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BANGLADESH

A Review of Industrial Sector Studies

1990

BANGLADESH
UNITED STATES
BUSINESS COUNCIL

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A REVIEW OF INDUSTRIAL SECTOR STUDIES

Bangladesh U.S. Business Council

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Forward

In the context of growing interest among American businesses for developing trade and investment in Bangladesh, the Bangladesh U.S. Business Council reviewed and summarized a series of industrial sector studies by various agencies and organizations. This report is intended to inform American businesses about the investment climate of the country and offer a general discussion on eight industrial sectors in light of policy trends, industrial progress, investment and commercial prospects, and constraints.

The review of the industrial sectors was conducted by Ms. Janice K. Stallard, Program Officer, Bangladesh U.S. Business Council. Ms. Stallard's efforts focused on collecting and summarizing the various reports completed on Bangladesh and presenting them in a concise and comprehensive manner. Her study also included spending three weeks in Bangladesh to conduct interviews with leading industrialists and Government officials. The views expressed in this report are those of the Business Council and do not necessarily reflect those of the Bangladesh Government or any other agency.

The Council would like to thank all those who have assisted in making this publication possible. Thanks are due to the United States Agency for International Development for providing funding to the Business Council without which it would have not been possible to accomplish this report.

It is hoped that this publication will be of value to many business people and enterprises in America to acquaint themselves with investment and commercial opportunities in Bangladesh.

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May 1990

Executive Summary

The Bangladesh U.S. Business Council conducted this study in an effort to review and summarize much of the existing information on Bangladesh's industrial sectors. Reports and studies were gathered from international donor organizations active in the country, the Government of Bangladesh, and private sources. Along with an overview of the sectors, the report attempts to identify each area's investment opportunities and constraints.

In addition to reviewing existing information, the Council conducted interviews with Bangladeshi Government officials and private sector representatives. Questions focused on Governmental policies affecting industrial sectors and its stance on promoting new investment areas. Managers and entrepreneurs were asked about labor problems, land, utilities, infrastructure, and general Government bureaucracy and red tape.

Chapter 1 of this study reviews the general investment environment of the country. The economy, investment incentives, and policies will be only briefly examined as they are adequately covered in other documents. This section attempts to give the investor a realistic picture of working in the country along with an idea of the logistical and technical problems that must be recognized to make a new venture successful.

The following chapters discuss the industrial sectors individually. The chapters are intended as an introduction to each area and are not comprehensive in nature. At the end of each chapter, specific opportunities are suggested for further study and analysis.

To conclude, the study summarizes its findings and suggests several key areas where investments might be placed. In general, it is hoped that this document will be a useful tool for entrepreneurs to gain an understanding of the **Why**, **How**, and **Where** about investing in Bangladesh.

The Council approached this task as a means to gather many of the scattered and ad hoc reports completed on Bangladesh. Unfortunately, there is a lack of information on various sectors and therefore some areas are given more in-depth coverage while a few sectors may seem to be cursory descriptions by comparison. The decision was made not to eliminate the discussion of an area due to lack of in-depth material but to give investors a "glimpse" at all possible opportunities within the various industrial sectors.

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CHAPTER 1

Bangladesh: An Investment Environment

Introduction

When an entrepreneur hears the name Bangladesh, very few have an idea of its potentials, commercial opportunities, or even its real problems. This study is an attempt to give businesses a general foundation to judge Bangladesh both on its merits and its constraints.

This chapter will attempt to portray the realities of investing in Bangladesh along with many of the concerns which need to be addressed. It is the premise of this document however that with proper project planning and the right approach, the obstacles can be overcome and successful, profit-making foreign investment ventures can be realized in Bangladesh. This report by no means would like to characterize Bangladesh as a haven for foreign investment, but takes an objective look at various sectors studies and reports to suggest appropriate investment opportunities.

As concluded by the International Finance Corporation (IFC) in a 1988 Foreign Investment Advisory Service (FIAS) study on Bangladesh:

> "There is more potential for foreign direct investment (FDI) in Bangladesh than has been realized thus far. That potential exists particularly in a wide range of labor intensive industries that rely on inexpensive but relatively skilled workers to provide the basis for exports to world markets. Potential also exists in a range of industries that could produce both for the domestic market and for export".

The FIAS study further noted that the potential for FDI in Bangladesh was not being realized for the following reasons (1) insufficient "forces" in Bangladesh's economic environment to attract FDI; (2) Government restrictions together with large public enterprises narrow the scope for new investments; (3) lack of legal and investment protection safeguards; and (4) Government's FDI objectives are vague and confused and its investment support elements are therefore inadequate.

Since the FIAS study, some positive changes have taken place in Bangladesh. Investment policies have been liberalized and a Board of Investment has been created to simplify and facilitate investment. The Government has continued its efforts to privatize the public sector and has been noted as supporting one of the most far-reaching privatization schemes in the developing world. A Bi-Lateral Investment Treaty between the U.S. and Bangladesh, which gives reciprocal investment protection, has also been adopted.

Finally, to address point number four above, although the Government's policies to encourage new investment have been ad hoc in nature, the Business Council has attempted to work within the current investment environment to focus on several key industrial sectors, i.e., light industries, electronics, and leather.

The Economy and Political Stability

Bangladesh has a stable and modestly growing economy. The World Bank Country Report for 1989 stated that "in the mid-eighties, Bangladesh made good progress in stabilizing its economy, achieving a reasonably good rate of economic growth with some improvement in the poverty situation, and initiating much needed policy reforms in many areas".

Although faced with resource constraints and an unfavorable external environment, the country has maintained an average growth of 3.8 percent in the past decade along with an inflation rate averaging around 10 percent. Exports and imports also grew modestly during this period. In 1988-89 export earnings increased by 4 percent while imports grew by 5 percent. The industrial sector has excelled in its growth, reaching 5.4 percent in 1989.

Floods and natural disasters have been an impediment in the country's economy. Today, Dhaka and the surrounding area are becoming better protected with improved infrastructure to deal with future flooding. A flood-control master plan was approved by a group of multilateral development bodies to extend over the next 20 years at an estimated $20 billion. The plan is intended to include both protective and preventive flood-control measures. The French Government is funding the plan's first group of studies to be followed by a series of Five-year $500 million flood-control programs. This approach to Bangladesh's problems will also attempt to take into account the socio-economic and environmental consequences of the master plan and to include disaster management capability development.

Bangladesh is run on a presidential form of Government with a popularly elected President and Parliament. The current President, Hussain Muhammad Ershad, was elected in 1986 for a five-year term of office. There are two main opposition parties, which have abstained from participating in the Parliament; both fetch a degree of support from various factions. A new constitutional amendment has been signed which passes the role of Head of State to the Vice President upon the death or resignation of the President, adding a degree of consistency and stability to future changes in the Government's leadership.

Labor

Noted as one of the cheapest and most abundant supplies of labor in the world, Bangladesh seems ripe for labor intensive industries. However, the first question which often comes to an investor's mind is, "But how productive and efficient are these low cost workers?"

This is a very difficult question to address and without statistical data it is a subjective answer. Be that as it may, the Council's findings were very positive regarding worker productivity. Private entrepreneurs interviewed for this study were convinced that their workers were as productive as their counterparts in India, Malaysia, or the Philippines. Those interviewed included firms under contract with South-East Asian companies whose managers professed that the Bangladeshi workers were not only producing almost at the same level as their South Korean or Hong Kong counterparts but their efficiency and dedication were also favorable.

Investors, however, must recognize a longer plant start up time in Bangladesh due to several factors—one being the engagement of its workers. Most workers would require a period of training and on-the-job follow-up to efficiently complete most tasks. This factor must be given due consideration for each industry according to its particular needs. A serious commitment was noted by most entrepreneurs regarding their employees' receptivity to training and learning new tasks while on the job.

At this time it may be true that due to non-availability of trained labor and support infrastructure, highly technical projects would not be appropriate for Bangladesh. This does not mean that cases cannot

be made for the labor intensive, low technology venture. These projects require limited skills, equipment, and technology which can be easily adapted and used within existing conditions.

In addition, many investors may question the worker's capacity to learn due an overall low literacy rate in Bangladesh. Low levels of reading and writing ability are prevalent although in Dhaka and Chittagong, where most investors locate, the education level is much higher. Workers with a basic education can be found among the urban populous in addition to graduates from local universities and colleges.

Labor strikes are also a well publicized and often sighted concern in Bangladesh. Many hartals (strikes) do occur—sometimes too often—but reports suggest that most private sector industries continue to operate during such strikes. Frequently strikes occur in the public sector firms due to "political" issues. It is also interesting to note that Bangladesh Trade Unions have only attracted 1.1 million members from a work force of over 33 million. In addition, 1988 and 1989 marked a lower trend in the country's labor unrest.

Amongst managers and business representatives, many felt that improper management could be regarded as a contributing factor to labor unrest. Successful investors felt that local workers responded well to incentives and good management and that striking could be resolved through these mechanisms. Management can play a central role in productivity, efficiency, and worker content as well as provide a positive work environment.

The labor situation is usually more stable for the multinational or foreign investor in Bangladesh. In all the foreign establishments visited, workers were adequately paid and given appropriate benefits ranging from good uniforms and shoes, to hot lunches, or transportation to and from work. With these modest incentives, the majority of foreign investors have maintained an efficient and hard working local staff that very seldom strikes.

Labor management relations in the private sector are defined by a 1969 (amended) Ordinance. This Ordinance established procedures for settling labor-management disputes and in general the country's labor laws recognize the worker's right to strike. Striking and negotiations generally adhere to the conventions of the International Labor Organization, of which Bangladesh is a member. If a strike or a problem does arise that calls for outside help, there is a Union Committee set up to arbitrate.

Shipping and Port Facilities

Chittagong, the largest port, handles about 7.8 million tons of cargo and 1,500 vessels a year, i.e., 80 percent of the country's shipments. Chittagong is located southeast of Dhaka along the Bay of Bengal and is not in the floodplain; flooding usually does not interrupt operations in the Chittagong area.

Mongla is the second largest port and is located southwest of Dhaka—handling about 20 percent of shipments. The Mongla port is much smaller than Chittagong's and services most of the western portion of the country.

Most container cargo shipments are taken in and out of Bangladesh on feeder lines to transhipment ports, such as Singapore. The establishment of these services has allowed increased efficiency and fewer time delays in the Bangladesh ports. Amongst the American steamship lines, Waterman Steamship, Sea Land, and American President Lines operate regular liner services to Bangladesh.

The port allows a seven day "free" period for goods to sit at the port (to be loaded or unloaded); after this time a fee is charged per day for storage. Most major delays (of more than ten days) are rare with actual shipping, loading, and unloading; delays are much more frequent regarding the processing of goods through customs. Proper documentation and a professional approach most certainly expedites custom's procedures in Bangladesh. The inability to clear goods through customs has become an impediment to increased efficiency and overall use of the port and its facilities. Delays can also be expected in any poor agricultural year when in-coming grain and rice shipments would have priority.

The World Bank has funded two new Multi-Purpose Berths (MPBs) in Chittagong which should go into operation by 1992. These MPBs will be an independent port facility with the services to handle container shipments. The MPBs are being designed exclusively for container shipments in and out of Bangladesh. Hopefully this new port facility will alleviate congestion in the Chittagong port and facilitate the use of containers in the country.

Inter-modal container transportation is an efficient means of transporting goods. Although the handling capacity of containers at the Chittagong port is rapidly expanding, in-land and inter-modal transportation of containers are very restricted within Bangladesh due to infrastructure and handling limitations.

In 1987 an In-Land Container Depot (ICD) was opened at the Dhaka railroad station to facilitate the railroad movement of containers between Dhaka and Chittagong. However, this has had only limited success as the railroad system is not adequately equipped to handle large shipments of containers. In addition, no trucking system currently exists which can support the increased use of local railroads to transport containers to and from ICDs. Despite such constraints, containerization of cargo is increasing and proposals are being raised to overcome existing internal infrastructure inadequacies.

In summary, although there are shipping problems in Bangladesh they are not insurmountable. Thousands of businesses use the Chittagong and Mongla ports to receive and distribute goods and are usually satisfied with their service. It is important for the entrepreneur not only to have an understanding of what to expect in terms of handling, delays, and difficulties but also for their expectations to be realistic. Those considering investment in Bangladesh should carefully examine the shipping and port facilities currently available in the country.

Infrastructure

Access to roads, bridges, and airports are all factors to consider when deciding to place an investment in a new country. Bangladesh has come a long way in the past decade to improve its infrastructure, and with the assistance of the international development banks, the country is continuing to make important strides in this area.

Most investors select either Dhaka or Chittagong to locate an enterprise. Dhaka, the political, economic, and social capital of the country is home to some seven million people. Dhaka can provide all the basic necessities—adequate roads, water, electricity, gas, hotels, and housing. The Zia International Airport, located on the outskirts of the city, is connected to Europe, North American, Asia, and Africa by several major international airlines.

Chittagong is the second largest city in Bangladesh with close to four million people. Equipped with basic necessities and the country's main seaport, Chittagong has been an increasing investment location. The city's infrastructure is somewhat limited which can make the logistics of project implementation and maintenance difficult. One main hotel operates for the business traveller and local tourist. Adequate housing can also be found for the expatriate in the more suburban areas of the city. The Chittagong airport offers multiple daily flights to Dhaka and other domestic cities. The Export Processing Zone (EPZ), located in Chittagong, will be discussed in the following section.

Domestic and international direct dialing telephone service is available. Problems still exist with making quality telephone and timely connections within Bangladesh. Efforts are being made and technical assistance is being lent to Bangladesh to improve its telecommunications system. New lines are being installed, a digital system has begun operating, and training and technical assistance from countries such as Japan are underway to advance the telecommunication industry's efficiency and capacity. In addition, the publicly run Bangladesh Telephone and Telegraph is gradually opening the telecommunications market to private companies to begin operations in new areas such as cellular phone systems.

International telex and fax services are also widely available and connect Bangladesh directly with almost every country of the world. These connections are adequate with direct dialing to major Western

and European countries made possible through two satellite ground stations. Plans for a third satellite station is also under consideration.

Electricity, gas, and water are public service utilities. The Government, with support from international organizations, has taken up efforts to ensure readily available access and continual supplies of these services. For example, the World Bank has backed a $175 million energy sector loan in 1989 and another $87 million credit for the extension of electricity supply to 16 new towns in Bangladesh. Most factories do use back-up generators to assure continual supplies of electricity to their facility; undertaking the cost of this equipment is usually considered essential. In general, getting utility connections installed can be a time consuming process but once they are in place, service usually runs satisfactorily.

Once a project has been approved by the BOI the next step is usually locating a plot of land. One of the Board of Investment's functions is to help investors secure land. Investors can approach the Government to secure land within one of the industrial areas in and around Dhaka or they can purchase land from private individuals. Plots purchased from the Government are usually leased to investors (up to 99 years) under a renewable contract. The BOI also works with investors to secure the necessary utilities and other public works connections.

Regarding hotels and housing, two large international class hotels are located in Dhaka—the Sheraton and the Sonagraon. Each can accommodate any business or social function and has a variety of restaurants and bars. There are also several nice residential sections of the city where local or expatriate communities are located. In addition, low wages for domestic help make servants a readily available convenience.

The Export Processing Zone (EPZ)

An Export Processing Zone (EPZ), established in 1983, is located 5.6 km from Chittagong's business district and 2.4 km from the seaport. The EPZ's facilities and fiscal incentives are described in a variety of brochures produced by the EPZ Authority. This section will accordingly only touch on its characteristics.

