsletters on the InfoExport and Canadian High Commission Islamabad Web sites on the evolution and implementation of privatization policy and law.
- The Canadian High Commisssion continues to work closely with individual companies and their local representatives on realizing opportunities.

Market reports

- A market study on the oil and gas sector in Pakistan has been completed, and is posted on DFAIT's InfoExport Web site: **http://www. infoexport.gc.ca**
  - *Oil and Gas Sector*, November 2000

Links

- Ministry of Petroleum and Natural Resources (contains useful information about the Ministry's subsidiary organizations, current activities and about the GRA): **http://www.mpnr.gov.pk**
- State Bank of Pakistan (contains information about foreign exchange regulations that affect the repatriation of profits and assets by foreign investors): **http://www.sbp.org.pk**
- Board of Investment (contains information on investment regulations and important contacts that can assist foreign investors): **http://www.pakboi. gov.pk**
- Privatisation Commission (contains information about important elements of the process of privatization and their short-term and long-term goals): **http://www.privatisation.gov.pk**
- Asian Development Bank: **http://www.adb.org/Documents/Profiles** for details on upcoming projects in the oil and gas sector in Pakistan

Transportation

Bangladesh

Why is this a priority?

The existing road, rail and air systems in Bangladesh are dated, in bad repair and inadequate to the need. Various new light rail, civil aviation, and road transport initiatives are planned. The Bangladesh government will have to look for foreign investment and support to realise these initiatives.

Which products and services?

- Equipment supply to CAAB (the civil aviation authority) — radar, navigational aids, HF and VHF radios, ground support and emergency vehicles
- Transport equipment supply to the armed forces (helicopter, tank transporter) and civilian departments
- Equipment and support services to private airline operators
- Management and operation of airports (Chittagong)

What's new in the marketplace?

The aviation sector is opening up with more participation and interest from the private sector.

Foreign investment is welcome.

Business environment

The government is committed to infrastructure development and encourages joint-venture participation through international tenders.

Challenges

Lack of transparency in procurement rules and undue influence exercised by vested groups cloud an otherwise very interesting sector.

India

Land, sea, and air transport systems and infrastructure

Why is this a priority?

A weak transportation infrastructure is widely seen as seriously impeding India's economy: it is imperative that expansion and upgrading be undertaken. The central and state governments are committed to major improvement projects, some with substantial ADB and World Bank financing. Regulatory policies are changing, privatization and corporatization are the buzz-words for airports and sea ports, and private investment is being sought for highways expansion, including toll roads.

Indian **railways**, wholly owned by the GoI, has an extensive network of over 62 000 km, which now requires considerable expansion. The ADB is supporting this endeavour. Safety is also a big concern and the government is looking for solutions.

Urban transit and metro projects such as the Delhi Metro Rail System exist (some components have already been awarded, but others are still to be tendered in this multi-phase undertaking).

Urban transit projects are also under consideration for Pune and Thane in Maharashtra; Ahmedabad and Baroda in Gujarat; Bangalore in Karnataka, and Hyderabad in Andhra Pradesh.

Road transport has emerged as a dominant mode of transport accounting for 60% of freight and 80% of passenger traffic. Private industry, including foreign companies, are now being encouraged to construct, maintain and operate portions of the numerous national or state highway projects that the World Bank, ADB, Organization for Economic Co-operation and Development (OECD), national or state governments are funding. Numerous national and state highways projects are being funded (both new construction and expansion/upgrading existing roadways).

In the **automotive** sector, Indian firms are on the lookout for joint ventures and technology transfers in niche technology to complement their range of products. Domestic demand for passenger cars and multi-utility vehicles is projected at 800 000 annually by 2001. With increased production in the passenger car sector, India can be used as an export hub. This increased production will also accelerate the growth of the automotive component industry.

India possesses an extensive coastline of about 5600 km, along which there are 11 major **ports** and 148 minor operable ports. Improvements to port operations and efficiencies are required. The government has been encouraging private investment in ports, and there are major port expansion and new construction projects under way, with some ADB funding. There are also plans by various states and central governments to revitalize the inland waterways as part of an intermodal network for cargo and passengers.

Similarly, the government wants to attract private investment in the civil **aviation** sector for the privatization of its two national airlines, as well as in expansion/upgrade projects at a number of major and some minor airports. India wants to upgrade its major airports to international standards and to add new airports under a leasing/corporatization process.

Which products and services?

