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A Trade Action Plan for India

Canada's International Business Strategy

1996-1997



Team Canada • Equipe Canada



Government
of Canada

Gouvernement
du Canada

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TRADE DEVELOPMENT PLAN FOR INDIA

APRIL 1, 1996 - MARCH 31, 1997

The South Asia Division (PSA) of the department of Foreign Affairs and International Trade has prepared a Trade Development Plan for India to provide other Federal and Provincial agencies with an outline of market development activities planned and budgeted for fiscal year 1996\97. It is the product of extensive consultation between this Department and its many public and private sector partners throughout Canada.

On pages 12 and 13 of this document, an outline of the proposed activities of the Department of Foreign Affairs and International Trade is provided. All the activities are planned but are subject to change. Interest in any activity should be directed to the Trade Commissioner or Commercial Officers listed on pages 1 and 2.

Most importantly, the document reflects and complements **FOCUS INDIA: BUILDING A CANADA-INDIA TRADE AND ECONOMIC DEVELOPMENT STRATEGY**. Activities to be initiated in the sectors with the greatest potential, are designed to either alert export-ready companies to the opportunities in India, help clients adapt the goods or service to the particular requirements of the marketplace, or assist Canadian firms in their promotional efforts in both the metropolitan and regional markets throughout India. Readers should refer to the regularly updated Focus India document which provides a full description of Canada's trade and investment strategy for India.

The sectors designated as having the greatest potential are as follows:

- **Power**
- **Oil and Gas**
- **Environmental Products and Services**
- **Telecommunications and Information Technology**

The activities proposed in this strategy will be coordinated and delivered by a team of Trade Commissioners both in our missions in India and in the South Asia Division. Readers interested in finding out more about the Trade and Investment Program for India in 1996\97 should direct their questions to the officers in the list to follow.

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Stanley Gooch, High Commissioner - Canada's official representative in India.

David Summers, Counsellor (Commercial) - Responsible for the trade program.

Kathleen MacKay, First Secretary (Commercial) - Construction Products, Defence Products, Forest Industries, Financial Banking and Credit Agencies

Michele Wiwchar, Second Secretary (Commercial) - Aircraft and Parts; Rail and Bus Equipment / Surface Transportation

Ramesh Kamo, Senior Commercial Officer - Advanced Manufacturing Technologies; Information Technologies and Telecom; Space

Ram Gupta, Commercial Officer - Agriculture and Food Products; Biotechnologies (Agriculture); Fish and Sea Products

Ashwani Nanda, Commercial Officer - Automotive; Chemicals, Plastics & Advanced Materials; Oil and Gas Products and Energy Equipment; Power Equipment

Vinney Gupta, Commercial Officer - Biotechnologies (Medical); Business, Professional and Educational Services; Consumer Products; Cultural Industries; Environmental Equipment and Services; Consumer Products; Cultural Industries; Environmental Equipment and Services; Medical and Health-Care Products & Services; Primary/Secondary Industrial Machinery; Tourism; Insurance

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Andree Vary, Consul and Trade Commissioner - Responsible for the trade program in the Mumbai region.

Kim Girtel, Vice-Consul and Assistant Trade Commissioner - Assists with the overall trade program in the Mumbai region, with a focus on goods.

Apurva Mehta, Commercial Officer - Focuses on the Services Industries.

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The Indo-Canadian Business Environment

India's foreign trade and investment policies are more welcoming today than ever before. India has undertaken a number of significant political and economic reforms affecting the regulation of foreign exchange, imports, investment, privatization, taxes, and the environment. India has all but abolished its "licence Raj" which has frustrated exporters and investors alike. The Rupee is now fully convertible on both the trade and current accounts and, more importantly, there is an emerging mind-set that India truly can achieve global status.

Even though Canada and India are not presently major trading partners, in 1994 Canadian firms captured 1.5 percent of India's import sales, almost doubling the 0.8 percent attained in 1993. This reflects the high growth potential for trade relations between Canada and India. Canada has a strong history of trade relations with India and at one time was India's third largest trading partner. Canada - India trade was very strong in 1995, with two-way trade totalling over \$1 billion.

With a gross domestic product of US\$465 billion and the recent relaxation of regulations governing foreign economic involvement, there is enormous scope for Indo-Canadian commercial cooperation in the Indian market. Many of the areas that India has identified as priority sectors are those in which Canadian firms have tremendous expertise such as: energy, telecommunications, environmental industries, to name a few. Furthermore, with a population of almost a billion people, a growing middle class, and approximately 40 million consumers earning in excess of

\$30 thousand a year, India has a ready-made market for goods and services.

In recognition of the immense potential of this rapidly expanding market, the Canadian corporate community is taking a closer look at India. Small and medium-sized companies are pursuing joint ventures and service companies are winning an increasing number of IFI funded consulting contracts. There are more than 125 Indo-Canadian industrial collaborations, in a wide range of fields.

It is important to note that for every \$1 billion of value added exports produced by Canadian firms, some 15,000 jobs are created in Canada.

Action Plan

Canada's trade objectives in India are: to capitalize on the flourishing business opportunities; to realize the market potential of the region with India as a strategic partner; and, to contribute to the sustainable economic development of India. Canada's success will depend on our ability to achieve greater access to the Indian market and to develop initiatives that will result in the provision of the greatest possible competitive advantage to Canadian business.

The Canadian government and its affiliated agencies are attempting to facilitate the increase of Canadian business involvement in India through various programs and services. The government will attempt to act as a catalyst by undertaking activities and initiatives in the areas of: political relations, economic/trade relations, business development initiatives, Canadian and Indian business networking organizations, and financing.

Canada's political relations with India have been characterized by constructive discussion and cooperation. The government intends to build on this to increase the profile of Canada as a trading partner through high-level visits (in-coming and out-going), consultations, public relations, and a strong diplomatic presence in India.

Canada has several bilateral economic cooperation agreements with India which consummate sectoral interests and provide a forum for the exchange of economic information. A more transparent economic relationship, and comprehensive discussions of economic issues, can only enhance general economic relations. Canada has

renewed the Double Tax Agreement and is pursuing a Foreign Investment Promotion Agreement with India (see Appendix I).

There are two tasks in building Indo-Canadian industrial collaboration: to increase the awareness of opportunities in India among Canadian firms, and to build a greater awareness of the capabilities of Canadian firms in India.

The Team Canada trade mission to India led by the Prime Minister in January 1996 aided Canada's efforts to increase awareness of potential opportunities between Canadian and Indian firms. The mission also helped to bolster Canada-India political ties.

The major thrust of business development initiatives is to increase the awareness of business opportunities in India. This will be augmented with business support programs and industrial cooperation mechanisms. Awareness building will be achieved through a variety of activities including:

- Two-way Ministerial visits. There is a possibility of an Indian Prime Ministerial visit to Canada in 1997 and other Indian Ministers will be invited to visit Canada over the coming year. Delegations such as that from the Confederation of Indian Industry (CII) are scheduled to visit Canada in the near future and others will arrive to attend various trade shows including the Petroleum Conference in Calgary. It has been proposed that the Canadian Minister for International Trade visit India in late autumn.