The EPZ was designed as a free trade zone for export oriented manufacturing plants. It is located near the port of Chittagong to facilitate importing and exporting and has been set up as a self-sufficient industrial area.

The EPZ Authority (EPZA) operates the Zone and provides utilities and general services for entrepreneurs in the EPZ. Investors lease plots from the Authority which are developed to include a road in the front and a service bay in the back along with water, gas, electric and telephone connections.

Plots can be leased with a "custom" building, i.e., a pre-fabricated building. These buildings are one or two level structures which can house three or four different operations. This concept of a ready-made building has become very popular and new buildings are currently being constructed to accommodate the demand; another four such plots are due to be completed in 1990.

The EPZ is 255 hectares (ha) in size with a provision to expand to 405 ha. To date, 154 plots have been "developed" and 139 have been leased as of January 1990. The EPZA is now busy developing another 104 plots, to be ready in June 1990.

Plots are 1/2 acre and space is readily available to lease adjacent plots. Ready-made (custom) factory plots rent at $18 per square meter a year and plots with utility and road connections rent for $1 per square meter a year. Leases are for (up to) 30 years with a clause to renew at that time.

To set up a factory in the EPZ an approval must be obtained from the Authority--which usually takes about three weeks. The investor is free to begin construction on their plot immediately after approval.

The EPZA maintains its own water storage system to guarantee adequate supplies of water. Firms pay the EPZA directly for electricity and water, with a 10 percent service charge. In this manner the

Authority has responsibility for the continuation of these services and entrepreneurs are assured of consistent supplies.

The infrastructure supporting the EPZ is adequate. The EPZA has built all the necessary roads within the Zone. Firms operating in the EPZ are also allowed to import two cars duty free for use in plant operations. Wide roads have been built between the Zone and the port and special trucks are available to carry containers to and from both sites. The Authority also operates a central services unit with telex, fax, banks, travel agents, post office, immigration, and a cafeteria. A new complex to house these facilities is under construction, to be completed in 1990.

Customs is another area where the Authority plays an important role. Customs within the EPZ falls under the jurisdiction of the Authority. Products leaving the Zone are cleared by the Zone's customs agents and can immediately be taken to the port and loaded. Goods entering the Zone are also cleared in the same process—alleviating many of the delays which can occur at the port's customs office.

Investors should also remember that the labor laws of the country do not adhere in the EPZ. In the Zone, labor unions are not allowed and striking is not permitted.

As of July 1989, 24 industries were operating in the Zone producing a range of products including: garments, terry towels, sportswear, electronics, plastic molded components, steel chains, artificial leather, shoes, chemicals, and costume jewelry. Destinations of these products range from Canada, the European Comminity, the Middle East, to the United States. Investors have come from Hong Kong, Japan, Pakistan, Singapore, South Korea, Sweden, United Kingdom, and the United States.

All entrepreneurs interviewed in the EPZ were pleased with the services they receive. They appreciated the atmosphere to support their operations and having representatives within the Zone to work with their firms individually.

There are plans to begin a new EPZ in Dhaka by the end of 1990. The Government has already acquired 141 acres, 15 miles from the Zia International Airport. This Zone is envisioned as being used for high tech and electronic export-oriented firms. Plans are also under consideration to build a second EPZ in Chittagong.

Industrial Performance

Many studies conducted on Bangladesh note a low level of industrial performance, i.e., running below their optimal levels. This factor is often cited as an indicator of productive inefficiency. Below is a quick outline of reasons noted by various studies as the reasons for this lack of capacity utilization.

1. Lack of Technical and Managerial Inputs — Advanced management skills are often lacking among Bangladeshi entrepreneurs. As many of these industrialists are "first generation" investors they operate their plants with little experience. In addition, many investors were or still are traders and have little desire or patience for long gestation or turn-around periods.

2. Lack of Initial Research — Too often new plants are set up with little pre-investment research or in-depth feasibility study. Market studies are seldom done and little attention is given to the consumer's purchasing power. Many investors identify a relative or friend's quick success and the "herd" instinct comes into play—one person following another due to what looks like a profitable investment. Examples of this can be cited in the cold storage and garment industry.

3. Input Constraints — Reliance on imported inputs (as most businesses must in Bangladesh) can lead to huge fluctuations in operating costs as the Government changes its import policy on a yearly basis (in 1989 it made its first attempt to declare a Two-Year import policy). As such, prices fluctuate a great deal and can adversely affect operating budgets.

   Insufficient power supplies in many areas means that uninterrupted production must be maintained through stand-by generators.

Agro-based industries can be affected by yearly crop performances.

4. Equipment — Locally operated and owned plants often do not properly maintain their equipment and machinery. This is due to lack of working capital to buy parts in addition to misuse.

   In addition, many plants use obsolete machinery that limit their operational capacity and efficiency.

Upon examination, it would seem that problems in three out of four of the above noted areas can be resolved by the foreign investor. Using the correct techniques, skilled labor, and trained and motivated management, many of these "typical" problems often cited about Bangladesh can be overcome. Input constraints on all levels will be a continuing problem in Bangladesh however and must be dealt with accordingly.

Investment Policies and Incentives

The Government has made substantial efforts in recent years to liberalize its investment environment. To learn more about specific Government policies and foreign investment regulations, the BOI's **Guide to Investment** states the criteria for foreign investment in the country and incentives to attract new investment.

The Board of Investment

To facilitate and encourage foreign investment, the Government created the Board of Investment (BOI) in January 1989 as a one-stop-shop for investors. The BOI's objectives are to support new investments by providing the necessary pre- and post-investment services for entrepreneurs. As a new institution, the BOI has yet to work efficiently to perform its mandate and is being supported with technical assistance from the Agency for International Development and the European Community to improve its procedures and services.

Import and Export Policies

The Government has begun a new Two-Year Import/Export Policy to give more continuity to its trade regime. The Government has reduced the number of goods banned from importation and simplified import procedures for some items. In 1986, the number of tariff rates was scrutinized and reduced. In 1988, the maximum and minimum rates were lowered from over 200 percent and 125 percent, respectively, for imported goods such as textiles, steel, engineering, chemicals, and electronics. Tariffs on raw materials and intermediates were also lowered and sales tax rates were reduced. In addition, as of July 1989 the previous "negative" and "restricted" lists for importation have been combined into one "controlled" list which will further simplify import procedures. At the same time, however, the Government has greatly increased import duties on some items to help protect local manufacturing (as reported by the U.S. Department of Commerce's 1990 **Overseas Business Report**).

The Government has liberalized its import restrictions on intermediate and capital goods such as spare parts and machinery to support the growth of its industrial sector. Lower duties for capital machinery (2.5 percent) are given to: industries using at least 70 percent indigenous materials, export oriented industries, and firms operating in less developed areas of the country.

The new Two-Year Export Policy has targeted a 14 percent increase in exported goods during 1989-90. Export earnings in 1987-88 increased by 14 percent or $157 million to $1,231 million reflecting increases in non-traditional items such as Ready-Made Garments (RMG), frozen seafood, and leather. The fastest growing export for 1987-88 was the RMG sector with a 59.6 percent increase from 1986-87. In 1989-90 non-traditional export earnings were up 7 percent, reflecting a 6 percent volume growth. Notably, prices in some of the fastest growing sectors have recently been stagnating, i.e., shrimp and garments.

No licenses are currently required to import goods into Bangladesh. Importers are given a passbook

valid for 12 months on which their import authorizations are listed. To import items not on the Controlled List, the issuance of this book is a formality. Prior permission or an Import Permit is required for the importation of a few items such as free samples, advertising materials, and some books, plants, and machinery.

In general, charges on imported goods can vary enormously and range as follows: custom duties (0-200 percent); sales tax (0-20 percent); development surcharges, import permit fees and others (adding up to 15 percent of the C & F value). Additional information on these topics is available in the "Import Policy Order" and "Customs Duty and Sales Tax Schedule" produced by the Government of Bangladesh. Copies can be obtained from the Chief Controller of Imports and Exports.

Government Policies

The Government has taken several encouraging steps in its policy measures—extending infrastructure, liberalizing foreign trade, and raising industrial productivity. The Government adopted the Foreign Private Investment and Protection Act in 1980 followed by 1982 and 1986 New Industries Policies (NIPs) which sought to encourage foreign direct investment. These NIPs have tried to encourage export oriented projects and high technology investments; projects using indigenous resources are also welcomed. Tax holidays and fiscal incentives have been outlined by the Government to encourage foreign investment in these areas. Joint ventures are specifically encouraged.

The Government's overall attempt to significantly open up its economy for private sector investment in the last decade should be noted. It has taken up one of the most active denationalization programs in any developing country. Only seven areas are currently restricted for private sector investment: arms defense, power generation, forestry, most telecommunications, air transport and railroad, atomic energy, and security printing. As reported in March 1990 by the U.S. Department of Commerce, 60 percent of industrial assets are in private hands while up to 70 percent of service industries are still Government controlled. There is also now only one "discouraged" list of industries where new investment is not encouraged and is usually not permitted. As of July 1989 this was a list of 22 areas from cigarettes, cold storage, telecommunications, to wet blue tanneries, jute, and synthetic carpets. Any foreign investment outside these areas is allowed by the Government.

However, a sign of the Government's uncertainty about its support is reflected in the short-term, politically inspired measures it takes which hurts the long-term economic viability of the country. For instance, along with attempts to diversity industrialization and improve overall performance, there are moves to bureaucratize and control current practices. This lack of policy consistency does not provide a clear sign to entrepreneurs of the Government's intentions.

Some of the incentives offered by the Government have been developed in an ad hoc manner with little knowledge about how they will affect investment. The result has been an assortment of foreign investment in the country as specific sectors are not given adequate and consistent support.

The Government's inconsistency in its policies toward foreign investment has been a problem frequently noted by foreign investors. While foreign investment is encouraged in some areas, low technology assembly operations, which seem well suited to the country's capabilities and resources, are disfavored in lieu of more high-tech, capital intensive investments.

To attract new foreign investment to the country, the Government of Bangladesh must begin to take more precise and decisive action on several levels. Policy flaws and ambiguities must be recognized. More prompt and efficient handling of investor's applications, questions, and concerns must occur. Better training and more professional attitudes must be instilled. If Bangladesh is to attract and keep new foreign investment, these factors will have to be addressed in the near future.

Domestic Markets

In a country the size of Wisconsin, Bangladesh boasts a population of 110 million people with more than 70 percent depending on agriculture for their livelihoods. Dhaka, the capital, is home to around

seven million and Chittagong, the second largest city, supports around four million. In total, only 15 percent of the population lives in urban centers.

The rural populous has very limited buying power and only the urban middle class, estimated at 5 percent of the population, has the purchasing power for consumer goods. The per capita income for the country is estimated at $181 a year. Entrepreneurs interested in selling locally should probably consider Dhaka and Chittagong as their largest potential markets.

Corruption

A discussion of Bangladesh's business environment would not be complete without touching on the issue of corruption. Corruption is present in the private and public sector and is being recognized by the Government as a problem. Most business people who have worked in other South Asian countries will not run across any surprises in Bangladesh. In some areas, bribery is an accepted way of doing business and must be accommodated in order to work successfully in the country.

Conclusion

Overall, Bangladesh has made strides in opening up its economy and encouraging increased foreign investment. The economy has maintained moderate improvements and exports and imports have expanded and diversified. Its infrastructure has improved over the last decade and efforts to contain flooding in the capital are being put into place. In addition, some policy efforts have been made to encourage and support foreign direct investment. Obstacles as well as opportunities characterize this scenario, but as will be described below, there are profitable ventures to be identified and implemented in Bangladesh.

The following chapters will summarize many of the major studies and findings on the identified industrial areas. An introduction is given to each sector with an outline of the applicable Government policies. Opportunities are then discussed along with a description of possible constraints to begin and sustain new operations. A conclusion completes each chapter with a list of investments that seem worthy of further consideration. These suggestions are made based on the assumption that each new project will require additional analysis to determine its feasibility.

CHAPTER 2

Agro-Based Sector

In a recent United Nations Development Program (UNDP) Draft Agricultural Sector Review it was suggested that:

> "Bangladesh could develop agro-processing of fruits, vegetables, mushrooms, and spices for export. Such processing and, even more, field production of these goods are highly labor intensive activities. Increasing labor costs in South-East and East Asian countries, which now dominate regional markets for such products, suggest that Bangladesh might try to capture part of these markets."

Bangladesh has the basic attributes needed for a successful agro-industry: rich alluvial soil, a year-round frost free environment, an adequate water supply, and an abundance of cheap labor. The current agricultural situation in Bangladesh however is one marked by millions of extremely small-scale producers. Most farmers cultivate their crops on a subsistence basis and market them according to the season; farming is not mechanized and irrigation is fairly limited. Very little agricultural output is organized to serve the needs of food processors—tobacco being the one exception.

The agro-based food processing industry is fairly undeveloped. It is dominated by public sector enterprises although a few private sector plants, such as the 33 recently privatized jute and other mills, exist but are generally under utilized.

Most of the processing currently undertaken is done on a cottage industry basis. These operations rely on open market purchases of seasonal fruits and vegetables for their production. This processing serves to meet some of the local demand for processed foods. Locally processed products do not generally meet international standards desired for export.

Bangladesh does export some fruits and vegetables which reached about $18 million during 1987-88 (as noted by the *Bangladesh Observer* in April 1989). The exportation of vegetables occupies the major share of the country's export earnings in this sector according to the Export Promotion Bureau.

From 1981 to 1986 there has been a marked employment growth in a limited number of agro-industries. Wood and bamboo products were at the top of this list along with pan (betel leaf) and cigarettes. Other areas to have notable growth in employment were grocery stores, confectionery shops, and the fruit and vegetable industries.

Although individual consumer's demand will probably not increase in the near future, the expansion and continual demand from local hotels, restaurants, and grocery stores could provide a growing market for domestically processed foods.

There have been several international donor-funded attempts to strengthen this industry with varying degrees of success. Very few studies have been done to examine a possible food processing industry based on local raw materials.

A 1989 USAID study on Agri-Business in Bangladesh noted that one of the obstacles to the development of a viable food processing industry is the lack of knowledge on how to introduce new foods into the market. Another problem was stated as the need for a better "relationship between the food research community and the food products development area". The study also indicated that "adulteration" is a major problem in the local food processing industry and needs to be addressed.

In late 1989 a project worth $2.6 million was announced to be partially funded by the Food and Agriculture Organization. As the role of vegetable cultivation for domestic markets and export increases, this project will aim to raise the quality of plants being farmed and to expand cultivation in the northern provinces where the climate is thought to be best for vegetable growing.

Policies

The Government has always supported the agriculture industry and has set several goals for food self-sufficiency. To encourage the processing industry, the Government has recently been given the recommendation to lower import duties on the needed capital equipment to begin these operations.

The 1989 USAID paper on this industry identified the Government's active policy of owning and operating agro-processing industries in jute, sugar, pineapple concentrate, tomato paste, and paper. The Government's control in these projects gives them a command of the local agro-industry and seems to discourage increased private sector investment.

The USAID report also noted the Government's failure to give a "cell" to the food processing industry has meant that an XPL (Export Performance Licence) or XPB (Export Performance Benefit) is unavailable for local processors if they decided to export. These schemes are given to other sectors to encourage exportation and could provide the same incentive to support an export oriented food processing industry.