Railways

- railway safety systems
- rolling stock
- signalling equipment
- passenger locomotives
- fibre-optic and communications systems
- management information systems

Highways

- consulting engineering
- construction
- heavy equipment
- tunnelling
- traffic and toll road systems
- paving technologies

Aviation

- navigational and training aids
- airport design and management
- construction, consulting services, equipment supply and new technologies for a multitude of infrastructure undertakings

Ports

- consulting engineering/design of ports
- specialized cargo moving and handling equipment

Shipping

- presents some limited opportunities in marine navigational aids

Urban transit

- expertise in intermodal transportation networks (subway, tram cars and overhead rail systems)

Automotive components

- transmission equipment
- turbo chargers
- catalytic converters
- digital instrument panels
- harnesses
- power window assemblies including motors

- security equipment
- cleaner, greener vehicles (CNG, LPG, fuel cells and CFC-free/reduced a/c systems)

What's new in the marketplace?

The most promising development is the overall acceleration of major projects, especially in the **highways** sector with the Indian government's planned development of a multi-lane highway grid running north-south, east-west, and linking the major cities (Delhi-Mumbai; Mumbai-Bangalore; Bangalore-Kolkata; Kolkata-Delhi).

Aviation privatization (airline and airport) is moving quickly, and airports have received funding commitments to upgrade and meet international standards. India's first privately developed airport at Cochin was opened in 1999. There is considerable expansion of regional services by private airlines in the domestic air transport services subsector, creating a competitive environment for consumers and a need for fleet expansion.

While there have been delays by Indian **railways** to proceed on various projects, there is still real interest in making improvements: for example, a railway safety delegation visited Canada in November 2000, looking for technology and training methods to improve their rail safety record.

In the **automotive** sector, the GoI has removed all industrial and capacity restraints for the setting up of new projects and for expansion of existing units. This sector has been categorized as a priority sector for foreign direct investment. With its current effort to introduce the latest technology and upgrade its automotive industry output to international standards, a search for foreign partners is on in India today.

Business environment

The business environment has improved with regulatory reforms, lowering of tariffs, opening to competition and greater transparency (though the tendering process at times can be cumbersome). Growth and other indicators in the economy are steady, and the central government is committed to infrastructure development and privatization.

Challenges

There continue to be challenges regarding transparency and consistency in tendering procedures; the length of the process from inception to actual execution of projects; the requirement for major supplier investments in large projects; and the importance of selecting the right agent.

Ports projects are generally slow getting off the ground because of the complex nature of port environments, the high cost of improving the facilities, and the challenge of restructuring ports operations to make them efficient and more competitive.

Contractual agreements may take time, but the benefits can be substantial.

Another major challenge is getting into the market before its too late. Of over 450 foreign collaborations in the Indian **automotive** sector, only three are with Canadian companies.

Hot leads

The Indian government is in the process of building a national highway grid, part of which has funding from the World Bank. There are a number of other IFI projects on the books including the Karnataka State Highways Improvement Project, the Gujarat State Highway project, the Tamil Nadu Road Sector Project and the Mumbai Urban Transport Project.

Canadian promotional plans

Transportation will be a focus sector for the Canada Trade Mission to India in 2002.

Given the immensity of the transportation sector, we have focussed on railways, highways and aviation. Other areas in which there are opportunities to promote Canadian capabilities with more modest support by the Canadian High Commission will be possible.

Other trade events

- **India International Maritime Expo**
  (Mumbai, October 10–13, 2001)
  Web site: **http://www.inmexindia.com**

- **Indian Roads Congress**
  (New Delhi, November 8–10, 2001)
  E-mail: **ircnet@alpha.nic.in**
- **Auto 2001** — the Indian Automobile Trade Fair (Pune, December 2001)
  E-mail: **gateway@ip.eth.net**
- **International Conference on Bridge Design and Construction**
  (Hyderabad, December 8–10, 2001)
  E-mail: **nbrdc@rediffmail.com** or **raghavan6@hotmail.com** or **raghavanm@rediffmailcom**
- **Aero India 2003** (Bangalore, February 2003)
  E-mail: **pritam.pandya@ciionline.org** and
  Web site: **http://www.aeroindia2003.com**

Market reports

- A number of market studies on the transportation sector in India have been completed, and are posted on DFAIT's InfoExport Web site: **http://www. infoexport.gc.ca**
  - Ports Sector, April 2001
  - Inland Waterways, October 1999
  - Shipping, October 1999
  - Roads, July 1999
  - Civil Aviation, May 2001
  - Railways, July 1999

Links

- Ministry of Road Transport & Highways: **http://www.nic.in/most**
- Ministry of Shipping: **http://www.nic.in/most**
- National Highways Authority of India (NHAI): **http://www.nhai.org**
- Automotive Component Manufacturers Association of India (ACMA): **http://www.indianauto.com/acma.htm**
- Association of Indian Automobile Manufacturers (AIAM): **http://www.planetindia.net/aiam**
- Consulting Engineers Association of India: **http://www.consultingengr.com**
- Asian Development Bank: **http://www.adb.org**
- World Bank: **http://www.worldbank.org**

Media

- *The Economic Times*: **http://www.economictimes.com**
- *The Business Standard*: **http://www.business-standard. com**
- *The Financial Express*: **http://www.financialexpress.com**
- *India Today*: **http://www.india-today.com**
- *India Infrastructure Magazine*: **http://www.indianinfrastructure.com**

Pakistan

Why is it a priority?