- Canadian and Indian media exposure. Journalists are encouraged to travel in both directions.
- Outreach programs. To spread the message, across Canada, of opportunities in India.
- Twinning programs. To build cultural and industrial links between the two countries.
- Seminars and workshops. Sector-specific seminars are scheduled to take place across Canada and India.
- Industry association presentations. To encourage the private sector to focus more attention on experiences and opportunities in India.
- Information packages and newsletters. This literature will be produced and distributed by the federal government to provide a basic level of market knowledge.
- Continued development of an electronic forum on DFAIT's Bulletin Board to permit a discussion and exchange of information and opportunities in India.
- Some of the recently completed documents are:

A Business Guide to Financial Services Markets in India

Business Opportunities in India: A Business Guide for Canadian Environmental Companies

Focus India: A Business Guide for Canadian Aquaculture Firms

Focus India: A Business Guide for Canadian Drug and Pharmaceutical Firms

Focus India: A Business Guide for Canadian Food Processing Firms

Focus India: A Business Guide for Canadian Medical Devices and Services Firms

Focus India: A Business Guide for Canadian Multimedia Firms

Focus India: A Business Guide for Canadian Pulp and Paper firms

Focus India: A Business Guide for Contract R&D Opportunities in India

Focus India: A Business Guide for Canadian Telecommunications, Related Information Technology, and Cable Television Firms

Focus India : Agri-Food

Focus India : Building a Canada-India Trade and Economic Development Strategy

India's Power Sector: Business Opportunities for Canadians

India Market Reports:

- *Information Technologies*
- *Oil and Gas Sector*
- *Agri-food*
- *Urban Transit Sector*

The Indian Mining Industry: Market Information for Canadian Participation in the Indian Market for Mining Equipment and Services

The Indian Mining Industry: Market Information for Canadian Participation in the Indian Market for Mining Exploration and Development

World Bank Group Operations in the Republic of India: A Canadian Business Guide

Member Companies of the Confederation of Indian Industry interested in doing business with Cda

1996 Canadian Directory of South Asian Trade Consultants

Bangalore: The High - Tech Capital of India

Mumbai: The Commercial Capital of India

Prospects for Further Reforms in India: Policy Staff commentary # 12

In the following section, an outline of the proposed activities of the Department of Foreign Affairs and International Trade is provided. All the activities are planned but are subject to change. Interest in any activity should be directed to the Trade Commissioner or Commercial Officers listed in the previous section.

Canadian and Indian Business Organizations

Institutional linkages play a key role in bridging information gaps and in matching Indian opportunities with Canadian capabilities. This is particularly important in the case of India because both countries are still relatively unknown to each other. A significant number of linkages have been established over the past few years and there is a need to increase both the knowledge of and use of these. Current linkages include the following:

- Canada-India Business Council;
- Asia Pacific Foundation of Canada;
- Chambers of Commerce Memoranda of Understanding;
- Indo-Canadian Joint Business Council;
- Indo-Canadian Chamber of Commerce;
- Conference Board of Canada;
- Indo-Canadian Business Club; and
- private sector alliances and networks (a directory is available of Trade Consultants with India market expertise and experience).

The existence of these organizations should be advertised to a wider audience in both countries. Business organizations are an effective vehicle for the development of private sector strategic alliances and can be of considerable assistance in the location of potential business partners and opportunities.

Fiscal Year 1996/97

During the upcoming year, the South Asia Division at the Department of Foreign Affairs and International Trade, in conjunction with its missions in India as well as with other Government Departments, will :

- explore the merits of creating a Canada-India Business Alliance, based on the UK/US model;
- work with Canada-India Business Council and sectoral associations to mount sectoral missions to India;
- conduct outreach activities to stress the importance of India to Canada targeting industry associations;
- continue to expand the Indian market information base at DFAIT;
- in collaboration with Canadian International Development Agency (CIDA) conduct a series of seminars across Canada on environmental equipment and services opportunities in India;
- continue to provide information and assistance to the Canadian Industry on the trade and investment opportunities with India;
- conduct industry association presentations; and
- work on mechanisms to address market issues which hinder trade (ie: border crossing).

Proposed Projects for 96/97 & 97/98

Activity/Event	Date	Location
Advanced Technology Products/Systems and Related		
Software Study	May - October, 1996	Canada, India
Multimedia Study	April - June, 1996	India
Communications India	Oct 22 - 25, 1996	New Delhi
Broadcast Cable and Satellite India	Dec 06-09, 1996	New Delhi
WISITEX	Feb 01-07, 1997	New Delhi
Incoming Buyers Mission - Advanced Tech.	Aug 20-28, 1997	New Delhi, Mumbai
Agriculture, Food Products and Related		
Biotechnology Study	May - Aug, 1996	India
Incoming Peas/Pulses Mission	Sep 16-20, 1996	Winnipeg, Saskatoon, Vancouver, Calgary
Agritech	Nov 27- Dec 3, 1996	Chandigarh
Arts and Culture		
Arts and Cultural Study - Intellectual Property	May - Aug, 1996	India
Bio Industries		
Bio Industries Study	May - Aug, 1996	India
Environmental Equipment and Related		
Environmental Seminars	June, 1996	Toronto, Calgary
Workshop on environmental applications of geomatics	Nov 1996	Delhi, Mumbai, and other locations
Info booth	Oct, 1996	Mumbai
Environment 97 (IETF)	Feb 09-15, 1997	New Delhi
Finance		
Trade Show	Jan 10-Mar 10, 1997	Mumbai
Mining, Metal and Minerals and Related		
Outgoing Mining Mission	Jan 08-13, 1997	Delhi, Calcutta, Orissa, Bangalore
Incoming Indian Mining Mission	Mar 10-16, 1997	Toronto, Montreal, Winnipeg, Vancouver

Activity/Event	Date	Location
Oil and Gas Products and Related		
Canadian oil and gas mission (Chemtec)	Oct, 1996	Delhi, Mumbai region
Indian oil and gas mission	June 9-15, 1996	Calgary, Edmonton
Power and Energy Equipment and Related		
Canadian Power Mission	Nov 3 - 9, 1996	Delhi, Madras, Hyderabad
Canadian Alternate Energy Mission	Feb 4-11, 1997	Delhi, Madras, Hyderabad, Mumbai
Indian Power Mission to Canada	Mar 11-19, 1997	Montreal, Toronto, Vancouver
Primary/Secondary Industrial Machinery and Related		
Update Industrial Machinery Study	Feb 1-Aug 1, 1996	New Delhi
Packaging Study	May - Aug, 1996	India
Packaging and Labelling Buyer's Mission	Mar 25-28, 1997	Toronto, Montreal
Transportation Systems and Related		
3rd International Railway Equipment Exhibition	Feb 09-15, 1997	New Delhi
Incoming Autoparts Mission	Oct, 1996	Ontario, Quebec
Multi - Sectoral		
Canada Tour by a Commercial Counsellor	June 1996	Canada
1997 Trade Action Plan for India	July 1996	Canada
Joint Venture Paper	July 1996	Canada
Catalogue Shows	Mar 03-09, 1997	Calcutta, Madras, Hyderabad

AGRICULTURE

Agriculture is the back-bone of the Indian economy. It contributes 33 percent of the gross domestic product (GDP) and two-thirds of the country's work force derive their livelihood from agriculture based activities. Economic reforms since 1991 have improved the profitability of agriculture.