The Government's import duties on packaging materials discourages agro-processing for domestic markets. Custom's duties range between 67-145 percent on packaging materials which limits the development of this closely tied industry to the food processing sector.

The Ministry of Industries' indicative list of areas where foreign investment will be encouraged include:

- Fruits and vegetable processing and canning
- Dairy farming and dairy products
- Fish meal and fish oil
- Processed potato for export

Opportunities

Opportunities exist in several industries where commodities are either currently being imported, i.e., edible oil, or adequate supplies are available locally, i.e., vegetables and fruits.

Noted in a 1985 Bangladesh Trade and Industry Policy (TIP) Reform Program report, the farming conditions in Bangladesh will support a broader range of crops and an expansion of current production. These results could be achieved by more intensive utilization of available land through expanded irrigation, multiple cropping, increased application of fertilizers, and adoption of more advanced technologies. In conclusion, the TIP report remarked that there is "a reasonable possibility of growing additional raw materials for export processing or for domestic markets if supplies are better managed".

Fresh Fruits and Vegetables

Bangladesh's climate is suitable to grow a wide variety of tropical fruits and vegetables. The Government's TIP document listed the fruits and vegetables grown in Bangladesh, including:

Banana	Jackfruit	Spinach
Beets	Mellon	Squash
Cabbage	Peas	Sweet Corn
Carrot	Pineapples	Tomato
Cauliflower	Potatoes	Turnip
Cucumbers	Pumpkins	Watermelon
Eggplant	Radish	A variety of gourds
Guava	Shallot	A variety of beans

There are several local trading companies which have begun exporting, in a limited manner, fresh vegetables and fruits to the Middle East and the United Kingdom. In 1986, exported fruits and vegetables brought nearly $15 million in foreign exchange. Vegetables exported include: beans, cucumber, green chillis, potatoes, and pumpkin.

The Bangladesh Agricultural Development Corporation (BADC) is also experimenting with the production of lettuce, broccoli, brussels sprouts, capsicum, and chinese cabbage which reportedly have "potential" for commercial production in the country. Fresh vegetables also have high (seasonal) demands from the local market.

The work of a few entrepreneurs in this field shows that there are possibilities of exporting fresh fruits and vegetables in larger numbers, although this would need the support of organized contract farming.

Frozen Fruits and Vegetables

There are several large international markets for frozen fruits and vegetables, Japan and the European Community are two of the largest. As these markets are relatively close to Bangladesh, the possibilities of expanding its frozen food exports to these areas seems promising.

Bangladesh has gained some experience in frozen food packing with its frozen shrimp exports. The country's frozen shrimps are accepted in markets such as the United States, Europe, and Japan and as such have met these countries' food and health standards.

The international market for processed foods is well established and exploited. In order for Bangladesh to effectively compete in this new field it will need technical and financial assistance to improve its quality and crop yield. The participation with foreign joint ventures would also help develop the needed technical skills, training, equipment, and management structure in the country. A multinational food processing company will also be important to help Bangladesh develop a market for its products in the international arena.

Palm Oil

A 1985 task force report on palm oil cultivation in Bangladesh stated that this plant does grow well in the country due to its ability to withstand periodic droughts and floods. Bangladesh also has a large domestic demand for edible and industrial oils.

In 1979 three Government run palm oil plantations were set up. All three of them failed and eventually closed in 1989. They encompassed around 10,000 acres of which only 2,500 were farmed.

These plantations failed due to a lack of trained personnel, appropriate technology, and a thorough understanding of the needs of maintaining such a plantation. The plantation was not properly supplied with its needed funds to purchase inputs such as fertilizer and insecticides.

In general there may be future possibilities in this field. There is a large domestic demand and adequate facilities to support the development of this sector. However, more concentrated research needs to be done regarding the specific conditions to grow palm oil in Bangladesh before another venture of this type is started.

Potato

The potato is grown in fairly large quantities in Bangladesh and given low market prices may warrant specific attention. Potatoes are grown in Bangladesh from October to March with yields averaging 2 1/2 to 5 tons per acre. The main areas under cultivation are the eastern and northern part of the uppermost area of Bangladesh.

There are currently 149 cold storage warehouse for potatoes in Bangladesh with a capacity of 300,000 tons. The under-utilization of this space and the adequate growth of potatoes in the country holds promise for the expansion of the potato industry. The possibility of freezing and processing locally grown potatoes into a variety of products for export seems to offer possibilities.

Processed Fruits and Vegetables

Many families and restaurants do consume locally made jellies, jams (orange, guava, and pineapple), and ketchup. Although further analysis would have to be completed regarding needed inputs, these areas may have potential. Studies indicate that the local price of sugar as well as the limited varieties of local fruit could hamper jelly production in Bangladesh. Tropical fruits juices and concentrates, such as pineapple or mango, however may hold promise.

Bangladesh does harvest tomatoes and has the capacity to increase these numbers for a ketchup and tomato paste industry. The issue of their supply and quality consistency, noted by various sources as questionable, would have to be addressed.

Snack Foods

There have been a few new entrants into the food processing industry—specifically in the "junk food" arena. A West German/Bangladeshi joint venture is currently producing potato chips for the local market and is reportedly doing quite well. Another Japanese/Bangladeshi joint venture has started dried noodle production. Domestic ice cream firms have also created a niche in the local market for their product with foreign technical collaboration.

Currently no "fast food" chain exists in Bangladesh. A few local entrepreneurs have attempted to tap into this market in Dhaka with reasonable success. As there is a demand by some sectors of the urban community, i.e., the middle class and expatriates, an examination of the potential demand for a larger scale fast food chain could reveal new opportunities.

Spices

Bangladesh does grow a wide variety of spices which include: onions, garlic, cumin, coriander, capsicum, chili peppers, sweet peppers, ginger, mustard, and turmeric. These spices are all used as part of the traditional foods eaten in the country. There are possibilities to grow many other spices in the country.

Several surveys of this industry have noted a variety of local spice processors currently serving the domestic market. None of these small-scale plants are known to be exporting.

The quality of spices grown is said to be very good but reports indicate their prices are not competitive with world prices. Bangladesh's high prices are due to low yields, manufacturing inefficiencies, and lack of technical know-how on the part of farmers. With the correct assistance, this industry could become a viable product for the local and international market.

Constraints

1) One of the major impediments to the current food processing industry is inconsistent supply. There is currently no organized system of farming in Bangladesh which could support a food processing industry. The lack of contract farming (although there are successful examples in individual sectors such as tobacco) hinders the development of the industry as a whole. In addition, the middleman has traditionally played an important role in agricultural marketing and handling and there could be social repercussions to side stepping their role through contract farming.

2) Low productivity per acre by most farms is a constraint to any large-scale food processing effort. Investors would need to become involved with providing training, technical assistance, and financial support to most farmers in order to make their venture worthwhile.

3) The transportation system has been an on-going problem for farmers and processors alike. For roads and bridges, flooding can impede delivery. Inadequate vehicles (trucks, wagons, etc.) to transport goods from the farm to market also make consistent supplies problematic. To further impede this system there are no adequate storage facilities throughout the countryside. Farmers must therefore sell their goods to a middleman, who takes a share of the profits; the entire transportation and selling system limits the farmer's incentive to expand production.

4) The absence of quality canning facilities meeting international standards limits the possibilities for any immediate expansion and exportation from this sector. The development of a quality canning plant in the country will have to go hand-in-hand with any large foreign investment in the agro-processing industry. In addition, the quality of glass currently being used in the local food processing industry does not meet international standards. (It has a very high sodium content which allows for only a one year shelf life of the product.)

5) The processed foods arena is not a growing international market. Most producers have established markets and it would be difficult for Bangladesh to find its own niche here unless new operations had their own marketing ties.

6) Shipping fresh goods is restrictive due to limited cargo capacity on the airlines servicing Bangladesh. Reports have noted delays and additional expenses in shipping goods by air freight out of Dhaka.

7) The public sector's dominant presence in the agro-processing industry discourages new private sector investment.

Conclusion

The agro-processing industry does offer opportunities for the foreign investor. Key constraints to the development of this sector have been identified above and must be addressed to achieve a successful and profitable enterprise in this sector. As much of Bangladesh's population is involved in agriculture there is potential to better manage and expand current production to meet the needs of a processing industry.

There are indications of continued demand for locally processed goods from the domestic hotel and restaurant industry and limited opportunities do exist to export some locally grown products.

Specific Opportunities for American Businesses

- Processing products for export such as pineapple, tomato, or spices
- Export of frozen fruits and vegetables
- Fast food chain operation
- Supply of equipment and technology
- Technical assistance

CHAPTER 3

Chemical Sector

Bangladesh has a fairly large demand for a variety of chemical products which, to a large degree, must be imported. Chemicals are imported annually to meet the needs of local industries such as food and agro-processing, tanneries and leather, soaps, cosmetics, detergents, paints and varnish, printing and packaging, and textile processing.

Local production of chemicals is minimal except for a few basic inorganic chemicals, e.g., sulfuric acid, phosphoric acid, hydrochloric acid, chlorine, ammonia, and caustic soda. These operations mainly support the local pulp, paper and fertilizer plants.

The chemical industry in Bangladesh is dominated by the state run Bangladesh Chemical Industries Corporation (BCIC). BCIC was organized under a merger of three corporations in 1976: Bangladesh Fertilizer Chemicals and Pharmaceutical Corporation, Bangladesh Paper and Board Corporation, and the Bangladesh Tanneries Corporation.

The largest of BCIC's operations involves fertilizer production (six urea and two TSP plants). BCIC also runs paper and pulp mills, petrochemical, chemical, cement, glass sheet, and sanitary ware operations. BCIC employs roughly 27,000 employees and according to its financial reports, production has increased by 10 percent each year over the last decade. The majority of its output is for domestic consumption.

BCIC also has ownership in several joint ventures with international firms which include a few pharmaceutical plants, a paper mill, and a match factory, among others.

BCIC has gradually become involved in exporting products such as urea, newsprint, rayon yarn, TSP, paper, pulp, PVC pipes, glycerine, and insulators. In 1988-89, export income reached $60 million. During the next five years (1990-1995) BCIC plans to invest a total of $74 million in new and on-going export oriented projects.

There are a host of small scale private sector companies operating in the chemicals industry. For example, in 1985 there were an estimated 300 small scale producers of plastics (pipes, wires, cables, electrical accessories, etc.) for the local market. Private entrepreneurs are reportedly building small chemical plants to produce basic chemicals for the local pharmaceutical industry. There are also private companies manufacturing synthetic resin products and paints. Many of these private sector firms have demonstrated an interest in establishing partnerships with foreign chemical companies to diversify and expand their operations.

A 1981 Asian Development Bank (ADB) report which gave an overview of the country's fertilizer production stated that opportunities do exist to manufacture light chemicals such as paints, dyes and

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chemicals (for the textile and leather industry), gelatine and gelatine capsules, and pesticides. ADB noted these should be done on a small scale to keep project costs low and to limit the amount of technical assistance needed for the project.

Policies

The Government does support the development and expansion of the chemical industry and has listed several projects in its indicative list to encourage foreign investment. These include:

- Soda Ash plant
- Methanol production
- Caustic Soda plant
- Industries based on natural gas such as plastic compounds, PVC compounds, fertilizers, synthetic fibre, etc.
- Dyes, pigments, and colors
- Chemicals for tanneries
- Manufacture of basic pesticides
- Glue, gum, and resin manufacture

To promote the development of the indigenous chemical industry, the Government's Investment Advisory Centre (IAC) has recommended that it liberalize the importation of minerals and chemicals used in the chemical industry. Allowing many of the basic compounds into the country duty-free would support and encourage small and medium scale development of this sector. Furthermore, the IAC proposed that import restrictions be eased for basic (organic) chemicals, whereas intermediate chemicals could have a 10-20 percent import duty and no sales tax.

Opportunities

In November of 1989, the *Bangladesh Times* published a supplement on the chemicals industry in Bangladesh. In this issue, a list of proposed joint venture projects BCIC would like to support included the following:

- A $9 million new cement factory
- A $50 million Security Paper Mill
- A $6 million Caustic Chlorine Plant
- A $150,000 Oven Polypropylene Bag Plant
- A $85,000 Zinc Sulphate Plant
- A $900,000 Clinker Grinding Factory
- A $60,000 Design and Engineering Company
- A $215,000 Eastern Packing Industries

BCIC has also completed a series of proposed project briefs which are available to any entrepreneur interested in this field. Projects range from cement, fertilizer, paper, pharmaceutical, pesticides, PVC, glass, and chemicals. These descriptions are designed to give an investor ideas regarding possible projects, however, each area would require more in-depth study.

BCIC can lend a variety of technical and logistical support as a joint venture partner. It will also participate up to 30 percent of the capital equity and does not demand majority ownership.

In late 1989 the Bangladesh Shilpa Bank released several project profiles in a variety of investment areas. Specific projects examined included: sodium sulphide, barium sulphate, activated carbon, calcium carbide, calcium chloride and calcium silicate. As part of these profiles, the market for the project is outlined and specifications are given regarding building and machinery requirements, raw materials, personnel, project costs and earnings forecasts. These profiles can be secured from the Bangladesh Embassy in Washington, D.C.

Cement

There are possibilities in this field to produce cement for the local market. Bangladesh currently imports one million metric tons of cement annually worth an estimated $50 million.

The economic feasibility to manufacture cement in Bangladesh still needs further investigation. Although there are natural reserves of limestone (a basic ingredient to cement production) its mining may prove too expensive to warrant using it as the main supply for a cement factory. In addition, the cost of importing cement clinker from India and other places must also be determined. Bangladesh does have a strong and growing demand for cement and an economically feasible project to produce this product on a larger scale will hopefully be identified in the near future.

There have been proposed projects to set up a cement clinker plant near the Indian border and to import the clinker from India. This project has possibilities although the logistics and securing a consistent supply of clinker would need to be worked out.

Scientists have discovered rich deposits of limestone in Bogra (Joypurhut) with proven reserves of 100 million metric tons (at a 560 meter depth). This site has been deemed technically feasible to mine but would be expensive. It remains to be determined through further studies whether setting up a cement factory near these limestone deposits would be financially feasible.

There are also limestone deposits in Sylhet (Takerhat) with an "expected" 200 million metric ton (mt) capacity. The UNDP is currently conducting a survey on these deposits which is scheduled to be completed in 1990.

The problem with establishing a cement plant and mining in either of these two areas is the limited infrastructure and remoteness. These factors would need to be taken into consideration if these sites were selected for limestone mining.

One recent joint venture (between a local and British firm), Red Castle Cement Company, has been set up in Chittagong with an investment of $15 million. It is anticipated to produce 1,000 tons of cement per day based on imported clinker; the plant is scheduled to commence production in early 1991.

Fertilizer

Fertilizer manufacture has always been an attractive field for Bangladesh as it uses one of its few natural resources—gas—for its production. Although fertilizer consumption has grown at an average annual rate of 10 percent a year from 1971-1981, Bangladesh's use-intensity remains one of the lowest in the world. BCIC's sales figures represent only 30 percent of the country's current requirements (estimated at 5 million tons a year).

Most local fertilizer factories run below capacity. As stated in a 1989 UNIDO Industrial Development Review Series, many of its deficiencies stem from "unsatisfactory initial construction and installation of plant machinery, poor maintenance, loss of skilled personnel, power failure, and poor management". Through balancing and modernization efforts, many existing plants could increase efficiency and production to help meet domestic demand. Foreign technical assistance is also greatly needed to support the development of this industry.