Pakistan's existing infrastructure requires a major overhaul. Pakistan is a linear country (north–south), whose population base is centred toward the centre and north, while the ports are located in the south.

To co-ordinate the developments in the transportation sector, the GoP has merged the Ministry of Communications and the Ministry of Railways. The new Ministry of Communications and Railways has initiated programs to revive the system by paying closer attention to technical requirements. For example:

- Highways are being equipped with weigh scales.
- Policing is being increased to control the overloading of trucks.
- Railway operations are being improved by eliminating some non-core expenditures.
- Plans are under way to import high-speed freight and passenger wagons for Pakistan Railways.

- Replacement of PIA's (Pakistan International Airlines) fleet of 13 ageing Fokker F27s, used on short-haul aircraft feeder routes.

Canadian trade promotion efforts

- Posting of periodic newsletters on the InfoExport and Canadian High Commission Islamabad Web sites on the evolution and implementation of privatization policy and law.
- New ports are being developed and the infrastructure at existing ports is being upgraded to meet the requirements for the import and export of bulk commodities and containers.

Which products and services?

Roads

- The National Highway Authority (NHA), under the Ministry of Communications and Railways, is responsible for developing all federal highways. There are several opportunities for large toll-based BOO projects for roads linking ports to major cities, and between large commercial and industrial cities. Equipment required includes the following:
  - Road construction equipment
  - Weigh-in motion scales (a Canadian firm has sold several weighing machines to the NHA)
  - Toll booth equipment and software for toll highways
  - Surveillance equipment for highways
  - Communication equipment for managing staff

Railways

- Pakistan Railways needs a major overhaul of its existing hardware (35% of existing 550 locomotives require upgrading or modernizing). It has recently tendered for procurement of 3000 HP and 2500 HP locomotives, high-speed, high-capacity freight wagons and high-speed passenger coaches, and requires the bidders to supply the items under suppliers' credit. Additional requirements include:
  - Railway signalling equipment
  - Railway tracks
  - Maintenance machinery
  - Fibre-optic cable

Ports

- Terminal facilities: specialized terminals for chemicals, petroleum products, containers, etc.
- Port-handling equipment, tugs, pilot boats, ship surveillance hardware and software.
- Pakistan would like to develop Gwadar Port on a partnership (BOOT) basis.

Aviation

- Airport safety systems and passenger/baggage/freight handling equipment
- Short-haul aircraft for the national carrier. The existing fleet of 13 Fokker F–27s is 20 to 35 years old and needs replacement.

Business environment

The current infrastructure consists of the following:

- A road network of approximately 300 000 km
- A railway network of 8775 km
- Two major commercial sea ports at Karachi and Port Qasim handle all of the country's imports and exports. There are three fishing ports (Pansi, Jeewani and Gwadar) and one naval port (Ormara).
- A total of 42 airports, only five of which are capable of handling international air traffic. Of these, only three are equipped with modern landing systems.

Highways, railways and ports are under the administrative control of the Ministry of Communications and Railways, while aviation matters (civil aviation and PIA) are the responsibility of the Aviation Division of the Ministry of Defence.

Canadian technology and expertise are well known through previous contracts for equipment and services from all the departments noted above. The Ministry of Communications and Railways is keen

to initiate priority projects to improve the existing infrastructure, with the assistance of IFIs and donor agencies (the ADB and the World Bank). Some projects will be available for development following BOO or BOOT models.

Canadian trade promotion efforts

- Posting of periodic newsletters on the InfoExport and Canadian High Commission Islamabad Web sites on the evolution and implementation of privatization policy and law.
- The Canadian High Commisssion continues to work closely with individual companies and their local representatives on realizing opportunities (the Karachi Mass Transit Project is on hold for the time being).

Links

- Pakistan Railways: **http://www.pakrail.com**
- Civil Aviation Authority: **http://www.karachiairport. com**
- Pakistan International Airlines (national flag carrier): **http://www.piac.com.pk**
- Ministry of Communications and Railways/ National Highway Authority programs as well as details of other departments under the ministry: **http://www.moc.gov.pk**
- State Bank of Pakistan (contains information about foreign exchange regulations that affect the repatriation of profits and assets by foreign investors): **http://www.sbp.org.pk**
- Board of Investment (contains useful information on investment regulations and important contacts that can assist foreign investors): **http://www. pakboi.gov.pk**
- Privatisation Commission (contains information about the process of privatization and short-term and long-term goals): **http://www.privatisation. gov.pk**
- Asian Development Bank: **http://www.adb.org/ Documents/Profiles** for detail on upcoming projects in the transportation sector in Pakistan