Market Opportunities

Horticulture :

Due to its diversity, the country produces a large variety of fruits, vegetables, flowers, plantation crops and many types of spices, medicinal and aromatic plants. Although the overall production of these items is about 106 million tonnes (mmt), the post harvest losses are very high (roughly C\$1300 million) due to poor infrastructure and lack of organized marketing. Government has allocated C\$90 million for the development of this sector. Good prospects exist for co-operation in crop production and post harvest processing and preservation technologies.

Pulses :

Pulses are an important source of protein in the Indian diet. Even though India is a large producer of pulses, its production has not kept pace with its population growth. The Indian government continues to permit private sector importation of pulses without any licensing restrictions. In 1991-92, foreign exchange restrictions limited imports of pulses to approximately 792,000 tonnes, then in 1992-93, a record bumper crop kept imports at the previous year's level. Nevertheless, there is great potential for increased Canada-India trade in this area.

The varieties of pulses imported include: peas, kidney beans; chick peas; lentils; green beans; Tyson chick peas; black matpe; and pigeon peas.

Supplier Capability

The Canadian agriculture sector is an integral part of Canada's economy accounting for 2.1 percent of the gross domestic product and employing just under half a million people, or 3.7 percent of Canada's workforce. Recently, Canada has been successful in supplying special crops to India and India is continuing to develop "contract supply farming" agreements with outside suppliers. To the extent that Canadian farmers can participate in this program, longer term guaranteed purchases of their crops may be possible.

AUTOMOTIVE INDUSTRY

The Indian automotive industry has undergone significant transformations in the last couple of years with de-licensing and the easing of import restrictions. India produces 2.8 million vehicles every year, ranging from mopeds to heavy commercial vehicles and covering scooters, motorcycles, cars, jeeps, light commercial vehicles and tractors. The Indian US\$5 billion vehicles industry is a key player in the economic scenario and Indian vehicles are now increasingly being exported, primarily to Asian and African countries. In 1995, exports in this sector were US\$280 million.

The auto component industry in India has played an important role in the growth, development and indigenisation of the Indian vehicle industry. This US\$2.6 billion industry has the capacity, capability, and technology to produce a comprehensive range of components for both original equipment (OE) fittings and for the replacement market. Auto components from India are also being exported in significant volumes (US\$200-300 million annually).

Market Opportunities

Two general areas offer the most opportunity for Canadian companies:

1. collaboration with an Indian manufacturer for export production; and
2. collaboration with an Indian automotive parts manufacturer for production of labour-intensive sub-components on a buy-back basis.

The most promising areas for cooperation and collaboration however are in the

manufacture of automotive components (for local consumption or export); emission control technology; assembly and production equipment; and anti corrosion coatings.

There are opportunities for Canadian component manufacturing companies in the form of joint ventures involving the transfer of technology. The Indian components industry faces the challenge of improving the quality of their products to a standard which is acceptable to their Western clients.

Supplier Capability

The automotive industry, representing 18.5 percent of all manufacturing, is one of Canada's largest manufacturing industries. It accounts for nearly 572,000 jobs (including manufacturing, aftermarket and dealerships) and exports output valued at C\$62 billion (with 95 percent to the U.S.).

The Canadian automotive industry is highly competitive and productive. With a very sound technology base, it produces world-class products, particularly in the manufacture of equipment, both original and after-market, for the physically disabled, and alternative-fuel vehicles.

It is an opportune time for Canadian firms to enter the Indian automotive market through alliances/joint ventures. Already, more than 250 foreign firms have developed some kind of collaboration with Indian automotive firms. Also, the "big three" have firmed up their plan to enter into the Indian market which is expected to grow from the current level of US\$% billion to US\$9.5 billion in the year 2000.

AVIATION AND AIRPORTS

With the repeal of the Air Corporations Act in March 1994, private airlines are now permitted to operate scheduled services which will create an increasing demand for regional aircraft, aviation equipment, and repair, maintenance and overhaul facilities. To handle a projected increase in passenger (international and domestic passenger traffic is projected to grow by 12 percent and 9 percent respectively) and cargo traffic, India plans to modernize and expand its current airports, build new ones, and improve its air navigation system. By early next century, new airports are to be built in Mumbai, Bangalore and Cochin and another 12 regional airports are to be upgraded in the near term. The modernization and expansion of the airport system will provide opportunities for airport designers, builders and operators as well as equipment manufacturers.

All airports are supposed to have Uninterrupted Power Supply (UPS), but there have been serious occurrences of power failures blanking out navigation systems. The lack of hangar and parking facilities is particularly acute for air taxis. The air traffic control (ATC) facilities and related equipment are not up to standard. At Mumbai, which has the highest density of international traffic, the saturation point is likely to be reached in the next few years.

With the growth in the aviation sector, there will also be an acute need for qualified pilot training on fixed wing aircraft.

Market Opportunities

Canadian companies have already begun to take advantage of India's economic liberalization in this sector. With facilities which have not been upgraded in years, there is a need to increase the number of hangars, aircraft parking space and reservation counter space. Most airports do not have basic navigation equipment such as Instrument Landing Systems (only 20 percent of airports have ILS), Very High Frequency Omni Range, and Distance Measuring Equipment. Runway lights, strobe lights for runway approach and navigation aids are either absent or non-functional, and ground firefighting and safety equipment are also in need of improvement.

Supplier Capability

The Canadian aerospace industry enjoys a very strong international reputation. Specifically, Canada is seen as a world leader in airport management, airport development, ground support services, and aircraft maintenance.

The recently established national Aviation Sectoral Council, with its expertise in developing professional standards among technicians, can provide a model for India and could be utilized as a mechanism for information exchange.

BIO-INDUSTRIES

With India's agriculture production growing at a slower rate than the population base, India has recognized the potential of the bio-industries to:

- increase yields;
- reduce post harvest spoilage;
- manage the environmental effects of intensive agriculture; and
- increase the nutritional value of certain foods.

Other benefits to India which may arise from bio-industries are :

- increased availability of clean water;
- improvements to the environment; and
- an improved health care system.

Market Opportunities

There is a growing interest in developing business alliances and joint ventures in the following areas :

- 1) agrifood (including aquaculture)
- 2) environmental protection (bioremediation and wastewater treatment)
- 3) health care diagnostics and therapeutics

Supplier Capability

The Canadian biotechnology industry is relatively small, employing 13,000 from the broadly defined bio-industry in Canada. The main focus is on health care and there is a world-class bioclinical research base distributed throughout Canadian medical schools and teaching hospitals.

CHEMICALS AND PETROCHEMICALS

This industry is one of the fastest growing segments of the Indian economy. Its share of the nation's gross domestic product rose from 8 percent in 1970-71 to about 40 percent in 1992. It comprises the petrochemical, dyestuff, pesticide, and the organic and inorganic chemicals sectors.

Market Opportunities

The modernization of India's agricultural base has generated a sustained demand for fertilizers, plant protection chemicals and related products. The synthetic fibre industry has also recorded a dramatic growth which has given a boost to the associated industries of dyes and textile auxiliaries. In addition, the availability of hydrocarbons has opened up new horizons for the petrochemical industry.