The domestic use of urea in 1990 is estimated at 1.5 million tons. However, the future demand for fertilizer will depend on a range of interdependent factors including: (1) agronomic requirements to increase crop production; (2) development of irrigation facilities and use of HYVs of rice and wheat; (3) economic and organizational factors, such as market determined fertilizer prices and crops prices, agricultural extension services and credit facilities to local farmers; and (4) the availability of facilities for storage, transport, and distribution of fertilizers.

Obviously the decision to consider producing urea or any fertilizer in Bangladesh should take the above noted points into account. A market for these products apparently exists, albeit, one that must

have access, credit, and confidence in the product.

The most recent endeavor in the fertilizer field is the Jamuna fertilizer factory which is expected to go into operation be December 1991 with a capacity to produce 561,000 mt of urea per year. This $348 million project has been supported by Japan who will be providing the foreign exchange component. In 1988, a contract was signed between BCIC and Mitsubishi Heavy Industries, Ltd. and the Mitsubishi Corporation to implement the Jamuna fertilizer project.

Further study should be given to manufacturing fertilizers in country to exploit and tap into this potentially profitable field.

Plastics

The plastics industry had a modest beginning in the 1950s with the manufacture of relatively unsophisticated plastic goods like combs, buttons, toys, etc. With the Government's liberalized investment policies in the 1980s, the plastics industry has seen some recent expansion.

As reported in a 1985 Government TIP report, a wide range of various size units are now involved in plastics processing; many more are entering the field through diversifying their product range. There is still little attempt to export locally made plastics products as the local market is less demanding on product quality and supply.

The current product range includes: polyethylene films and bags, PVC pipes, electronic accessories, appliances, and fittings, optical frames, and other smaller items.

As plastic products are not widely used in Bangladesh, more effort needs to be taken to market the local use of these products. The potential to tap into this market offers opportunities for producers to expand production and diversify their product range. Potential products could include packaging for sanitary items (toothbrushes, small containers for aspirin, or generic drugs) tubes, pipes, and accessory items.

PVC (Polyvinyl Chloride)

PVC is imported into the country often as a PVC compound and as PVC resins. A 1985 TIP report estimated the annual requirement of PVC for local industries to be 13,000 mt. Several public agencies also import large quantities of PVC pipes.

An estimated nine local plants are producing PVC pipes and fittings, in a variety of sizes and diameters, with a capacity of almost 3,000 tons. However, the need to import PVC products could be reduced if local producers implemented quality improvement measures and diversified their product ranges.

In light of the demand for PVC and the use of natural gas in its production process, this product could offer possibilities for future foreign investment. Under the sponsorship of the UNDP, an Inter-Ministerial Petro-Chemical Working Group visited the U.S. in 1980 to acquaint themselves with the possibility of manufacturing petro-chemicals, primarily PVC, in Bangladesh. This technical team determined from this study that Bangladesh could consider production of PVC based on local natural gas. They agreed that further detailed analysis was necessary to determine the feasibility of additional investment in this field.

Miscellaneous

As suggested by the Planning and Project Identified Unit of the TIP Reform Program in its 1985 report, a few auxiliary chemical industries could be established based on surplus capacities and/or by-products of some of the currently operating chemical plants. These could be joint venture projects—with BCIC and a foreign partner—to expand, for example, one of the TSP plants to manufacture aluminum sulphate ferrous sulphate or zinc sulphate based on its surplus capacity of sulfuric acid.

Their report also recommended that the Chittagong Chemical Complex could expand its capacity for production of caustic soda and bleaching powder. This Complex could then also manufacture zinc chloride (which has an estimated local demand of 200-300 tons/year). To use the facilities available in the urea factories, ammonia-based chemicals like ammonium chloride and ammonium bicarbonate could be produced.

In general, it seems feasible to locate new chemical plants near existing ones to facilitate the use of their surpluses and by-products. As these locations also contain the needed infrastructure and support environment for chemical operations, lower initial implementation costs would be incurred.

Constraints

1) The cost of production in Bangladesh has been high due to:

   - High capital investment costs of plant and machinery including technical assistance and consultant services.
   - Most chemical inputs must be imported and import duties can run as high as 50 percent, with an additional sales tax of 20 percent.
   - Lack of locally available technical skills make start-up and training costs higher.

2) Although research and development efforts to further the chemical industry are conducted, their benefit is limited due to an absence of the necessary facilities to test and implement this research. There needs to be more time, money, and emphasis on research and development in Bangladesh in conjunction with increased levels of foreign direct investment.

Conclusion

Although the present chemical industry in Bangladesh is limited, there are prospects to expand and diversify operations. There is a natural resource base of 17 trillion cubic feet of proven natural gas reserves—a tremendous resource to support the chemicals industry. In addition, the projects run by the public sector giant, BCIC, have bolstered the technical training and skill development in the chemical field. With this working foundation, it seems feasible to begin the examination of a few noteworthy projects in the chemical industry.

Specific Opportunities for American Businesses

- Joint ventures in any petro-chemical industry
- Work in collaboration with an existing plant to use surpluses and by-products toward other chemical products
- Cement clinker or cement factory
- Supply of equipment and inputs
- Technical assistance and consultant services

CHAPTER 4

Electronics Sector

Bangladesh has two decades of experience in the basic electronics field. Operations began with the assembly of transistor radios and by the late 1960s three companies were assembling black and white television sets. In 1981, the first export oriented electronics company, Legio East Corporation, went into operation as a joint collaboration with a Swedish electronics company.

To date, the electronics industry still imports most of its component parts and is basically assembly in nature. As of 1989, their operations have expanded to almost 40 small electronics companies assembling telephone sets, VCRs, clocks, micro-computers, transformers, PABX systems, and printed circuit boards. Many of these local companies are under sub-contract arrangements with multinationals such as Sanyo, NEC, and Nikkon, and are exporting a variety of assembled consumer goods. During 1989, export-oriented operations accounted for 16 percent of this industry's output.

Electronics assembly, which requires a relatively low level of formal training, is well suited for the labor force in Bangladesh. Most manual workers possessing limited skills can adequately complete assembly line tasks. A 1985 Investment Advisory Centre report supports this argument stating, "most of the tasks in the assembly of components or (electronic) products are simple, repetitive, and readily learned, even by those with little formal education".

As Bangladesh imports a majority of the components for its electronics industry, opportunities exist for developing backward linkage operations. Manufacturing components and parts to feed this expanding sector offer a range of possibilities. Developing these types of capabilities would make Bangladesh's production of electronic goods more competitive and profitable.

Policies

The Government of Bangladesh has given priority to encouraging and supporting investment in the electronics sector. As a thrust sector, Government officials have stated they are preparing a comprehensive plan to double the sector's export earnings in the next two years. As part of an indicative list of industries, several electronic areas have been identified in which foreign investment will be encouraged:

- Manufacture of basic electronic components
- Manufacture office equipment such as typewriters, copying machines, and calculators
- Manufacture of any export-oriented industry which brings a transfer of new technology to the country

Along with these objectives, the Government will need to encourage increased investment by creating a better incentives package to make investment in this sector more attractive. Measures should be taken

to reduce import duties, give specific benefits to industries to establish "feeder" factories, and offer incentives for export oriented production.

Electronics Committee

The Government has established a Committee to collect data and investigate the needs of this sector. The Committee will conduct feasibility studies, market research, and make policy recommendations. The first of their recommendations is due in early 1990.

Electronics Complex

The Government has introduced the idea of building an electronics complex in Dhaka. This Complex is envisioned to provide the needed infrastructure, research facilities, and centers to train technicians to support electronics manufacture. The complex will house only small-scale electronics operations producing for the local market and could eventually become a center of knowledge and skills for Bangladesh.

Opportunities

Computer Software Industry

The software industry has been rapidly expanding in countries such as India over the last five years. (India has around 300 large and small software companies with export earnings totalling close to $75 million in 1989.) There is potential to develop this industry in Bangladesh if adequate support is given by the Government and steps are taken to enlarge the computer literacy of the country.

A few private companies in Bangladesh are developing their own software on a very limited scale. Most of the programs are developed for the application of routine business and accounting functions. To date, no large scale or advanced research and development has been performed in the software development field.

To support the expansion of this industry, the Government has opened up restrictions and taxes on the sale of imported computers in Bangladesh. As local computer vendors are often the catalysts to set up domestic computer training centers, the Government's actions to open up this sector will hopefully provide the incentive to expand the computer literacy of the country.

This industry offers possibilities but at this time it is too early for foreign investors to take advantage of any indigenous software development given the available talents. With proper guidance and training, however, this sector could provide a variety of future opportunities for the development of computer software in Bangladesh.

Data-Entry/Data Processing

India and several Caribbean countries have recently become involved in the off-shore information/ data processing industry. Through this process firms in the U.S., with large data-entry needs, send their raw information via satellite, designated telephone lines, or in bulk to a data-entry center overseas. The information is then entered, cleaned, and returned via similar mechanisms. Many companies have found this to be a cost effective means to process their data as in addition to low cost labor, there is no U.S. duty or tax placed on this value-added work.

Operations have been developed in countries such as India and Malaysia with data-entry and data processing costs being reduced by over 30 percent. Currently, these countries offer qualified key board operators at approximately $3.00 - $5.00 per hour. Comparatively, U.S. operators average $11.00 per hour. While Bangladesh's labor costs in this field are substantially lower (approximately $2.00/hour) the country does not yet have the experience to operate or manage these enterprises. Some initial research has been done regarding cost savings to operate in Bangladesh (estimated at as high as 77 percent based

on labor costs). These figures however are based on the assumption of comparably efficient and productive workers in the U.S. and Bangladesh. Obviously, the shortage of skilled labor may lead to questions concerning the accuracy of these figures. Even so, it would seem reasonable to assume some amount of cost savings would be made (even after substantial training costs) due to lower wage rates in Bangladesh.

Supportive Government policy and adequate telecommunications infrastructure is important for the development of this sector. Bangladesh is continuing to develop its telecommunications infra-structure. It has two functioning ground satellite earth stations and has plans to develop a third satellite station in the near future. Direct international telephone lines, telex, and facsimile services are available. As bulk documents, microfilm, etc. may also be transported via airplane, Bangladesh offers reliable international air services with direct flights to and from Europe and Asia.

There have been proposals to complete an analysis of Bangladesh's potential in this field. The Government of Bangladesh, however, would need to support this effort and be willing to encourage the development of this field through additional infrastructure improvements, policy reforms, and improving skill levels in the country. Development of Technology Parks and operating services such as Free Trade Zones along with world class incentives should be given to make Bangladesh a competitive location of new informatics industries.

This sub-sector does have possibilities but will require time, money, and further research to investigate its potentials. The World Bank, the Overseas Private Investment Corporation, and USAID have sponsored previous studies in this field to determine the feasibility of developing industrial park facilities and teleports in the Third World. These surveys have found that a number of information processing corporations with data entry, programming, and computer aided design needs are looking for new locations which offer attractive labor rates and have or can develop affordable and reliable telecommunications facilities.

Low Technology Electronics Assembly

Low-technology electronics assembly operations are widely practiced in Bangladesh. Products range from radios, calculators, and color and black and white televisions. Assembly industries are well-suited to Bangladesh's resources, that is, they make use of its cheap labor, help build the indigenous knowledge base, and take advantage of Government incentives for export-oriented production.

Developing "feeder" industries could support the expansion of assembly operations by decreasing the country's dependence on imported components. Some products such as printed circuit boards, transformers are currently being made. Semi-conductors, fuses, circuits, and coils could also be manufactured in Bangladesh to support the growing electronics industry and reduce the need to import basic components.

The assembly of office equipment is also done on a limited scale for the local market and could be expanded for export. Products that could be assembled and sold locally or exported include calculators, typewriters, and telephone handsets.

Telecommunications

The telecommunications industry holds a range of trade and technology assistance opportunities for American businesses. This sub-sector is one of the largest consumers of electronic components in Bangladesh. Telecommunications is dominated by the publicly run Bangladesh T & T Board and currently imports the majority of its electronic needs.

The telecommunications industry is beginning to open up to private sector investment and has also been targeted for expansion over the next decade. These factors point to lucrative opportunities for American electronics and telecommunications companies to examine the import market in Bangladesh.

The Bangladesh T & T Board and a local private telecommunications company have reportedly

signed an agreement to set up a cellular phone exchange in Dhaka. The private sector is also being given access to bid on operations in the country's local districts, or upazilas, telecommunications systems. The Post and Telecommunications Minister has noted the goal of his Ministry to bring all upazilas under a digital phone system within the next two years, at a cost of $90 million.

In 1989 a joint venture with British Telecom, the Mitel Corporation of Canada, and a Bangladeshi firm set up a private telecommunications operation in Bangladesh. This company is currently exporting integrated services digital network-compatible computerized telecommunications equipment. This company has exported 200 lines of digital PABX systems to Vietnam and is looking to new export markets.

Constraints

1) In the past, the Government's frequent changes in import duty structures on different electronic components has adversely affected electronic assembly plants. This will be partially alleviated by the Government's new effort to implement two-year import policies and lend continuity to their stated development objectives. Electronics assembly plants, dependent on imported components, need relief from such import duty fluctuations.

2) Policy makers in the Government often have a limited understanding of the technical needs of this sector. Long-term development needs will often be side-stepped for more immediate short-term gains in the field. In general, inappropriate policy decisions have been made in the past which have limited the development of the electronics industry.

3) Lack of locally available knowledge to repair and maintain equipment has hindered the productivity and efficiency of this sector. Some spare parts are also difficult to obtain for equipment repair due to policy restrictions on their importation. (Duties can run as high as 50 percent.)

4) There has been a noted lack of highly skilled engineers and technicians in the country which has meant increased job training costs and greater levels of technical assistance.

Conclusion

Multinational corporations have become increasingly active in Asia. Many of these multinationals have begun to work with local counterparts to manufacture semi-conductors, PCBs, and other small components. Asian countries which have attracted much of this attention include Singapore, Hong Kong, South Korea, and Malaysia. In lesser developed countries like India, U.S. companies are also taking steps to take advantage of opportunities. American companies such as Apple, Burroughs, Data General, and Tandy have begun teaming up with Indian partners to begin local operations.

The best opportunities in electronics for Bangladesh seems to initially be in the labor intensive, low technology, assembly operations. Bangladesh has proven that it can supply these types of products at internationally accepted standards through its current contract work for companies such as Sanyo, Sony, Casio, NEC, and Nikkon. Plants manufacturing for export would also fall under a bonded warehouse system. Under this arrangement no taxes or duties would be levied on imported products and companies would receive export performance incentives.

In the future, backward linkages in this industry would hopefully be developed to support more technically advanced manufacturing in the country. Efforts to initiate these linkages have begun as some companies have started manufacturing simple and less complex components. In addition, a few plants are manufacturing injection molded parts and components that supply the electronics industry. The achievements in this field point to future advancement and expansion of Bangladesh's electronics sector.

Specific Opportunities for American Businesses

- Off-shore data-entry operations
- Assembly and manufacturing of basic components such as:
  - PCBs
  - Office Equipment
  - Semi-Conductors
  - Telephone Handsets
  - Transformers
  - Circuits and Switching Systems
- Supply of technical assistance and equipment to the telecommunications industry

CHAPTER 5

Fisheries Sector

Bangladesh is situated in the delta of the Brahmaputra, Ganges, and Meghna Rivers making its water, climate, and soil conditions highly favorable to inland water fisheries and aquaculture. With a labor force of around 33 million people, the fisheries industry involves 1.1 million full-time workers and supports about 10 million part-time fishermen. (Virtually all fisheries production is carried out by the private sector.) Fisheries exports account for about 3 percent of the Gross National Product and provides a large source of foreign exchange for Bangladesh.