Glossary

ADB	Asian Development Bank
ALP	Agricultural Linkages Program
APM	Administered Pricing Mechanism
ASP	Application Service Provider
B2B	Business to business
B2C	Business to consumer
BCF	billion cubic feet
BIMST-EC	Bangladesh, India, Myanmar, Sri Lanka, Thailand Economic Co-operation
BMTPC	Building Materials and Technology Promotion Council
BOO	build-own-operate
BOOT	build-own-operate-transfer
BOT	build-operate-transfer
BTTB	Bangladesh Telephone and Telegraph Board
CAAB	Civil Aviation Authority of Bangladesh
CDMA	Code Division Multiple Access
CEA	Central Electricity Agency
CEB	Ceylon Electricity Board
CIDA	Canadian International Development Agency
CIRC	Corporate and Industrial Restructuring Corporation
CMHC	Canada Mortgage and Housing Corporation
CNG	compressed natural gas
Cr or Crs	ten million
Crore	ten million
CWE	Co-operative Wholesale Establishment
DFAIT	Department of Foreign Affairs and International Trade
DFI	Development Finance Institutions
DTH	direct-to-home

EDC	Export Development Corporation
EDCF	Economic Development Co-operation Fund
EEF	Equity and Entrepreneur Fund
E&P	exploration and production
ESCO	Electric Supply Companies
FDI	Foreign Direct Investment
FICCI	Federation of Indian Chambers of Commerce and Industry
FIPB	Foreign Investment Promotion Board
FPCCI	Federation of Pakistan Chambers of Commerce and Industry
GDP	gross domestic product
GM	genetically modified
GNP	gross national product
GoB	Government of Bangladesh
GoI	Government of India
GoP	Government of Pakistan
GoSL	Government of Sri Lanka
GRA	Gas Regulatory Authority
GSM	Global System for Mobile Communications
GSP	Geological Survey of Pakistan
GWH	gigawatt hours
HUDCO	Housing and Urban Development Corporation
HVDC	high-voltage direct current
IBOC	International Business Opportunities Centre
IBRD	International Bank for Reconstruction and Development (World Bank)
ICE	information, communication and entertainment
ICT	Information and Communications Technology
IDD	International Direct Dial
IFIs	International Financial Institutions
IMF	International Monetary Fund
IPP	Independent Power Plants

IPPAI	Indian Power Producers Association
ISP	Internet Service Provider
IT	Information Technology
ITC	International Trade Centre
ITT	Information technology and telecommunications
JBIC	Japan Bank for International Cooperation
KESC	Karachi Electricity Supply Corporation
Lakh	hundred thousand
Lk or Lks	hundred thousand
LNG	liquified natural gas
LPG	liquified petroleum gas
M1	Money supply that consists of currency in circulation outside of the chartered banks, along with all demand and pure chequing deposits, which can be withdrawn by depositors at any time without prior notice.
M2	consists of M-1 plus personal savings deposits and chequable and non-chequable non-personal or corporate notice deposits. It does not include notice deposits at investment-dealer subsidiaries or interbank notice deposits
M3	consists of M-2 plus all non personal term deposits in financial institution, plus foreign-currency deposits of domestic residents. It does not include fixed-term interbank deposits or an exchange-rate adjustment.
MCR	Ministry of Communications and Railways
MMT	million metric tonnes
mmtpa	million metric tonnes per annum
MOU	Memorandum of Understanding
MST	Ministry of Science and Technology
MT	metric ton
MW	megawatt
NEQS	National Environmental Quality Standards
NGOs	non-governmental organizations
NHB	National Housing Bank
NHDA	National Housing Development Authority
NRCan	Natural Resources Canada

O&M	operations and maintenance
OECD	Organization for Economic Co-operation and Development
PARC	Pakistan Agricultural Research Council
PEPC	Pakistan Environmental Protection Council
PEPCO	Pakistan Electric Power Company
PIA	Pakistan International Airlines
PRA	Petroleum Regulatory Authority
PSIDC	Private Sector Infrastructure Development Corporation
PTA	Pakistan Telecommunications Authority
PTCL	Pakistan Telephone
RFP	Request for Proposal
SAIL	Steel Authority of India Limited
SCADA	Supervisory Control and Data Acquisition Systems
SEB	state electricity boards
SIDA	Swedish International Development Agency
SME	small and medium-sized enterprises
SNGPL	Sui Northern Gas Pipeline Limited
SSGC	Sui Southern Gas Company Limited
T&D	electrical transmission and distribution
TCF	trillion cubic feet
USDA	United States Department of Agriculture
USGS	United States Geological Survey
VSAT	very small aperture terminal
WAPDA	Water and Power Development Authority
WB	World Bank
WGC	Working Group on Coal
WPC	Western Provincial Council
WTO	World Trade Organization