Supplier Capability

In 1994, Canada's chemical and petrochemical sector employed approximately 90,000 people and produced goods and services valued at \$24.4 billion of which \$9.6 billion was in exports.

The Canadian petrochemical industry is modern and world-competitive in both scale and technology. The growth of an economy, such as India's, is usually reflected in demands for petrochemicals. Transportation and distribution costs tend to be high in this market sector so location of production facilities is important. These factors suggest that Canadian firms might be successful in pursuing involvement in the Indian petrochemical sector.

Although many of the multinational companies have already entered the Indian market, there is still room for smaller companies who are engaged in the manufacture of formulated chemicals and/or performance chemicals (eg. automotive chemicals).

The fertilizer industry in Canada has grown dramatically over the past 30 years. A major contributing factor is Canada's resource position in three of the four raw materials (potash ore, natural gas and sulphur) used in finished fertilizer products. These resources are of high quality and extraction\production costs are relatively low. Consequently, Canada is one of the top suppliers in this sector despite the high transportation costs.

Currently, the Canadian pesticides industry primarily serves the domestic market, and much of this is sales and service activity for foreign parent companies. However, the Canadian industry is internationally competitive in those areas where significant manufacturing occurs in Canada.

CONSULTING SERVICES

To support its program of economic liberalization and its objective to significantly increase the country's export performance, India must undertake a major modernization and expansion of its infrastructure, especially in the areas of surface transportation, roads, ports, airports and telecommunications.

Similarly, as Indian industry strives to upgrade the quality and efficiency of its production in order to compete with foreign companies in a more liberalized and competitive domestic market environment and to succeed in export markets, there will increasingly be smaller, private sector technical assistance projects requiring the expertise of foreign firms.

Market Opportunities

The infrastructure requirements create significant opportunities for Canadian consulting engineers. Other opportunities fall into four categories: services to Indian companies or agencies; international financial institutions-financed consulting projects; bilateral projects financed by EDC and/or CIDA; and projects in India and in third countries accessed through a collaboration with an India company. Regarding services to Indian companies or agencies, there is a broad range of opportunities, although project sizes are relatively small. While projects cover various sectors, those relating to extraction and manufacturing technologies, efficiency, waste reduction, and quality management are the most prominent.

Supplier Capability

There are opportunities under IFI financed projects, primarily from the World Bank (WB) and Asian Development Bank (AsDB), and less frequently under the auspices of some UN agencies (eg. UNDP). For these projects, Canadian companies should register with the IFI's, stay in touch with the IFI liaison offices at the Canadian embassies in Washington and Manila, and with the specific posts to maintain contact with local project executing agencies. These projects sometimes require foreign firms to work with local companies, as one objective of IFI financing is to strengthen indigenous capacity. In 1992, Canadian consulting engineering firms received US\$45 million, or 7.69 percent of WB funds paid to consulting engineers. This places Canada fourth behind the UK, U.S.A. and France. These contracts account for 27 percent of Canadian contributions to the WB. Of the US\$45 million total, US\$6.4 Million was spent for contracts in South Asia.

With the decline in the number of projects financed and co-financed by Canada, an area of increasing opportunity is collaboration with Indian partners. This may be an effective means for Canadian companies to reduce costs both in India and in third countries. There is significant indigenous engineering expertise, and naturally India is under some pressure to utilize that pool of resources. But, in many cases, Canadian firms can contribute a wealth of international experience, as well as special expertise in specific areas.

DRUGS, PHARMACEUTICALS AND HEALTH CARE PRODUCTS & SERVICES

The pharmaceutical industry remains subject to industrial licensing restrictions and drug prices that are controlled by the government. There are 20,000 companies engaged in manufacturing over 500 bulk drugs and 30,000 formulations. India's pharmaceutical market is ranked 9th internationally, with a 1.5 percent share of the total world market. The total production of drugs and formulations in 1992 was valued at US\$1.3 billion, of which 29 percent was exported. Nearly half of the trade is controlled by 25 multinationals.

Medical electronic equipment is also a rapidly expanding sector in India with an annual growth rate of about 20 percent. The market is estimated at US\$130 million and India imports as much as 85 percent of its requirements.

Market Opportunities

In 1991-92, the import of drugs and pharmaceutical was estimated at US\$320 million. Imports include antibiotics; penicillin; erythromycin, vitamins and provitamins; (polio, human and veterinary); preparations containing insulin, caustic and other hormones; and tetracyclines. There is also a requirement for diagnostic, therapy, rehabilitation and patient monitoring equipment. The demand for this type of equipment could exceed US\$300 million per annum by 1997.

For Canada, there are excellent opportunities in the following areas: ultrasound based echo cardiogram units; dopplers of various types, ie. continuous

wave, bi-directional, and pocket size; heart diagnosis and treatment equipment, including digital subtraction machines; equipment for dental treatment (dental X-Ray equipment with direct print-out, dental burs); ultrasound scanners for abdominal applications and gynaecology; diagnostic equipment for cancer treatment; solid state lasers for ophthalmology, urology, angiology, cardiology, surgery; and therapy lasers and semi-conductors for rheumatology and dermatology.

Supplier Capability

Canada has been a marginal exporter of drugs to India; \$200,000 in 1992, but on the medical equipment side Canada has been more successful, with exports of over \$4.3 million since 1990.

The Canadian pharmaceutical industry continues to demonstrate consistent growth in both exports and employment creation. The medical research infrastructure is well developed and recent developments in fermentation capability should contribute to the establishment of bio-technology based pharmaceutical activities in Canada. Generic drug manufacturers in Canada use competitive production techniques to supply a broad line of drug products. The leading manufacturers are in a position to become integrated health care companies with significant processing and product development capability.

ELECTRONICS - HARDWARE AND SOFTWARE

Electronics is India's fastest growing industrial sector. It accounts for over 4 percent of the output of the industrial sector and represents 1.5 percent of India's gross domestic product. The consumer electronics area is contributing about one third of electronics production in India. By the turn of the century, the total electronic production is expected to surpass the C\$2.2 billion mark.

Market Opportunities

With a highly trained workforce in advanced technology, there are excellent opportunities for technology exchange and investment, in particular in the software industry. India offers excellent market potential for Canadian companies to enter into joint venture and technology transfer arrangements with Indian firms in the electronics and computer software/hardware sector.

Supplier Capability

Canadian software firms have developed excellent products and services which supply niche markets. It is recognized that support in promoting the sector will greatly assist the marketing and positioning of Canada as a world leader in software development. The major sub-sectors are professional services, data processing, and software products. This sector has potential links to the telecommunications sector with its requirements for software development and systems integration.

Canadian microelectronics firms are well placed to meet a wide variety of competitive

challenges in the Indian market, offering products including integrated semiconductors, power supplies, connectors, multi-layer circuit boards, and fibre optics. Although there is considerable competition from the USA and Japan, the Canadian industry has an advantage in the production of specialized products. This derives from strong capabilities in design and state-of-the-art facilities.