Fishing has traditionally been an important component to Bangladeshi life. Protein from fish is a main ingredient in most locals' diets, providing 80 percent of the average person's annual protein intake. However with yearly population increases and the over exploitation of fish resources, prices have increased and local consumers have had to decrease their normal intake of fish.

The Government set a target of producing 1 million tons of fish by 1990 which has not been achieved. The problems faced by this sector which have limited reaching this target include: low levels of technology at the producer's level, poor access to support services (including credit, inputs, and extension), and weak institutional support from the fisheries authorities.

A major part of the country's fish production (60 percent) comes from inland capture fisheries. (Inland capture fishing is growing and catching fish on the floodplain of the country which consists of more than 1/3 of Bangladesh's total land area). Aquaculture in freshwater and brackish water ponds contributes another 17 percent.

As an earner of foreign exchange, shrimp has dominated this sector. (97 percent of all exports are also in the frozen form.) Export figures have been estimated as:

86%	Shrimps
9%	Fish
5%	Froglegs *

*70 % of U.S. froglegs come from Bangladesh

The shrimp industry has traditionally been one of the largest and most active areas of the fisheries sector. Bangladesh has a good natural supply of shrimp and currently exports black and green tiger and some white shrimp. Regarding this industry, 50 percent of the country's production comes from freshwater sources, 15 percent from marine trawling, and 35 percent from marine grown ponds.

In 1987, the Asian Development Bank (ADB) approved a $60 million aquaculture development project—$19.5 million for shrimp culture development. The five-year project included the construction

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of 1,000 hectares (ha) of new shrimp ponds in four districts (Sathira, Khulna, Bagerhat, and Cox's Bazaar) and the up-grading of approximately 5,000 ha of existing ponds. Ten new hatcheries have also been planned. There are many other World Bank and Food and Agriculture Organization (FAO) sponsored projects to support the development of this sector.

For entrepreneurs interested in producing for the local market, the fisheries industry is one of the most important sectors in the country where natural resources and local demand for the product are both present.

Donor Agency Findings

The development of the fisheries industry has been dominated by internationally financed projects to transfer new technologies to Bangladesh's fish and shrimp farmers. Groups such as the Asian Development Bank, the Danish International Development Agency, United Nations Development Program (UNDP), the Food and Agriculture Organization (FAO), and the World Bank have been providing assistance to Bangladesh's fisheries industry. The results of their work have reached the following conclusions:

1) There are good possibilities to raise fish production through the adoption of culture based fisheries management.

2) The main reason for low productivity in ponds is that fish farmers lack knowledge of fish polyculture techniques.

3) Lack of complementary investments, especially for support services, have hurt the development of the inland fisheries sector.

4) All donor projects have been plagued by delays as a result of institutional and manpower constraints.

The World Bank and FAO have suggested to the Government to set up at least 20 shrimp breeding farms in the coastal areas to gear-up the cultivation of shrimps in the country. The estimated cost of each breeding farm would be between $150,000 - $3 million. However, the Bangladesh Fisheries Department has not yet taken decisive action on this recommendation.

Policies

As shrimp has been one of the largest foreign exchange earners for Bangladesh, the Government has devoted specific policies to encourage the growth of this industry. To support the development of the shrimp culture industry, the Government has designed an export-incentive plan for shrimp exporters which includes:

- Import duties and sales tax exemptions on commodities used for shrimp feed manufacturing and shrimp pond maintenance.
- Special financing privileges. Shrimp exporters may borrow up to 90 % of the value of their confirmed letter of credit at a preferred interest rate of 9 % (current interest rates vary from 14 - 18 %). Companies exceeding their export targets are entitled to a 7 % interest rate.
- The Bangladesh Central Bank has also issued another form of financing to shrimp exporters: working capital credit established on the basis of 60 % of the firm's production capacity. The credit is available at 9% interest rate for operational and expansion purposes.

In general, the Government has identified the fisheries industry as a thrust sector. As this sector can use one of the country's natural resources as well as provide nutrition to a large segment of its people, the Government encourages foreign private investment that will bring new technologies and increase farm yields.

Marine Fisheries

The FAO's research has determined that output from marine capture fisheries has increased during the last ten years from 100,000 tons in 1976 to 200,000 in 1986. The FAO and others have stated, however, that over fishing already occurs and that the marine sector should receive less attention in the future than the inland sector. Lack of information on the resource base makes it hard to indicate the potential for marine capture fisheries development although an additional 60,000 - 80,000 tons might be harvestable but could lead to equal decreases in other sectors. As a 1986 ADB report stated, shrimp is the only species of high value in significant volume in the marine fishing area and is now fished near its maximum sustainable yield level.

Marine "culture" or the culture of purely marine organisms has been suggested as a development opportunity for Bangladesh. Bangladesh fishermen primarily culture four marine species: Penaeus monodon (giant tiger shrimp), P. semisulcatus (giant tiger prawn), P. indicus (Indian white shrimp), and Metapenaeus brevicornis (brown shrimp). The Indian white shrimp is the most commonly grown and cultivated.

Bangladesh has a long coastline where shrimp could be captured or cultivated. However, the salinity of the water, the level of dissolved oxygen, and water temperature limits the distribution of marine shrimp to a narrow belt. The effective area to cultivate shrimp in Bangladesh is estimated at 196 million km with marine shrimp ponds restricted to 49 million km.

As noted by a 1988 U.S. Department of Commerce study, the area devoted to shrimp culture in Bangladesh has expanded from less than 20,000 hectares (ha) in 1980 to over 87,500 ha in 1985. Fishery officials estimate that by 1990 approximately 120,000 ha will be under culture. There has also been an estimated 240,000 of "estuarine" area available for shrimp culture in Bangladesh. Although annual yields are still low, the recent Commerce study indicated that "this is expected to increase with improved management".

In brief, the lack of surveys and assessments on Bangladesh hampers the exploration of its marine resources. Currently no policy to improve the marketing and marketability of other low priced commodities exist resulting in the over exploitation of shrimp stocks and under exploitation of other resources in the country.

Brackish Water Fisheries

Brackish water farming is done for shrimp exports although these farms also consist of large amounts of fish—estimated by international agencies at more than 6,000 tons. FAO reports have examined the quick development of shrimp production in brackish ponds. These studies have noted that in ten years the area under development increased from nearly zero to 100,000 ha in 1985-86. Yields are still not very good—averaging 50-150 kg/ha per year which is the lowest known production level in the world. Other Asia countries like China, Taiwan and Thailand produce 1,000-3,000 kg/acre through more scientific means.

There are several reasons for this low production level. First, shrimp farming is often done in rotation with rice paddy or salt production. Secondly, there is a lack of water management infrastructure. No area of high salinity has been exclusively delineated or developed, in terms of infrastructure, for shrimp culture. (Bangladesh does experience marginal water quality which limits farmer's ability to produce good quality shrimp fry.) Third, there is an absence of shrimp fry breeding farms. Currently, shrimp fry farmers get their culture from the natural production in the ocean—which has a long-term result of damaging the environment through over exploitation. This practice does not support the development of the shrimp fry industry and very low levels of production have been the result.

These deficiencies are being identified and overcome with projects designed by the World Bank and ADB to find and demonstrate solutions. Estimates have been made to increase shrimp areas to nearly 160,000 ha by 2005—along with intensified yields which should be able to produce at world averages of 500 kg/ha by that time. In the more saline areas close to the Sunderbans, with less physical and social

constraints, year-round culture could be expected to yield 1,500 kg/ha. It is also the opinion of these agencies that the open water brackish resources (creeks and rivers in the Sunderbans) do not have much scope for further development of capture yields.

In addition to increased output, there is a need to develop more value-added production in shrimp exports. Currently most shrimp (black and green tiger and white shrimp) are exported frozen raw (headless with the shell on). Value-added shrimps such as butterfly-fried, finger packed, and sauced shrimp offer good opportunities for Bangladesh and warrant further consideration.

Fish Cultivation

There are also possibilities for fish cultivation in brackish ponds. Fish production in shrimp ponds, which averaged around 6,000 tons in 1985-86, could be raised substantially by regulated stocking of suitable fingerlings and use of appropriate techniques to develop this resource. Increased private sector development of fish cultivation in this respect would seem feasible as well as profitable.

Regarding fish culture—growth was limited until the late 1970s. In the 1980s, more farmers began growing artificially produced fingerlings used for fish hatcheries. Presently there are over 100 public and 40 private seed farms/hatcheries producing over 1,200 million or 2,360 kg of spawn. With this growth, the number of fingerlings production plants and nurseries has also increased. Now there are more than 3,000 private fish farmers producing 500 million fingerlings with an average nursery size of 1 ha of water.

These figures all point to the fact that fish culture is a growing and potentially profitable field. With a large and growing domestic market and ample opportunity to export, Bangladesh seems poised to further exploit this field. Opportunities also exist for increased value-added products such as filet of sole.

Fresh Water Fisheries

Due to the riverine character and climate condition of Bangladesh, much of the country becomes inundated with water for part of the year. Flooding varies from year to year but on average 5,400,000 ha (or 1/3 of Bangladesh's total land area) are submerged. This water covers the floodplain and connects smaller water bodies which separate again when the floods recede during the dry season. These conditions provide the basis for freshwater fisheries cultivation and production.

With every new flood comes new opportunities to farm in ponds and depressions where water gathers. Traditionally, these areas have been cropped by farmers who alternate between agriculture and fish farming. Bangladesh is making efforts to contain the floodwater through dams and irrigation which will ultimately have a negative effect on the country's open water fish production. This work is estimated to lead to a decrease in the floodplain to 2 million ha by 2005.

To overcome the approaching obstacle of a decreased floodplain, Bangladesh must adopt wider use of artificially bred fish with intensification of land currently under use. The ADB and World Bank have developed such demonstration projects and it is hoped that these will provide and initiate the transfer of know-how and technology to local farmers.

Opportunities

Carp Hatcheries

The Department of Fisheries has played an important role in Bangladesh demonstrating the technology of carp hatchery production to the private sector. In 1985, carp hatcheries began springing up with an estimated 40 private sector hatcheries. This included 151,000 ha of freshwater carp ponds, producing 66 percent of the total hatchlings (or 1.2 million carp fry). However, productivity has been hampered by (1) failure to eliminate predictors before stocking ponds; (2) failure to stock the proper mix of carp species to use the natural food web; and (3) insufficient use of fertilizer. With the correct technology and know-how, opportunities would seem to exist for further development of local carp

hatcheries.

Catfish Hatcheries

Catfish is a popular fish in Bangladesh. There is a fairly stable local demand for catfish from the indigenous middle class. For the past 25 years, catfish farming has been active in Thailand and has grown very successful. As such, several studies to develop this sector in Bangladesh have been completed.

A study undertaken by the Bangladesh Agriculture University has concluded that the development and breeding of catfish has potential for Bangladesh. Their tests indicated encouraging results for breeding catfish in Bangladesh as it grows quickly and breeds prolifically; the catfish is also very healthy and can survive a variety of adverse environmental conditions.

A 1987 study by the Micro-Enterprise Development Assistance Society (MIDAS) has also determined that catfish culture and development on a commercial basis holds promise. In order to make catfish farming profitable, better management practices and an improved network for the delivery of support services needs to be in place. In addition, this study determined that by using fertilizer and supplementary feed, the semi-intensive cultivation of catfish could yield around 9,000 kg per ha/year.

Fresh Water Shrimps

A recent FAO study has stated that although the majority of Bangladesh's exports are salt water shrimps, there is a potential for the development of fresh water varieties. More specifically, a possibility exists to breed and develop the giant fresh water shrimp Macrobrachium rosenbergii. This breed would grow best in pump-regulated ponds which would need to include: a nursing area, a shrimp handling area, and strict daily management. Production could reach as high as 2,000 kg/year given the proper inputs and regulation.

Joint Venture Partnerships

Potential exists for joint venture partnerships with local operators. Many fish and shrimp producers own under utilized tracts of land with the basic infrastructure to support this industry. Foreign investors interested in this sector should seriously consider joining with a local partner to begin fisheries cultivation in the country.

A potential opportunity also exists to establish an "integrated" facility which would include all the needed components to develop, cultivate, process, and export shrimp or fish. Such a facility would need to include cultivation areas and accompanying equipment, hatcheries, feed production, quality testing laboratories, and a processing factory. There are entrepreneurs in the country who would be able to support this type of venture and have the basic understanding and background to make such a joint venture feasible.

Constraints

1) Handling — Regarding the exportation of fish and shrimp, the main point of contention for foreign importers is poor handling and packaging. Bangladesh has been noted in many circles for inconsistencies in its packaging—with the importer often paying more than they should for certain goods due to "inaccurate" labelling and packaging. This in turn has meant many importers will only pay lower prices for Bangladesh fish and shrimp.

   Another problem linked to marketing of Bangladeshi shrimps is the high shipping costs. For Bangladeshi exporters, there are no refrigerated container vessels in the Bangladesh Shipping Corporation's fleet and it is often difficult and expensive to obtain timely shipment from other vessels.

2) Land — Land acquisition for the foreign investors can be a problem due to unavailability of large

tracts of land; most current fish/shrimp farmers lease small plots. In order to secure any large areas, the small farmers would have to be bought out or pushed out—leaving them without their traditional livelihoods. In addition, most farmers could not be absorbed into the more technical field of shrimp and fish cultivation due to their lack of basic knowledge and skills in the field.

Leasing land would have to be done through the Government, as it owns most of the land in the relevant areas. Investors would need to approach the Board of Investment to secure approval who would then play a role in supporting the acquisition of the needed land.

3) Export Markets — Regarding Bangladesh's opportunities to export its fish and shrimp, its export base is beginning to shrink. Japan is currently its biggest export market which is slowing due to increasing numbers of exporters from China, Taiwan, Malaysia, Thailand, and India who can offer lower costs and higher yields through mechanized farming. In 1988, exports to Japan shrank to 5,000 tons from 5,970 in 1987 (*Economic Times*, July 18, 1989).

   One of the biggest constraints to the exportation of Bangladesh's shrimps has been the recent decline in the international price of shrimp. This has occurred simultaneously with an increase in production costs in Bangladesh—namely shipping costs. Shipping problems such as loading and unloading delays have also caused constraints when trying to meet buyers' demands. Both of these facts have substantially lowered the incentive by exporters to invest in higher yield-producing operations.

4) Local Concerns — There is a domestic conflict between agriculture and the fisheries industry. This results from shrimp and fish farming leading to salt intrusion and siltation in polders which in turn decreases drainage and crop production. This situation could lead to farmers demanding protection from the development of this industry. The possibilities of this issue expanding and complicating the development of this sector do exist.

5) Processing Facilities — Although the country does have a substantial fish and shrimp processing industry, most plants are under utilized. The Bangladesh Frozen Food Exporter's Association reported in July 1989 that 88 % of the fish processing plants in the country were operating at less than 15 % capacity. This could be a deterrent to the immediate needs of a growing aquaculture industry. However, under utilization also offers the possibilities of supporting the needs of a growing fish and shrimp industry.

6) Local Constraints — There are a variety of local constraints which limit the expansion of fish and shrimp cultivation:

   - Limited practical experience by shrimp farmers and a lack of demonstrated new techniques.
   - Limited supply of locally manufactured quality feed with at least 30-40 percent protein content.
   - Limited advisory mechanisms for water and soil management.
   - Problems of susceptibility to disease which could be contained in the proper environment.
   - Lack of availability and the use of fertilizers to support aquatic development.

Conclusion

Most of the attention in the past has been given to Bangladesh's shrimp exports—which have traditionally been harvested through natural extraction. In 1990 and beyond, the prospects for Bangladesh's fisheries industry lies in the cultivation of fish and shrimp from fry and fingerlings. It is only through tapping into its existing resources and expanding the technological development of this sector that Bangladesh can begin to effectively compete with its Asian neighbors.

It is hoped that through the Bangladesh Government and international donor's efforts to provide demonstration projects and a transfer of technology and skills, this industry will begin to increase its production and efficiency to a level that can compete in the world market.

Specific Opportunities for American Businesses

- Joint venture projects such as fresh or salt water shrimp cultivation or other fisheries products
- Provide technical assistance
- Development and cultivation of new fishery products in Bangladesh, i.e., value-added shrimp products, carp, or catfish
- Supply of aquaculture equipment and technology

CHAPTER 6

Leather Sector

Bangladesh's leather and hide industry has a long history. Developed through generations of families involved in processing and tanning hides, the industry is dominated by these small-scale entrepreneurs. A few firms do manufacture leather goods for the local market although most export raw leather hides.

The majority of Bangladesh's hides are exported in wet blue (unfinished) form to countries such as Italy, China, and Japan where they are processed and developed into finished products. Although no one has yet to export finished leather goods from Bangladesh, the potential to turn locally tanned hides into exportable leather goods does exist. An on-going study of Bangladesh's leather industry conducted by the United Nations Development Program (UNDP) indicates the sector possesses a number of opportunities to manufacture leather products for export. As Bangladesh hides become acceptable internationally, there seems every possibility to eventually develop this sector toward more value-added, exportable production.

UNDP's preliminary findings have indicated there are currently 60 million square feet of cow and buffalo hides and 35 million square feet of goat and sheep hides available for manufacture; only 15 percent of this goes toward domestic consumption. Of the 160 tanneries currently operating, roughly ten are finishing hides suitable for exportable leather products.

Foreign assistance is needed to help this sector up-grade existing tanneries. Local tanneries are attempting to improve their plants with the help of loans from the Asian Development Bank (ADB) and others. The ADB has taken 22 tanneries into its modernization program with a $600,000 loan to each. The efforts to improve and develop this sector are beginning to be reflected in its export earnings. There has been a 38 percent increase in the export earnings of crust and finished leather in 1987-88, up 22 percent from the previous year.

Policies

Through its policies and promotional work, the Government has taken an active approach to support the expansion of this industry. It has placed a ban on the exportation of wet blue leather as of July 1, 1990 in an effort to force current wet blue operations to up-grade their facilities. Many tanneries are satisfied with this decision but other wet blue producers feel they have not had time to adapt to the policy change. It remains to be seen if the Government will be persuaded to remove or delay the ban.

For entrepreneurs operating exclusively for export, a bonded warehouse system is in effect for the needed chemicals, etc. for leather tanning and finishing. Under this system imported goods are allowed into the country duty free. Leather, intended for 100 percent export oriented production, can also be imported duty free.

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Opportunities

Investors in the leather manufacturing sector must take into consideration the world leather environment. According to a variety of sources, the world demand for leather products is expected to increase over the next decade.

Export and trade opportunities with America are noteworthy. The United States currently imports 80 percent of its leather goods from Brazil, South-East Asia, and China. However, these areas are undergoing economic and political changes which may affect their ability to supply leather at comparable prices and quality. For example, as a result of an inflation rate topping 1700 percent in 1989, the leather industry in Brazil experienced its worst year in a decade.

In addition, the U.S. is shifting from its traditional suppliers of footwear—Taiwan and South Korea—to lower cost areas in Asia. Rising production costs and continual labor demands have been factors leading to this change. China has to a large degree off-set much of these supplies but its continuing austerity program has forced many businesses to take a more cautious approach to relying on its production or expanding operations there. Recent reports by several leading business journals have also noted increasing difficulty in obtaining industrial supplies in China.

Countries like Indonesia, with many similar problems to those of Bangladesh, have begun exporting footwear. In 1988, Indonesia exported $24 million worth of leather dress and casual shoes. Brand names made in Indonesia include Reebok, Puma, Nike, and Avia. Shipments from Thailand also rose to 5 million from 3 million pairs in the third quarter of 1989.

Countries such as Thailand and Indonesia import the raw hides for their finished leather products. This example also offers one of the best immediate possibilities for Bangladesh. With its various technical and supply needs, one immediate cost effective solution is to import the needed quality leather (allowing for consistent supplies as well as quality). This type of arrangement could eventually lead to local tanneries supplying the hides for export oriented production. Thus, a gradual transfer of the needed skills, management, and technical expertise would occur to support the development and expansion of Bangladesh's leather industry.

It is less immediately feasible for Bangladesh to use its own raw materials to manufacture leather products for export. A company interested in this type of operation would want to establish a joint collaboration with a Bangladeshi tannery, exchanging technical assistance and capital for an equity share in the operation. In this sense the American firm could assure consistency in product quality while transferring the essential skills necessary to gradually develop Bangladesh's leather industry. This type of arrangement would require a longer start up time and money for training and new equipment. However, in the long run this scenario is better for Bangladesh as a country.

Leather Fittings

Another opportunity to use locally tanned leather and become more involved in the world leather market could be to export leather fittings. Leather fittings use lower quality, thinner leather, as linings for shoes, pocketbooks, etc. This seems well-suited for Bangladesh's locally available hides which are typically thinner and have a light fine-grain structure; most hides have only two "splits", with the upper split processed as finished leather and the lower split used to make lower grade products such as industrial gloves.

This type of low technology, labor intensive product with marginal quality leather needs would seem to offer good possibilities for Bangladesh to break into the leather industry.

Leather Shoe Uppers

Manufacturing leather shoe uppers is one value-added opportunity for Bangladesh. Leather uppers production represents one of the most labor intensive and lowest capital processes of shoe manufacturing. The skill level needed for this kind of production is also less than manufacturing an

entire shoe—with fewer training requirements. In addition, uppers require less equipment, lower initial capital outlays, and have more flexible demands on leather tanneries. Shipping costs are also lower than for finished footwear as uppers can be "nested", requiring less shipping volume.

Exports of leather uppers to the U.S. and Europe have increased since 1985. India is currently one of the largest leather shoe upper manufacturers followed by the Dominican Republic, South Korea, and Taiwan. With the correct approach, Bangladesh could tap into some of these markets and even expand to take advantage of the opportunities available in Italy, China, and France.

Shoes and Garments

There are a few tanneries in the country capable of producing the necessary quality hides for exportable leather products. In addition, some of the basic skills necessary for the output of such goods, i.e., cutting and sewing, are transferrable from the Ready-Made Garments industry. This would provide a good foundation of skilled laborers to begin operations which could be enhanced through on-the-job training.

The Government would support most new investment in this area as a means of earning foreign exchange. In addition, value-added projects are encouraged by the Government as a means to acquire new technical know-how and skills. (As UNDP's study noted, for each $1 of wet blue leather exported per square foot a finished leather shoe—of moderate quality—can bring $15 in export value and employ 25 times more workers).

As an indication of the potential in this field, a local Bangladesh tannery has begun a joint venture project (with leather products firms from Italy and Germany). The joint venture will produce women's shoes from locally tanned goatskin. The shoes are to be exported to the U.S. and production should begin in early 1991.

Another shoe company operating in the Chittagong Export Processing Zone has begun looking into manufacturing women's shoes for export. This company is proposing to initially use imported leather to produce its shoes but will seek a local tannery to serve as a future supplier of its leather materials.

Miscellaneous

To make the best use of the size, quality, and supply of leather currently available in Bangladesh, manufacturing small to medium sized items may offer a good opportunity. There is a fairly constant international market for leather products such as brief cases, portfolios, belts, or watch bands. These items require reasonable amounts of equipment and training to manufacture and only need small to medium sized pieces of leather to produce. As such, the possibility of initiating work in the leather field with these types of products deserves further examination.

Constraints

1) There are currently only a few tanneries that can produce leather at international quality standards in Bangladesh. Investors interested in manufacturing leather products would have to provide technical support and assistance to up-grade current production levels. In addition, there is a need for increased technical training of staff and handlers to ensure consistency in supply and quality.

2) The price of Bangladesh-produced hides is currently not competitive with world market prices.

3) Chemicals used in the leather industry are disposed by piping them into the near-by river. If Bangladesh becomes more active in this sector, an efficient and environmentally safe method of chemical disposal will have to be developed.

4) The supply of hides can be sporadic. Part of the country's supply is linked to the religious festival—Eid. During this period families across the country sacrifice goats and cows as

atonement leading to a vast supply of animal hides once a year. Unfortunately, the local tanneries cannot handle this volume and a large quantity of hides often spoil.

5) Quality consistency is also a problem in Bangladesh.

   a) There are no farms to raise animals for their hides. As such, goats and cattle hides are damaged by insect bites and inappropriate handling by owners (often cows are old farm animals used for plowing, etc.) In total, an estimated $13 million is lost each year due to the poor animal husbandry techniques used in Bangladesh.

   b) Much of the handling of hides is done by butchers who slaughter their animals on a daily basis. Due to their poor skin removal, hides can suffer flaying damage and petrification.

   c) Bangladesh's cow and goat hides are very thin and at the most, two "splits" can be obtained from local hides which leaves for thin and sometimes irregular hides. (By comparison, hides from countries like Japan can be split three times with the final or third split being used for products such as industrial gloves.)

Conclusion

The development of the leather industry in Bangladesh offers a unique possibility to use one of the country's few natural resources—leather. There are tanneries in the country capable of manufacturing high quality leather and many do export raw leather to countries with high standards such as Italy and Japan.

With the proper support and skill-development, Bangladesh will be able to produce high quality, value-added leather products. Although this process may begin with the importation of leather to assure consistent supplies and quality, there seems to be every indication that a viable leather products industry can eventually be developed.

Specific Opportunities for American Businesses

- Manufacture leather shoe uppers
- Manufacture leather fittings
- Manufacture of shoes and garments
- Manufacture of miscellaneous leather products such as portfolios, watch bands, belts or brief cases

CHAPTER 7

Light Industries Sector

The light industries field encompasses a wide range of products. Hundreds of light industrial plants currently operate in Bangladesh and produce a variety of items for the domestic market. Most of these companies are small, producing relatively labor intensive products on a very limited scale. There are a few factories which have found export markets for their goods.

The industries considered in this study include low-level technologies which need moderate levels of capital and are fairly labor intensive. These criteria seem best suited for the resources and opportunities in Bangladesh. Also highlighted are export oriented industries that can take advantage of existing indigenous resources.

Technological support and product innovation to support the light industries sector has begun to develop in Bangladesh. For example, injection molding activity has begun. One injection molding facility currently manufactures the carrying cases for Singer's locally-assembled sewing machines. This factory, located in Chittagong, has also received an order from Coca-Cola to produce several hundred thousand injection-molded crates to be used in lieu of wooden crates. Another group of companies in Bangladesh currently uses its own injection molding facilities for components for transistor radios, cassette players, calculators, etc. These products are currently made for the local market but could be expanded to support export oriented production. Computer Aided Design (CAD) systems have been introduced in the country. Using a CAD system is important to support the development of Bangladesh's own technical skills and design ability which are essential to the light industrial field.

Considering the advances made in this sector, foreign assistance could play an important role in developing it into a more diversified, quality-conscious, export driven industry.

Policies

In 1982 and 1986 the Government of Bangladesh introduced two New Industrial Policies designed to encourage and support private sector investment. In general, foreign investment under these Policies is to be encouraged in appropriate sectors, particularly high technology, export-oriented, and labor intensive industries.

Liberalization of investment policies and a declaration of "light industries" as a priority sector has occurred during this period. As part of its Policy, the Government has established an indicative list of industries in which foreign investment will be encouraged. A partial list is given below:

- Sand and clay processing for glass and ceramics
- Capital machinery and equipment manufacture
- Disposable needles and syringes manufacture

- Hand and small tools manufacture
- Office equipments, i.e., typewriters, copy machines, and calculators manufacture
- Sheet and plate glass manufacture
- Sporting goods manufacture
- Surgical, medical, and dental instruments and equipment manufacture

Opportunities

In 1986, the United Nations Industrial Development Organization (UNIDO) compiled a list of investment projects in conjunction with public and private enterprises in Bangladesh. It included industrial projects which had local sponsors seeking foreign collaboration on a variety of levels (equity participation, loans, technical assistance, etc.). Detailed project profiles and specifics can be obtained on the following projects:

- Manufacture water, gas, and other meters
  Investment cost: $10.7 million
  Foreign participation: equity, loans, technology, training, and equipment

- Manufacture ceramic glazed tiles
  Investment cost: $676,000
  Foreign participation: loans, technology, equipment, and training

- Manufacture LPG cylinders (15 kg)
  Investment cost: $2.9 million
  Foreign participation: equity, loans, joint venture, and technology

- Manufacture stainless steel cutlery
  Investment cost: $212,000
  Foreign participation: loans, equipment, training, and market access

- Manufacture hand tools
  Investment cost: $4.2 million
  Foreign participation: equity, loans, technology, equipment, and training

- Manufacture flexible PVC pipes
  Investment cost: $328,000
  Foreign participation: loans, equipment, and technology

- Manufacture stainless steel watch cases
  Investment cost: $226,000
  Foreign participation: loans, equipment, and technology

- Manufacture syringes and needles
  Investment cost: $18.3 million
  Foreign participation: equity, loans, equipment, technology, and training

(Above is only a partial list of 60 potential projects prepared by UNIDO.)

In late 1989, the Bangladesh Shilpa Bank released several project profiles in the light industries field. Specific projects examined included: injection molded luggage, forged hand tools, laminated aluminum foils/films, stapling machines, vacuum flasks, cycle chains, automobile gaskets. As part of each profile, the market for the project is outlined and specifications are given regarding building and machinery requirements, raw materials, personnel, project costs, and earnings forecasts. These profiles can be acquired from the Bangladesh Embassy in Washington, D.C.

Machine and Tool Industry

In 1988, the Bangladesh Bureau of Statistics reported there were 128 local machinery (non-electrical) manufacturing and assembly plants in the country. Product lines included: engines and turbines, agricultural machinery, metal and woodwork machines, industrial machinery, and sewing machines. In addition, over 100 plants involved in fabricated metal products were manufacturing and assembling hand and edge tools, structural metal products, bolts, nuts, rivets, and plumbing equipment. Most of these operations are very small scale and do not have the capacity to expand production for export.

There is one very large publicly controlled machine tool factory in Bangladesh. This factory was set up in 1967 at a cost of $40 million. Currently only 1/4 of the Bangladesh Machine Tool Factory's (BMTF) capacity is used. The factory has the ability to manufacture equipment such as irrigation pumps, drills, milling machines, power hacksaws, and spare parts. Potential exists to assist BMTF with the modernization and expansion of its facilities (which has been requested by the plant's management at $7.5 million). Opportunities may also exist to work with the Government to secure controlling ownership in the plant and expand its current production levels.