Most consumer electronics produced in Canada are assembled from imported components and technology. However, Canadian manufacturers are strong in the medium and high-end loudspeaker sub-sectors, where they are developing technologically superior products for the international market.

ENVIRONMENT

India's growing industrial base and its rapid population growth have created major environmental problems for the country which include water pollution, air pollution, land pollution and ground water contamination. It has been estimated that about 70 percent of all available water in India is already polluted. In response, the Indian government has launched a number of ambitious initiatives to improve environmental quality including the introduction of environmental legislation, the formation of Pollution Control Boards, and enforcement of environmental regulations through the judiciary. Services and technologies are estimated at US\$700 million annually and are expected to grow at an annual rate of 20-25 percent to reach US\$2.0 to 4.0 billion by the year 2000.

Out of 3,245 cities and towns, only 2% have some form of sewage treatment facility. According to one study, the market potential for municipal wastewater treatment for the top 23 metropolitan cities (covering 32.5% of India's urban population of 300 million) is estimated at US\$660 million not including the costs for pumping stations and interceptor sewers. Solid and hazardous waste management is also one of the high growth areas. Synthetic fertilizer and pesticide use is a major cause of the increasingly high nitrate levels in soil and water. Use of organic and inorganic chemicals in industries like pharmaceuticals, fertilizer and pesticides, plastics, textiles and detergents result in the production of hazardous waste. Although figures for 1995 are unavailable, estimates for the 1994 market in environmental goods, services and technologies were: US\$46 million for

industrial solid and hazardous waste management, US\$700 million for industrial wastewater treatment, US\$314 million for industrial air pollution control (point source), and US\$90 million for municipal solid waste management.

Canada is a world leader in technological advancement within the environmental industry. As such, India offers a unique opportunity in that Canadian companies can contribute to its economic success while protecting the global environment; the essence of sustainable economic development.

Market Opportunities

The environmental goods, services and technologies sector is a promising Canadian industry, offering new business opportunities, value-added exports and knowledge-intensive jobs, while directly addressing environmental challenges.

Indian industry represents a high-potential market for the goods, services and technologies of Canadian environmental firms. Specific environmental sectors are listed below with the identified opportunities for specific products and services:

- Environmental Consulting
- Recycling/Re-Use/Safe transport/Safe Disposal of liquid and solid wastes inclusive of hazardous/toxic ones
- Pollution monitoring techniques and interpretation

- Pollution control technologies and resource management techniques
- SO₂, NO_x and other toxic emissions control equipment
- Adsorption equipment for BOD, COD, toxic compounds, colour, odour for dyes, textile, paper, pharmaceutical, pesticides, fruit, canning, petro-chemical, rubber, chemicals, man-made fibres industry
- Conventional rotating biological contactors (RBC)
- Diffused aeration
- Ultra violet and ozonation
- Electrodialysis for controlling heavy metals pollution in metallurgical/electroplating/ caustic soda industries
- Ion Exchange and Reverse Osmosis for controlling heavy metals, cyanides, fluorides, and dissolved inorganics for a number of industries like chloralkali, man made fibres, metal processing electronics, etc.
- Ultra filtration for controlling COD, dissolved polymers and colloids of dairy, oil refinery, wool, breweries, paper and point industry

Recent research indicates that the current demand for new technology in India is in the following areas: hazardous waste management (training to handle materials, treatment and disposal); technologies for ground water remediation, separation of solids, oil and grease in refineries, oil wells,

and the vegetable oil industry; recovery of chemicals and water; sludge thickening; anaerobic systems, especially second and third stage treatment; fermentation towers; aerobic plant packages with specialized features; waste pretreatment and incineration plants; flue gas desulphurization; and hot gas filtration.

Supplier Capability

In the environmental sector there are approximately 4,500 firms employing about 150,000 people in Canada and generating roughly \$11 billion in annual revenues. The Canadian industry is overwhelmingly composed of small and medium-sized enterprises, with about 15-20 percent of these companies being export-ready.

Canadian firms have established a good reputation for water and wastewater treatment systems, for handling liquid and solid wastes, and for providing such items as incinerators, shredders, compactors and refuse recycling equipment. Our capacity extends from the construction of large pollution prevention and control systems down to such component parts as pumps, filters, valves and chemicals.

Canadian environmental consulting, management and engineering firms, as well as private laboratories and research establishments, are providing engineering, economic, scientific, management and technical services to both the domestic and international markets.

FINANCIAL AND INSURANCE SERVICES

The commercial banking system in India consists of nearly 200 scheduled (chartered) banks, of which 21 are nationalized. These banks operate over 36,000 branches throughout the country. The State Bank of India (SBI) is the largest Indian bank and also has offices in Toronto and Vancouver. Nineteen foreign banks operate in India.

The financial services sector has been one of the most prosperous sectors in India's post-economic reform period. Major opportunities exist to service local clientele which is increasingly looking to borrow funds globally and is also seeking international strategic associations. With the highly restrictive market structure prior to 1991, local financial firms have been unable to gain global expertise, and thus are now actively seeking to improve their knowledge through alliances with international firms.

Market Opportunities

The recent liberalization of the Indian insurance sector has created tremendous opportunities for Canadian firms. The Malhotra Task Force Report (January, 1994) recommended the "opening" of both life and general insurance, as well as the reduction of "directed investments" levels which require a majority of domestic investment. Although considerable time will be needed for the recommendations to become law, Canadian firms should be preparing now to harness these opportunities when they emerge.

Supplier Capability

Two Canadian banks are active in India at present. Others have corresponding banking relationships. However, there are "near bank" services which Canadian banks may wish to consider.

Some Canadian insurance companies formerly in India are considering re-entry. Leasing services, brokerage, trust etc, are all areas in which Canada has strengths, and several companies are interested in India.

FOOD PROCESSING

The food processing sector is a high priority for the Indian Government. There are no licensing requirements for up to 51 percent foreign equity participation. A number of processed food items like meat, tomato paste products, fast food, health food, breakfast cereals, tropical fruit juices, pulp and concentrates, preserved mushrooms, and alcohol have been identified as thrust areas for exports.

Market Opportunities

The fruit juice and concentrate sector offers tremendous opportunities for expansion as an export-oriented industry and is the focus of increasing foreign interest. India is a major producer of tropical and temperate fruits - mango, apple, pineapple, citrus fruits, banana, papaya, guava, lichi, sapota and grapes - with an annual production of about 27 million tonnes.

The present duty on food processing equipment is 25 percent, down from the 150 percent that was in place before economic reform. India's total imports of food processing equipment in 1991-92 (latest statistics) were US\$3.5 million, primarily from Germany, the U.K., the U.S.A., Denmark and the Netherlands.

Supplier Capability

This sector offers excellent opportunities for joint ventures in processing food items such as meat, tomato paste products, fast food, health food, breakfast cereals, tropical fruit juices, pulp and concentrates, and preserved mushrooms.

Canadian firms should be able to explore the potential in other sub-sectors such as: fish processing, aquaculture, edible oil processing, flour milling, oilseed processing, meat processing, and agricultural machinery.

INDUSTRIAL AND ELECTRICAL MACHINERY

The industrial and electrical machinery sector is characterized by a lack of technological sophistication and specialization due to extensive public ownership and protection from import competition. Domestic prices are often 40 to 100 percent higher than imported equipment. In 1992-93, India imported approximately US\$2.5 billion worth of industrial and electrical equipment; 20 percent of its total imports. Imports in this sector have experienced an average growth rate of about 9 percent, but this is expected to rise to 12-15 percent over the next few years.

Market Opportunities

Canadian firms will likely want to address India's requirements in the following areas: filtering and purifying equipment for liquids and gases; sophisticated machine tools for working metals, carbides, cement, glass, stone and ceramics; industrial furnaces and ovens; plate and finned heat exchangers; mining extraction and processing equipment; measurement control instrumentation; and spares for pumps and for steam and electrical generating equipment.

With Canada's expertise in the area, the Indian pulp and paper industry presents very good opportunities for Canadian companies which produce pulp and paper machinery. Presently there are over 350 mills in India producing 2.4 million tonnes of paper and paper products, and the demand has been growing.

Supplier Capability

Canadian material handling equipment manufacturers have a well-established capability to supply quality products to niche markets. These firms have proven to be internationally competitive in terms of price and quality and should be attractive to the Indian market.

Canadian low-volume specialty and custom-engineered industrial electrical equipment and systems that are certified under the ISO 9000 standards are highly competitive in every dimension of the international market. This sector will likely link to the activity in the utilities sector, especially power.

INVESTMENT

The Government of India understands that in order to achieve success with its plans to modernize the Indian economy it is important to attract foreign investment, something which has been difficult in the past. With the new reforms, the Reserve Bank of India can approve foreign investment automatically up to 51 percent equity in 35 high priority sectors. For other specified sectors, the amount can vary from 26 percent in the case of refineries to 100 percent for the computer software industry. There remains 8 industries which are reserved for the public sector, as well as another 17 which require licensing approval.

India is continuing to promote investment and technology transfers with the foreign community through recent changes to the Foreign Exchange Regulations Act of 1973. Of particular interest are investments that have the potential to export from India. Canada has also just renewed its Double Taxation Agreement with India and is continuing to negotiate a Foreign Investment Protection Agreement (FIPA) with India.

Market Opportunities

This document provides many examples of the various opportunities which are open to Canadian businesses through joint ventures. The Canadian Manufacturers' Association and the Canada India Business Council both have joint venture programs funded by CIDA's Industrial Cooperation Program. In addition, this program has various types of support for Canadian companies wishing to explore joint venture or technology transfer opportunities with India.

Supplier Capability

Canada has the expertise and experience in sectors which India views as priorities and therefore Canadian firms are well positioned to take advantage of the investment opportunities within the Indian economy.

MINING, METALS AND MINERALS

India is among the world's top producers of minerals such as coal, iron ore and chromate with an annual production of US\$6 billion and steady growth. The Indian government has identified the need to modernize its mining industry. As part of its economic reforms, India has recently amended regulations allowing foreign companies to hold a controlling interest in mining operations. It is also lowering the level of protection regulations. Consequently, the industry will have to become more competitive and environmentally conscious.

As part of the economic liberalization process, the government issued a new National Mineral Policy in March 1993. The thrust of the policy is to encourage private investment and reduce the role of the government in this sector. The 13 minerals which were hitherto reserved for the public sector but have now been thrown open to the private sector for exploration under the new policy are: Iron Ore, Manganese Ore, Chrome Ore, Sulphur, Gold, Diamonds, Copper, Lead, Zinc, Molybdenum, Tungsten Ores, and the Nickel and Platinum group of metals. Coal, which was not de-reserved in 1993, was allowed to be mined by private power plants for captive use in early 1995.

India's vast coal resources have been estimated by the Geological Survey of India at over 200 billion metric tonnes. Due to poor production levels, there is a wide demand and supply gap; against about a 200 MMT demand, the availability is only about 160 MMT.

Market Opportunities

India already manufactures a wide range of mining equipment. However, there are increasing opportunities in specialized high technology equipment such as DTH drilling machines, walking draglines, electric and hydraulic shovels and load-haul dumpers, all of which are needed to improve the productivity of the mining sector.

Supplier Capability

Canada is currently a leader in the high-technology areas of exploration, in less labour-intensive mining methods, and in high-efficiency smelting techniques. New equipment and process development, coupled with more aggressive marketing and the building of extensive links with mining and engineering companies, should allow Canadian mining equipment manufacturers to improve their competitiveness and expand their share of the Indian market.

The strength of the Canadian mining industry is its ability to respond to the high degree of product innovation demanded by the mining industry. The customizing of equipment is a more important attribute than is economy of scale.

Canadian engineer-procure-construct (EPC) firms are limited in number and scope but have impressive international reputations for quality and environmental concerns.

OIL & GAS

India has 18 percent of the world's population but only 0.5 percent of the world's oil and gas reserves. Its hydrocarbon reserves are estimated at 17 billion metric tonnes (crude oil and natural gas). Of these reserves, 63 percent are in offshore basins and 37 percent are located in the states of Gujarat, Assam, Rajasthan and Andhra Pradesh. Proven reserves, however, are only 4 billion metric tonnes, of which an estimated 25 percent are considered recoverable.

India is undergoing rapid change as the government recognizes that private sector investment is crucial to oil and gas development. Policies are quickly progressing toward increased domestic and foreign private sector participation in exploration, transportation, equipment sales and technology exchange. The annual market for equipment and services is estimated at US\$3.5 billion and is expected to grow between 12-15 percent over the next five years.

Market Opportunities

At present, almost 53 percent of the total requirements of the oil and gas industry are met through imports. This provides opportunities for the production of blow-out preventers, hydraulic power tongs, digital seismic units, diamond core bits, cathodic protection equipment, test separators, well platform pumps, well data acquisition systems, casing pipes and tubings, deck cranes, crude injection pumps and downhole production equipment.

Supplier Capability

As India begins to invite private sector participation in the oil and gas contracts, the scope for Canadian exports and servicing in this sector widens. The Canadian oilfield manufacturing industry is well placed to fulfill the need for market equipment and technologies. Furthermore, Canadian companies have already established a sound reputation as reliable suppliers of quality products and equipment in the Indian oil and gas industry and in several other markets around the world.

POWER

India's power sector is a blend of hydro-electric, thermal and nuclear power. Approximately 72 percent of the electric power available comes from thermal and nuclear power stations and the remaining 28 percent from hydro-electric units. Despite increasing its installed capacity from 1,300 MW in 1947 to over 78,000 MW at present, India faces an acute energy shortage. The demand for energy is predicted to grow by 9 percent annually, indicating that by the year 2007, India would require an incremental capacity of 142,000 MW. The current shortage is about 10 percent to 20 percent at peak demand. During the 8th Five Year Plan (1992-97) an additional 40,000 MW are required, but in reality only about 10,000 MW will likely be added. At this rate by 1997, India will have a shortage of 16 percent to 30 percent at peak demand.

To address this shortage, the Government of India (GOI) in 1993 decided to privatize the power sector, and announced a wide range of incentives to attract investment from foreign and Indian companies. The Ministry up to now has received 195 proposals to develop power projects (hydro, thermal and gas) for an additional capacity of 77,000 MW, involving an investment of over US\$93 billion. Presently 24 projects have been considered by the Foreign Investment Board of which 14 have been cleared by the Cabinet Committee.