Two new Japanese ventures were reportedly approved (*Economic Times*, February, 1990) and are scheduled to begin operations in the country's EPZ. One of these operations, TMI Bangladesh, will produce DC fan motors and have a 2.5 million piece output capacity per year. The second plant, Sigm Intered Manufacturing, will produce automobile parts, pipe connectors, gas burners, pumps, and valves. The total investment of these two industries will be $350,000.

As Bangladesh imports millions of dollars worth of spare parts, tools, and equipment, the development of a viable local manufacturing plant to produce some of these items appears to be promising. There may also be export markets for this industry. Further study of establishing a new facility or working with BMTF needs to be completed to determine the specific opportunities in the machine and tool industry.

Shoes

The shoe industry is well suited to the resources available in Bangladesh and represents a potential investment area. This field requires fairly large amounts of labor and low levels of capital for machines, etc. Many of the skills needed are also available locally, subject to some training, to produce synthetic or other types of shoes.

One entrepreneur operating in the EPZ, for only two months, has produced its first shipment of shoes destined for Europe. Another shoe plant is being relocated from South Korea, under a joint venture arrangement with a local firm, to make Puma brand sports shoes for export.

The growing interest from foreign investors in this field indicates the potential of expanding and diversifying the shoe industry in Bangladesh. With its large labor supply of semi-skilled workers and desire to expand into new labor intensive, export oriented areas, the shoe industry offers some possibilities for future investments.

Toys

There are some mechanical toys, such as friction toys, being assembled in Bangladesh. Operations are very small scale and designed primarily to meet local market demands. Currently, there are a few known toy assembly plants looking into the prospects of expansion and joint venture arrangements for exporting their toys.

The stuffed toy industry also holds prospects for Bangladesh. Manufacturing a stuffed toy requires fairly low capital requirements and has limited technical demands. Many of the needed skills could be identified locally from the Ready-Made Garments industry. In general, the various labor intensive steps required to manufacture stuffed toys make this product well suited to the low labor costs and available skills of the country. One joint venture project established between a South Korean and Bangladeshi firm

will go into production in mid-1990 to manufacture stuffed toys. It will have the capacity to produce an estimated 150,000 dozen/year valued at $3.6 million. The joint venture will operate in the country's Export Processing Zone in Chittagong. The export market for these goods will be North America, Europe, and South Korea.

In February of 1990 a 14-member Toy Delegation from Hong Kong visited Bangladesh. The leader of the delegation expressed a general interest in the toy industry and the opportunities to relocate some of Hong Kong's operations from other countries. The delegation also has plans to evaluate the possibilities of manufacturing and assembling injection molded toys in the country. The interest from this delegation could prove important to the expansion of this industry as Hong Kong is the world's largest toy exporter—worth $1 billion annually.

Growing interest from Asia in the toy field may help identify this sector as a profitable and competitive investment area. As new projects begin production, their operations will hopefully attract new American and European toy manufacturers.

Umbrellas

There is one factory currently producing export quality umbrellas in Bangladesh and has been marketing its products overseas. Well suited to the resources of the country, production of umbrellas is basically labor-intensive and has low capital requirements. All inputs can also be imported under a bonded warehouse system and are duty free. Further exploration should be given to expanding this type of labor intensive, low technology operation.

Watches

Thorough feasibility studies have not yet been completed to determine if watch manufacturing for export is viable in Bangladesh. The characteristics of this sub-sector do have qualities which are amenable to the country. Watch assembling is labor-intensive and has very low capital requirements. In addition, line operators assembling electronics or other products, can be easily trained to assemble watches.

One watch assembly plant has been operating successfully in Dhaka. The watch manufacturer plans to expand production and is attempting to tap into the international market. Its managers feel the company can effectively compete with Hong Kong's watch manufacturers, with a price of around $5 a watch. These entrepreneurs are aware of the fact that Bangladesh must become more technically competent to produce better quality watches to enter the export markets.

Miscellaneous

Opportunities abound in the light industries sector for new, innovative projects. In the EPZ a costume jewelry factory has been approved. In Chittagong, another entrepreneur is assembling stained glass lamp shades for a Korean company. One small factory is assembling light switches for the local market. A new factory to make baseball caps and winter hats has been sanctioned by the Government to begin production in 1990. A Japanese venture has also been approved to manufacture sports equipment in the EPZ.

Although it is too early for some of these operations to show results, they predict to generate reasonable profits. Some of the new factories in Bangladesh are "relocated" factories from South-East Asian countries where it is no longer profitable to operate due to rising labor costs. As such, their markets are already assured and success is usually based on cost efficiency in producing a quality product. So far the results look promising.

Constraints

1) At present there are few technical skills available to design new equipment or come up with innovative ideas for new market lines. Much of this stems from the sector's domination by

assembly operations which does not cultivate creativity or innovation.

2) For more advanced product lines, time and money would have to be devoted to training management and staff to assure consistency in quality and supply.

3) There are currently only a few entrepreneurs with the experience and connections to market a new product overseas. Any outside arrangement or joint venture would initially have to include an assured export market.

Conclusion

The prospects for small-scale, labor intensive industrial projects seem good. As Bangladesh has had some experience in a variety of similar fields, it has the basic skills necessary to begin operations in this sector.

The incentive for American firms would be to make use of the country's cheap, easily trainable labor while transferring a new technology or concept to the country. It is through these type of small and low technology projects that the basic know-how and skills can be developed in Bangladesh and make it an increasingly viable location for foreign investment.

Specific Opportunities for American Businesses

- Mechanical and stuffed toys
- Shoe manufacturing
- Machine and hand tools
- Small, innovative and labor intensive product lines

CHAPTER 8

Textile Sector

An examination of the textile industry in Bangladesh must take into consideration the public *and* private sectors. In the early 1970s much of Bangladesh's textile industry was nationalized. Having recently denationalized many of these mills, the Government run Bangladesh Textile Mills Corporation (BTMC) now owns only 40 percent of the country's spinning capacity. Unfortunately many of the privatized mills are under financial constraints due to liabilities and debts incurred while under public control. In addition, there are thousands of cottage and small-scale workers which substantially contribute to spinning and weaving for locally used fabrics.

BTMC celebrated its first year of profit in 1988-89 after five consecutive years of loss. Profits were reported at $1.9 million with 90 percent of targets in yarn and weaving being met. Exports to Japan were also announced in June 1989. 1989-90 production has been steady while BTMC has kept over one million spindles up and running.

The majority of local textile production supplies the domestic market. As local demand calls for polyester-blend garments, the machinery used in this sector is not suited for the cotton-oriented export market. This factor limits the possibilities of expanding local plants to supply the Ready-Made Garments (RMG) sector.

Over the last decade the RMG industry has become the major foreign exchange earner in the textile sector. The RMG industry grew quickly in Bangladesh to almost 400 factories at its peak. The Government of Bangladesh has recognized that although RMG is an important foreign exchange earner, there are opportunities to deliver a more value-added product in this field.

In 1987-88 Bangladesh earned over $400 million from RMG exports, of which about 63 percent went to the U.S. However, as Bangladesh imports more than 90 percent of its fabric and accessories from other countries, there has been little value-added in the final product; the amount which has been earned in foreign exchange has only marginally exceeded that spent on needed imports.

The possibilities for Bangladesh's textile industry therefore are in some measure linked to the RMG sector. The question for Bangladesh seems to be one of increased self-sufficiency in fabric and accessory production.

Policies

In 1989, the Government initiated its first textile policy. This new approach consists of two programs, a two-year (1989-91) "crash" program and a three-year (1990-93) "priority" program.

The two-year policy has raised the targeted level of cloth production to 1,250 million meters a year

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from the present 885 million meters being produced. This will be attempted through BMR & E (Balancing, Modernization, Replacement, and Expansion) of sick private and public mills. Imported synthetic fiber and yarn will also be allowed to support increased weaving production. The handloom sector will also be revamped with semi-automatic looms to replace older less efficient looms and weavers will be given more institutional support.

The three-year program (1990-93) is envisioned to help the country take the first step in competing with its Asian fabric exporting neighbors. This program will include a wide range of tactics to help the industry become more efficient and quality conscious. Blended fibers will be given special attention to ease dependence on imported fabrics. Efforts will also be made to produce synthetic fibers with the introduction of new technology and through the petrochemical industries. Increased acreage for cotton farming is also a policy objective.

To initiate sub-sector research and to increase the effectiveness of current strategies and policies for this sector, a Textile Strategic Management Unit has been proposed. This Unit will be set up under the Ministry of Textiles and will collect, process, store, and analyze data relevant to policy implementation on a computerized data bank.

An immediate problem the Government does face with its private sector mills is to solve the debt-equity ratio and liabilities of denationalized mills. Resolving this issue would hopefully facilitate more investment in the export-oriented textile sub-sector. General initiatives will also be given by the Government to encourage local and foreign investment to begin new backward linkages operations to support the RMG sector.

In the Government's 1986 indicative list to encourage investment, the following projects were identified:

- Textile spinning, weaving, and finishing (composite units) to feed the Ready-Made Garments industry
- All types of woven or printed labels, interlining, and pile fabrics

Opportunities

In late 1989, the Bangladesh Shilpa Bank released project profiles in several areas. Specific projects examined included: rubber thread manufacture and nylon zip fasteners. As part of these profiles, the market for the project is outlined and specifications are given regarding building and machinery requirements, raw materials, personnel, project costs and earnings forecasts.

Gray Cloth

Manufacturing gray cloth, based on imported yarn, to meet domestic demand as well as to export is an investment possibility. There are entrepreneurs interested in dyeing and finishing for the local RMG sector and meeting their demand for fabric could be a potential market. In addition, there are currently no quotas to import gray cloth into the U.S. from Bangladesh. As the U.S. imports a respectable amount of gray cloth, a local venture targeting this market could be profitable.

Integrated/Composite Mills

Currently only about 5 percent of the fabric for Bangladesh's RMG sector is supplied by local production. In an effort to better meet the RMG sector's requirements, a few proposals have been raised to develop integrated or composite mills. These mills complete the entire fabric process—from spinning yarn to dyeing and finishing the final fabric. Although a highly technical and complicated process, this approach has been suggested as a means to help Bangladesh become more independent in fabric production and thereby reduce its foreign exchange expenditures. A local composite mill could also eliminate some of the time delays associated with importing a wide range of inputs for the RMG sector.

It has been suggested that a local composite mill start with only dyeing and finishing fabrics. A step-

by-step approach could then be taken to develop the backward linkages necessary to weave and spin yarn into final fabrics. This would eliminate some of the logistical and technical obstacles to immediately starting a composite mill. In this manner, the mill could gradually develop the techniques and marketing skills necessary to succeed in this field while still supporting the RMG industry.

One major concern for a dyeing and finishing operation would be the supply of fabric. At present, the local weaving industry cannot supply export-quality fabric on a large scale. A solution to this could be to import gray cloth while composite mills gradually expand operations, once the necessary equipment and skills are in place. Through this type of step-by-step approach, policy and practice could work hand in hand to promote the gradual development of the textile sector.

The Government is making an effort to support composite mill development. In its new Two-Year Import Policy, import duties have been reduced on much of the necessary equipment and raw materials for this industry, i.e., raw cotton, and dyes and chemicals used in textile production. Cash incentives are also given to locally manufactured textiles used in export-bound products.

Other new initiatives are taking place which could support the development of a more "integrated" approach to the RMG sector. For example, a new joint venture between the A.K. Khan and Tootal Thread, Ltd has reportedly been approved to produce polyester thread for the local and RMG sector and may reduce the need to import these products.

The Local Market

There would seem to be opportunities to produce textiles for the local market. In 1989, UNIDO completed an industrial study on Bangladesh's textile industry which stated:

> Domestic demand for cotton and blended yarn is significantly larger than domestic production. There is therefore considerable room for expansion of the production of cotton and mixed yarn. In the long run it would be quite realistic to expect that an eventual yarn surplus could be exported provided that appropriate export incentives were given. Presently, the inefficiency of cotton spinning, especially in the Bangladesh Textiles Mills Corporation, leaves considerable room for improvement.

Opportunities to make a cotton-polyester blend may offer possibilities to produce for the local market. As polyester staple fibre is cheaper than cotton, spinning efficiency is higher, and the end product is two to three times more durable, it seems well-suited for domestic needs. American businesses in the textile field may determine through further analysis that joint venture operations to meet some of this local demand is a lucrative endeavor.

Technical Assistance

For specialists working in this field there are opportunities to provide technical assistance to the textile industry. This can be done through two avenues: (1) working with a donor agency which is implementing an improvements project; or (2) establishing a working arrangement with textile mills to provide management and technical support while retaining a share of the profits.

There are currently such specialists living for 6-9 months at a time in Bangladesh. As many consultants do not consider Bangladesh an attractive location to live or work there can be a demand for such individuals.

Trading

For U.S. textile firms, there are opportunities in Bangladesh to sell used and re-conditioned textile machinery. Although local entrepreneurs have expressed a willingness to purchase American equipment, most would like these purchases to be linked to a trade agreement to supply the U.S. textile and garment's markets. Most local companies would also like some type of technical assistance to be provided in any purchasing arrangement.

Miscellaneous

There are several categories of textile production in Bangladesh that warrant further attention. For example, a few plants are currently exporting cotton bed linens to Scandinavian countries. Table cloths and handkerchiefs are also being manufactured. The production of tents (for camping) could hold similar possibilities. There is a new company starting to manufacture tents for export and will begin operations in 1990. Their examples will hopefully bring new interest and investment to this area.

Manufacturing winter and sports hats could also be a possible new venture for Bangladesh. This type of operation needs only low level technology and has low capital requirements. For the same reasons as noted above, this could be an area worth further investigation. (By mid 1990, a joint venture South Korean and Bangladeshi firm will begin production in the EPZ of hats and caps worth $3.5 million.)

These various small scale projects seem to hold good possibilities as (1) the technical know-how and skills are available locally; (2) it involves a simple and low level technology appropriate for the country; and (3) there are possibilities of using locally made fabrics for the finished goods.

Constraints

1) Technical expertise is not yet available in the country to run a composite mill. Composite mills would require high-tech computerized color matching and specialized "coating" which have not been done locally.

2) Management skills which can adhere to the time tables and necessary requirements of international markets is lacking.

3) Cotton must be imported as Bangladesh does not produce the quality of cotton needed for export quality fabric.

4) The quality of yarn (number of counts) currently woven in Bangladesh is not suitable for the export market. The capacity does not exist in the spinning industry to supply export-oriented weaving.

5) If Bangladesh is to begin producing fabric for the RMG sector, it will be faced with:

   a) Effectively competing in price and quality with South-East Asian producers

   b) Delivery of goods in a timely fashion

   c) Flexibility and consistency to keep up with market trends and fashion changes

Conclusion

The RMG industry 's demand for fabric and accessories holds good opportunities to develop backward linkage operations. Although there are limiting factors such as available expertise and skills, the existing textile industry does provide a good foundation to base the gradual development and diversification of this sector.

In addition, the local demand for polyester-blend fabrics has not been met. As Bangladesh's population continues to grow, textile production to meet these needs deserves further investigation.

These trends and developments are factors that make Bangladesh a good location for future foreign investment in the textile industry. Several studies, such as a recent USAID analysis of the RMG sector, will hopefully point increased foreign investment toward this sector and make use of the advances already achieved in the field.

Specific Opportunities for American Businesses

- Dyeing and finishing fabric for the RMG sector
- Producing gray cloth for export and local market
- Lending technical assistance
- Selling re-conditioned machines

CHAPTER 9

Tourism Sector

The 1980s has brought increased attention to Asia. As business interests have grown in the region, so too have the number of tourists. At first, tourists travelled from within the region but more recently Europeans and Americans have shown an increasing eagerness to venture further from home and explore the exotic and historical qualities of Asia.