The Indian market for major electrical equipment such as large generators, turbines, transformers is estimated at US\$5 billion and is expected to grow at over 15 percent annually for the next 5 years.

Market Opportunities

The most promising areas for Canadian companies are in establishing private power projects (using conventional or alternative sources of energy), upgrading the transmission and distribution systems, refurbishing and retrofitting old power stations, improving energy efficiency and selling power generation and transmission equipment.

The sale of power generation and transmission equipment to India's private sector power utilities are most likely to be for the following products:

- Steam boilers/turbines
- Gas turbines
- Hydro turbines
- Generators and large generating sets (1 MW and above)
- Transformers
- Switchgear above 230 KV rating

Canadian companies with state-of-the-art Supervisory Control and Data Acquisition Systems (SCADA) and line monitoring technology can help Indian utilities to reduce power losses during transmission and distribution.

The vast majority of the thermal capacity is over 12 years old, with a significant portion over 20 years old. The GOI has identified over 40 power plants for modernization and

upgrading. India's power transmission system is subject to losses of 25-30 percent, of which about 15 percent is from illegal diversions. While the GOI has a massive program for High Voltage Direct Current (HVDC) transmission, the overall system is plagued by inadequate links. On the consumption side, lighting, motor drives, pumps, fans and compressors have been identified as areas where India could improve its end-use energy efficiency.

For equipment suppliers, as well as developers, those with local operations, licensees and/or joint venture partners are the most likely to succeed in what will continue to be very competitive marketplace. For the majority of the larger projects, there is also a requirement for financing. Canadian companies that are able to put together a comprehensive package will be in a much better position to succeed.

Supplier Capability

Through its provincial utilities, consulting engineers and private operators, Canada has developed a wealth of knowledge and experience in building and operating a wide variety of power generation, transmission and distribution systems. Canada is the world's largest producer of hydro-electric power, and the third largest producer of electricity from all sources. Because of long transmission distances, Canada has also become a world leader in HVDC and other advanced transmission technologies.

The electrical power equipment and services industry in Canada employs approximately 35,000 people and supplies about \$6 billion in products annually, \$2 billion of which are exports. The industry's productivity and international competitiveness continues to

increase substantially, and exports are increasing.

Canada has developed an international reputation and image as a reliable supplier of high quality products with the most advanced technologies. Canada is most competitive in custom made and specialty electrical products, especially larger generation and transmission equipment.

Alternative energy sources (solar, wind, fuel cells, etc.) are also drawing renewed interest. Those subsectors involved in energy savings and improved system efficiencies are growing rapidly.

Canada and Canadian firms enjoy a good reputation in India. Many of Canada's leading electric power companies have been actively involved in the Indian power sector over the past four decades. On various occasions, Indian officials have indicated their desire to work with Canadian companies with up-to-date technologies for thermal and hydro power generation.

SCIENCE AND TECHNOLOGY

Even though India is still viewed as a developing country, it has a fully developed scientific infrastructure. Indian universities graduate more engineers per capita than any other country.

With over 50,000 scientific and technological professionals entering the work force every year in India, the opportunities for research and development in the Science and Technology field is limitless. There are over 220 research centres in India. The government run Council of Scientific and Industrial Research (CSIR) is said to be the largest single research establishment, with forty research institutions and eight field extension centres covering all major scientific applications in industry. The labs, which have over 25,000 employees including 6,500 scientists (2,500 doctorates), have a mandate to direct their efforts to produce commercially relevant results.

With regard to investment, CSIR labs are required to obtain 30 percent funding from the private sector, domestic and/or foreign, and this will be increased to 50 percent by 1997.

Market Opportunities

The value of the Indian market seems to be underestimated by Canadian business and academics but there are opportunities for R&D in India. These can be found in the following areas: agriculture, aerospace, software development, environmental technologies, biotechnology, and health care. Collaboration in R&D may represent a vehicle for long term entry into the Indian market.

Supplier Capability

Canada has many high technology companies where investment in R&D activities could be leveraged to facilitate entry into the India market.

SECURITY PRODUCTS

The market for electronic and other security products in India is relatively new and small in size. The current import market is only about US\$3 million per annum which includes baggage X-ray equipment, bomb detectors, access and perimeters controls, burglar alarms, and metal detectors. Most of the buyers have been government agencies either through global tender or direct sourcing.

This market is expected to grow significantly in the coming years, especially in the private sector. India already produces a wide range of security systems, yet they are not comparable in quality nor have the technological sophistication to what is available internationally.

Market Opportunities

Opportunities exist in the following areas: access control systems; counter-espionage devices; devices for open space and interior protection; fire safety detection and prevention equipment; bomb detection and disposal equipment; perimeter protection devices; surveillance equipment; equipment for police use and for bank security; and equipment for forensic science laboratories. In addition, the National Airport Authority of India is planning to upgrade the security systems at all Indian airports.

Supplier Capability

Numerous Canadian companies are already active in this market and those that are interested should consider exploring industrial collaborations with Indian partners.

TELECOMMUNICATIONS

The Indian market for telecommunications is second only to China in terms of worldwide business potential for Canada's exporters. With one of the lowest telephone densities in the world, India has a mammoth task before it to provide more extensive telephone coverage to its 900 million people, 75 percent of whom live in some 576,000 villages.

Realizing the close link between telecommunications and economic development, India has now accorded top priority to the expansion of its telecommunications sector. The telephone network has been expanded from some 3.0 million access lines in 1989 to 7.6 million lines in 1994; network modernization and expansion expenditures are estimated US\$1.45 billion in 1992-93 and US\$1.93 billion in 1993-94. To reach its target of 20 million access lines by 2000, it is estimated that India will need some US\$50 billion worth of investment from domestic and international sources. Timing is significant in this sector: far reaching policy changes by India's Department of Telecommunications are underway, leading to liberalization and opening of the proven technologies and expertise. Canada is a leader in this field and is capable of being a major player in this very competitive industry.

A Memorandum of Understanding (MOU) on co-operation in telecommunications was signed between the Canadian High Commission, on behalf of the Department of Industry Canada, and the Indian Ministry of Telecommunications, during the Prime Minister's Team Canada Mission to India.

This MOU can provide the umbrella for a range of co-operative initiatives, including pilot projects demonstrating innovative wireless communication services.

Market Opportunities

Market potential exists for Canadian industry in the following areas: pack switching; cellular telephone services; paging systems; optical fibre; international links; V-SAT; digital microwave systems; RF Links; satellite terminals; and facsimile switches, as well as in a wide range of value-added services that have recently been opened to the private sector.

India offers excellent market potential for Canadian companies to enter into joint venture and technology transfer arrangements with Indian firms in the telecommunications sector. Many Indian telecom firms would be interested in marketing partnerships with Canadian firms, where they would market, install and service the Canadian equipment through their existing Indian sales networks. This arrangement would be followed up by a transfer of technology or a joint venture, so that the benefit of lower cost, highly skilled manpower in India could be used to mutual advantage. Other Indian telecom firms are keen on contract manufacturing for established Canadian companies.