Developed countries of Asia such as Singapore, Hong Kong, and Japan have been the focus of much of this attention. However, as a new breed of lesser developed countries like Thailand, Indonesia, and Malaysia begin to prosper they too have received more interest. India, with its richness in culture and history, has also been a growing tourist attraction.

The new international focus on the Asia-Pacific region will hopefully draw attention to some of the smaller countries such as Bangladesh. As Bangladesh is within easy reach of most of the continent, travellers could be encouraged to visit this country while exploring the rest of Asia.

The tourism industry has been developing slowly over the past decade in Bangladesh mainly through the efforts of Parjatan, the publicly run tourism organization. Parjatan has made strides in setting up facilities throughout the country for domestic and foreign tourists. They offer limited tours, transportation, recreational facilities, and catering. Parjatan also operates a Hotel and Tourism Training Institute to train workers for employment within the tourism industry. A few tourist information centers have also been set up to disseminate materials and brochures.

Interest in Bangladesh is growing as Parjatan reported a two-fold increase in foreign tourist arrivals since 1982. To build on these advances, the natural beauty, simplicity, and history of Bangladesh need to be promoted. Mosques and monuments, lush tropical forests, mighty rivers, and national parks are all nestled in this tiny country—waiting to be explored. Tribal life and traditions untouched by civilization can be experienced. Antiques and locally hand crafted items also offer many treasures for the collector.

Dhaka, the capital of Bangladesh, has many charming and appealing sites for the tourist. This city, bursting at the seams with seven million people, emits a unique hustle and bustle atmosphere that has the stamp of being truly Bangladeshi. Narrow winding roads filled with the ringing of rickshaw bells as drivers look for riders; beautiful quiet ponds and small parks also provide a drop of serenity into this mixture. Old Dhaka is also a must see—with its small outdoor shops, bright colors, and energized atmosphere that will leave images in a newcomer's memory for years to come.

Historical and archaeological sites can be seen—some dating as far back as the Third Century B.C. There are ancient mosques dotting Dhaka which are still used for daily prayers. The Lalbag Fort built by Prince M. Azam in 1678 is in Dhaka—although never completed—offers a glimpse into the city's past. Dhaka also reveals a realm of its modern side through its architectural statements such as the National

Assembly building, a masterpiece of the American architect Louis Khan.

Outside the capital there are also attractions such as the beautiful tea gardens in Sylhet, north of Dhaka. Once developed and run by the British, the tea gardens offer a unique experience to capture a sense of the country's past. The Sunderban forest, in the south, can also be visited to perhaps catch a glimpse of the Royal Bengal Tiger.

Picturesque and tranquil beaches are also a product of Bangladesh. Cox's Bazar, slightly more than an hours plane ride south of Dhaka, has one of the longest and undeveloped natural beaches in the world. Vacationers who relish seclusion and natural beauty will find this area to their liking.

If visiting Cox's Bazar, the tourist should also take advantage of stopping by the country's second largest city, Chittagong. This city offers a variety of historical treasures to discover and is located near the country's highest points of elevation—the Chittagong hill tracts. There are several tribes of hill tracts people living in these areas with their own languages, traditions, and customs. Visiting the hill tracts offers an opportunity to meet these warm and friendly people and share an experience unique to Bangladesh. (Visits are currently being restricted due to ethnic disturbances.)

All in all, Bangladesh does have a "view" worth seeing. A view to the old and new as can only be seen in this little country next to the Bay of Bengal. A visit to Bangladesh for a few days can be an unforgettable stop in a trip to Asia and will hopefully become increasingly perceived as such in the years to come.

Policies

In 1986 the Government introduced a New Industrial Policy with specific objectives, strategies, and procedures to increase private sector investment. One of the identified objectives of this Policy was to encourage tourism. Although many tourist activities are undertaken by the Government run tourist organization, Parjatan Corporation, private sector interest and investment in this area has also been encouraged. To support the advancement of this sector the Government has developed a strategy to "provide fiscal incentives and other necessary facilities for importing equipments and service materials for the hotel and motels (in the country) for the promotion of tourism".

In an effort to support the Bangladesh Government's tourism campaign, the United Nations Development Program (UNDP) and International Labor Organization (ILO) have supported Parjatan-coordinated tourism efforts such as the establishment of the Hotel and Tourism Training Institute. The UNDP is also giving financial assistance for a 10-year tourism master plan to be prepared by the World Tourism Organization.

Opportunities

Hospitality Industry

Hotel Industry

Dhaka has two international class hotels—the Sheraton and the Sonagraon. The foundations were laid for a new Holiday Inn in 1989 but recent progress has been slow. Another hotel for the local business person or tourist, the Purbani, is usually not considered adequate for the Western visitor due to poor facilities and lack of modern amenities. The *Journal of Commerce* (March 28, 1990) recently announced that the BestWestern international hotel chain was looking into the opportunities for the hotel industry in South Asia, including Bangladesh.

The concept of building a moderate-level hotel in Dhaka seems to hold possibilities. Several independent reports of business and tourist class travellers in Dhaka stated that many would have liked to stay in a less expensive hotel and could have remained longer if such a facility had been available. To build an international class hotel that can offer the basic accommodations while not attempting to

compete with the luxury of the Sheraton or Sonagraon seems worthy of further consideration.

There have also been proposals to build a hotel by the Dhaka International Airport. The premise for this venture is based on the assumption that air traffic will increase in the next ten years. An airport hotel would be based on the concept of increased transit stopovers by travellers through Asia as carriers begin offering special rates to travel through Dhaka and the airport becomes an important hub for international connections. As these incentives become available, Dhaka could develop into a more appealing and convenient location to visit.

The airport itself however would need immediate expansion with improved facilities to meet the needs of international travellers such as improved transit and baggage handling, efficient immigration services, comfortable lobby areas, and a choice of restaurants, bars, and duty-free shops.

Chittagong, with a reported population of four million, is the second largest city in the country. Situated near the port, Chittagong hosts a variety of business people working with shipping agents, small factories, or firms operating in the Export Processing Zone.

The Agrabad is the largest hotel in Chittagong with an adequate restaurant and English speaking staff. It is considered a moderate-level hotel and could support future increases in overnight travellers. The Agrabad runs limited tourist services, arranges rental cars and tour guides, and has meeting rooms for business functions.

With the increase of foreign vessels calling on the Chittagong port, the city of Chittagong could develop tourist facilities and services for visiting sailors. Port cities in many developing countries do well in attracting sailors to visit its shores—from a tourist point of view. There seems to be no reason why Chittagong could not also take advantage of these opportunities. As a limited infrastructure currently exists, some expansion and promotion would be needed to make this an attractive location to visit.

Cox's Bazar, at 75 miles in length, is reported to be one of the longest natural, unbroken beaches in the world. The beach lies along the coast of the Bay of Bengal and is clean, peaceful, and virtually untouched. There are two remote islands off the coast which offer a secluded and rustic atmosphere. Other attractions feature elephant rides and jeep excursions down the coastline. The local markets also have unique handicrafts like earnings and necklaces from polished sea shells or hand carved boxes out of driftwood.

There are several motels and cottages in Cox's Bazar. These accommodations have very limited amenities and no entertainment or sports facilities. Most of Cox's Bazar's accommodations are not on the beach itself (although there are nice walking paths leading down to the ocean). The one hotel has a western style restaurant and offers local and American/European foods; alcoholic drinks can also be purchased in their bar, except on Fridays. Plans have been under consideration to build a golf course and there is one in-door swimming pool.

There seems to be adequate demand for an international class hotel in Cox's Bazar. In the winter months, rooms can be hard to come by and most visitors would appreciate better facilities and amenities. Although the majority of vacationers are locals, with a little development and promotion Cox's Bazar could begin to attract new tourists.

Restaurant Industry

The restaurant business is relatively undeveloped in Bangladesh. There are only a handful of nice restaurants in Dhaka in addition to the ones offered in the Sheraton and Sonagraon. The selection outside the hotels is limited to several oriental style establishments. A few smaller eateries are opening geared more to local and expatriate demands. With a growing diplomatic and expatriate community, the city would seem to hold good prospects for the restaurant business.

With the development of Chittagong and Cox's Bazar as tourist centers, potential opportunities also exist for the restaurant business to expand in both of these cities.

One concept which has not received much attention is to establish a high quality restaurant which serves exclusively Bangladeshi foods. Business travellers and tourists like to experience the local food when in a new country, however, there are currently no establishments which exclusively serve these types of dishes. This could hold one investment possibility to open a new restaurant in Bangladesh.

Entertainment

The entertainment industry, almost non-existent in Bangladesh, is singled out by most visitors as warranting expansion. Night life needs to be enhanced with more bars, dancing facilities, and musical or cultural appearances. As most people travelling to Bangladesh would like to experience the traditions of the country, an entertainment industry could be built around the cultural traditions of Bangladesh and feature its unique music, costumes, and dance.

Investment in entertainment and sporting activities holds promise. The golf club in Kurmitola and a couple of Embassy social clubs and the Dhaka Club are the primary centers for relaxation. These clubs, open to members and diplomats only, have waiting lists to join. The current demand for new and better entertainment facilities note the potential for this field's development.

Ocean Front Resort

Ocean front resorts are becoming increasingly popular in Asia. These resorts have been set up in various coastal developing countries as exclusive areas that cater to tourists. Good accommodations, sports facilities, night life, and international cuisine are all offered at these resorts.

Such an ocean resort may also offer an opportunity for Bangladesh in Cox's Bazar. With a beautiful ocean front, abundant sun, inexpensive labor and land, Cox's Bazar has potential for this type of activity.

Packaged Tours

Neighboring countries such as Nepal, Thailand, and India have become an increasingly attractive tourist spot for Europeans and Americans. Many groups travel to Asia to experience these countries' cultures, tour the remote landscapes, or study their histories.

Tourist industries are beginning to spring up to support these demands. Many tours are arranging "packaged" trips for tourists to see Nepal, India, and other countries. One opportunity for Bangladesh would be to market and advertise their own package tours to internationally recognized tour operators, perhaps as a side or integral part of a package tour to one of its neighboring countries. As such, travel agents organizing groups to Asia could be encouraged to promote Bangladesh.

Local package tours could be developed for excursions to the Sunderban forest (home of the Royal Bengal Tiger), the Sylhet tea gardens, historical sites, river cruises to major points of attraction, and trips to Cox's Bazar.

Although Parjatan does offer some packaged tours, they are not of international standard nor or they marketed well. A proper approach needs to be taken to develop, advertise, and market a "packaged" approach to Bangladesh. By promoting itself through international tourist connections, Bangladesh could promote itself in Europe and North America.

Constraints

1) The lack of feasibility studies and thorough analysis of the tourism sector prohibitively limits the development potential of this industry. Without information on current and future demand for tourism services, foreign investment interest will remain minimal.

2) Domestic transportation, especially internal air services and facilities, will have to improve in the near future to support the expansion of the tourism industry.

   Travel within the country is fairly restricted. Taxi or bus services are not readily available and

marked streets and addresses are almost non-existent. Tour guides, information centers, money changers are also hard to come by. As such, visitors in Bangladesh are escorted by local agents, officials and personal contacts. This restricts tourists and makes exploring the country more time-consuming, expensive, and cumbersome.

3) Lack of professional promotional activity due to inadequate advertising and marketing expertise within the tourism industry, prevents outsiders from obtaining information about the country and limits the influx of new visitors.

4) There is an insufficient number of shopping areas or centers for tourists. Although there are a few nice small shops which cater to the expatriate and diplomatic community, these are spread throughout the city and are not well advertised.

Conclusion

As interest continues to grow in Asia and the sub-continent, opportunities for Bangladesh's tourist industry holds promise. Although this country does not offer the shopping, night life, and other attractions of Singapore, its beauty lies in its own simplicity and way of life. There are unique experiences to discover in this country and work could be done to further promote these opportunities.

Specific Opportunities for American Businesses

- Hotel and Restaurants
- Packaged Tour Operators
- Entertainment Facilities
- Ocean Front Resort in Cox's Bazar

CHAPTER 10

Conclusion

These sector reviews were completed to provide only an initial overview of each area. An introduction in each chapter was given followed by a description of the sector's opportunities and constraints. None of the studies have been an attempt to provide a feasibility report but tried to summarize much of the existing reports and make suggestions toward investment opportunities. The objective has also been to shed light on projects or areas that may be feasible and others which may be less appropriate to the natural endowments of the country.

After reading a specific chapter, an entrepreneur might develop a concept or idea which needs further consideration. It is at this point that the Council can play a role in supporting further investigation and eventually a feasibility study. It was with this aim that the Council undertook this study to be not only be an informative tool but also a catalyst to new ideas and projects.

There are many obstacles to be overcome in Bangladesh. It is an under developed country and there are problems which go hand in hand with this fact. However, there are some foreign investors profitably running enterprises in the country—many who feel a commitment to Bangladesh and a desire to maintain and develop their presence.

A few sectors seem better suited to Bangladesh, given the existing conditions of the country. Light industries is one example. Small scale, low level technologies adapt well in this field and can make good use of the country's human resource base. A variety of light industries have been springing up recently and may set an example for investors to give this field further consideration.

Leather is another key industry of the country. This is one of the few areas where Bangladesh can use its indigenous resources. The leather industry in Bangladesh has a long tradition and has internationally excepted raw materials. Although many local leather tanneries do not have the technical skills to make exportable leather products, their knowledge base would seem a good foundation to further the progress in this field. In addition, although the leather industry may now not be ready to support multiple leather manufacturing efforts, with the correct investment and technology, this sector has a good potential to develop into a more value-added, export oriented industry.

Electronics is also an attractive investment sector. Bangladesh has worked for many years in basic electronic assembly and seems poised to take on a greater role in a wider range of products. As some of the current electronic firms are under contract with South-East Asian manufacturers, the quality of these products are reported to be comparable to those made elsewhere in Asia. Small scale, assembly of electronic components takes minimal training and reasonable levels of capital outlay which make it a potential area for increased foreign investment. As these industries expand, the development of "feeder" industries may also become increasingly lucrative to supply domestic electronic firms with locally-made components.

Given the availability of natural gas as a domestic resource, chemical or petrochemical industries hold promise and warrant further investigation.

Investment incentives and "cheap" labor are not often the prime reasons for foreign investors to decide on their overseas investment portfolios. A country or region's economic performance in conjunction with investment policies play a dominant role in determining foreign investments. Though Bangladesh is making strides in bringing policy reforms and to sustain its economic growth, the current environment of the country still does not provide enough competitive advantages to foreign investors. As the cost of production goes higher in other Asian countries, Bangladesh must take position to absorb and attract the relocation of these investors.

Continuity, consistency, and conformity in Government incentives and economic policy is essential to attract foreign investment. Response to investors inquiries and applications must not only be prompt but also efficiently handled. Red tape and bureaucracy within Government agencies such as customs, the BOI, and immigration must be brought to a minimum. Human resource development and development of business professionalism must be promoted by the Government and the private sector. It is only through these measures that Bangladesh will be able to hold and attract foreign investments.

The Bangladesh U.S. Business Council hopes this study has shed some light on the investment sectors in Bangladesh. The Council is eager to discuss specific opportunities with individual entrepreneurs to secure information, contacts, and arrange logistics as necessary.

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