Business opportunities are available in the telecom services and equipment industries, rural telephone, cable television, Supervisory Control and Data Acquisition Systems (SCADA), and human resources development activities. The opportunities

range from the export of Canadian products and services to technology transfer, joint ventures, contract manufacturing, assembly of equipment and professional service contracts with government or other clients. Specific sector opportunities are discussed below.

An increasing number of reliable Indian conglomerates are now diversifying into the telecommunications sector. For telephone instruments, the technologies of Siemens, Ericsson and Face have been standardized: several companies are making telephone instruments under licence using the above technologies and production is adequate. For PBX, three technologies have been standardized: OKI, GTE and Jeumont Schneider. Indian Telephone Industries (ITI) manufactures cross-bar equipment and digital E-10B exchanges as well as various types of transmission and terminal equipment. Bharat Electronics Ltd. (BEL) and Electronic Corporation of India Ltd. (ECIL) manufacture microwave systems and telex equipment in collaboration with Siemens. In the last few years, some state governments have set up public sector companies to manufacture telecommunication and electronic equipment and components. The communications needs of the Indian Armed Forces are being met by indigenous sources, namely BEL, Hindustan Aeronautics Ltd. (HAL), ITI and ECIL.

Supplier Capability

The telecommunications sector is probably subject to the greatest evolution in technological change in the world today. In this respect, Canada is recognized as a world leader in this field. The diversity of Canadian manufacturers, consulting

companies and operators, augurs well for Canada to take an equally leading role in the development of India's telecommunications sector.

In 1994, Canada's telecommunications sector employed more than 155,000 people and produced goods and services valued at \$27.4 billion. With a total export of \$3.8 billion in telecom products and services in 1994, Canada attained a trade surplus of \$521 million, marking the third straight year with a trade surplus in this sector.

Canada is a world leader in digital switching and asynchronous transfer mode technologies, leads the Group of Seven (G-7) countries in the deployment of optical fibre, is second in the use of digital networks and intelligent network systems, and worldwide, is second only to Japan in the reliability of its networks. With more than 30 years in satellite communications and 11 years in cellular mobile services, Canada is among the leaders in both cellular and satellite. In addition to a significant number of world-renowned Canadian telecommunication companies, there are over 300 SMEs increasingly active in all major export markets.

URBAN TRANSIT AND RAIL EQUIPMENT

The Indian Railway system is the world's second largest system under single management. There are over 300 companies, mostly private, which manufacture a range of railway equipment and components. Indian Railway imports only certain components for its diesel and electric locomotives, sophisticated signalling and telecom equipment, and certain components either not manufactured or in short supply in India.

Another aspect to India's transportation infrastructure is its highway network which measures 33,689 km. Given its pressing need to improve and expand its highways and concurrent budgetary restrictions, the Government of India has amended the National Highways Act to allow for privately operated toll roads. The Indian Government is looking to the private sector to undertake the construction and operation of badly needed bridges and express ways.

Market Opportunities

The increased emphasis which Indian Railways has placed on gauge conversion will provide a good opportunity for future sales of Canadian rails. Canadian companies could also participate in Indian Railway's plans to upgrade stock, install modern communications systems and advanced-signalling and interlocking systems, improve multi modal traffic with large scale containerization, and develop associated rail, road and port infrastructures.

There are opportunities for Canadian companies in the planning, construction, operation and maintenance of the Indian

highway network, and in industrial co-operation for road maintenance and ancillary equipment. Most projects have been financed by the World Bank, and the Asian Development Bank although the Government of India is beginning to give this sector more funding.

Supplier Capability

The Canadian urban transit and rail sector is comprised of a small number of major assemblers and approximately 250 component suppliers. In 1994, the industry shipped approximately Cdn \$2.2 billion worth of goods, accounting for 1.0 percent of Canadian end-product exports in 1994.

EXPORT FINANCING

There are various organizations both in Canada and in India which are interested in promoting trade and will provide various forms of support to Canadian firms looking to develop trade relations with India.

In Canada

The Department of Foreign Affairs and International Trade (DFAIT) - through the South Asia Division, International Trade Centres and its missions in India, DFAIT provides sectoral expertise and administers the overall trade promotion funding, including the Program for Export Market Development (PEMD).

The Canadian International Development Agency (CIDA) - supports the development of linkages with the private sector in India by encouraging Canadian enterprises to share their skills and experiences with partners in India and other countries. A series of CIDA/INC mechanisms help enterprises establish mutually beneficial collaborative arrangements for the transfer of technology and the creation of employment in India.

The Export Development Corporation (EDC) - is a customer driven, financial services corporation dedicated to helping Canadian businesses succeed in the global marketplace. EDC provides a wide range of risk management services, including insurance, financing and guarantees to Canadian exporters and their customers around the world.

The Canadian Commercial Corporation (CCC) - a commercial corporation, the CCC

acts as a guarantor for the sale of Canadian goods and services to a foreign government or international organization by certifying the Canadian exporter's financial and technical capabilities. It guarantees the terms and conditions of the contract will be met. CCC's participation in a sale provides Canadian suppliers with the tangible backing of their own government, enhancing their credibility and competitiveness in the eyes of foreign customers. This can often lead to the negotiation of more advantageous contract and payment terms.

Canada India Business Council (CIBC) - provides individual counselling for firms interested in entering the Indian market and disseminates information on India.

The Alliance of Manufacturers and Exporters Canada - receives support from CIDA Inc. to provide backing for its membership to pursue business in India.

In India

Export - Import Bank of India (EXIM) - offers financial support to Indian companies to promote foreign collaborations, particularly joint ventures, and will assist Canadian companies to find Indian partners. Several of the larger domestic Indian banks also offer a similar service.

Internationally

International Financial Institutions (IFIs) - India is a major recipient of IFI funding from the World Bank and the Asian Development Bank and access to IFI sponsored projects would improve India's accessibility to Canadian firms.

Appendix I

Foreign Investment Protection Agreement (FIPA)

A FIPA is a bilateral agreement primarily designed to protect and promote Canadian foreign investment abroad through legally-binding provisions on, for example, most-favoured-nation (MFN) and national treatment of investments; internationally-recognized standards of protection of investments and returns on investments; compensation for losses and expropriation; unrestricted transfer of funds in convertible currency; and state-to-state and investor-to-state dispute settlements. Countries like India sign these agreements with us because they want Canadian investment and the benefits which flow from it.

Canada and India are currently engaged in negotiations of a FIPA. The agreement will address aspects of investment such as: the transfer of funds; transparency; ownership and control; taxation; and dispute settlement mechanisms.

Agreement for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with respect to Taxes on Income between Canada and India

In brief, this agreement is a tax treaty which eliminates the problem of an enterprise being subject to tax in both of the contracting states (ie. Canada & India). In addition, under certain circumstances, it eliminates taxation of a Canadian enterprise operating in India without a permanent establishment; reduces the incidence of Indian tax on dividends paid by an Indian company to a Canadian corporation; reduces or exempts tax on interest payments made to Canadian lenders; encourages Canadian investment in India by awarding Canadian tax credits to off-set taxes paid in India; and exempts Canadian air transport and shipping companies from paying Indian tax.

