INTERNSHIP REPORT

ISLAM OXYGEN (PVT.) LTD.

INTERNSHIP REPORT ON

“Marketing of caustic soda in Garment/textile industries”

BRAC UNIVERSITY

Prepared for

Mr. Md. Tamjidul Islam
Assistant Professor
BRAC Business School

Prepared by

Mr. Tarek Iqbal
ID # 13364015

BRAC University
66, Moakhali C/A
Dhaka 1212
Web: www.bracu.ac.bd

Date of Submission: June 14, 2017

June 14, 2017

Md. Tamjidul Islam
Assistant Professor
Department of MBA
BRAC University

Subject: Submission of Internship Report

Dear Sir,

I am hereby submitting my Internship Report, which is a part of the MBA Program curriculum. It is great achievement to work under your active supervision. This report is based on, "Marketing of caustic soda in Garment/textile industries". I have got the opportunity to work in ISLAM OXYGEN (PVT.) LTD. as a Senior Chemist for Quality Control Department which helps me a lot to know about its various department functions.

This project gave me both academic and practical exposures. First of all I learned about the organizational culture of a prominent Chemical organization of the country. Secondly, the project gave me the opportunity to develop a network with the corporate environment.

I shall be highly obliged if you are kind enough to receive this report and provide your valuable judgment. It would be my immense pleasure if you find this report useful and informative to have an apparent perspective on the issue.

Sincerely Yours

Tarek Iqbal

ID No-13364015

E-mail: iqbal_tarek@yahoo.com

Acknowledgement

It gives me immense pleasure to thank a large number of individuals for their cordial cooperation and encouragement who have contributed directly or indirectly in preparing this report.

Firstly, I express my gratefulness to Almighty Allah who has made be able to pursue my study. Then I would like to thank my academic supervisor Mr. Md. Tamjidul Islam for offering valuable professional advice and guidance as well as kindness, endless patience and continuous encouragement. She always tried to make the things easy and explained subjectivity very clearly.

I would like to express my gratitude to Islam Oxygen (Pvt.) Ltd. for giving me the opportunity to conduct the report. I am grateful to Eng. Rasel Sheikh, Plant Manager, for his cooperation and necessary support throughout my working period. I am also thankful to members of Recruitment and Talent sourcing team Mr. Nahid Ahmed (Manager HR & Admin), Mr. Md. Habibur Rahman(Associate Manager Quality Control), who extended their helpful hand to me. They have been very helpful in showing me the work process and provided relevant information for my report whenever I approached.

Executive Summary

This document covers overview of caustic soda market in Bangladesh, Capacity in Bangladesh, shares in global and regional markets, caustic soda manufacturers, caustic soda demand in Bangladesh, demand structure, consumption, Bangladesh demand shares in regional market and in global market, caustic soda trade in Bangladesh, annual prices, future trends in caustic soda market, general market forecast, caustic soda output forecast, caustic soda consumption forecast, product definition**,** pricing analysis**,** customer analysis etc. The objective of this executive summary is to summarize the main findings of the document. However, since it is impossible to reflect all its complexities in a short summary, only the main text in its entirety should be used. The garment/garment/textile industry is one of the longest and most complicated industrial chains in manufacturing industry. It is a fragmented and heterogeneous sector dominated by SMEs, with a demand mainly driven by three main end-uses: clothing, home furnishing and industrial use. The industry has played an important role in Bangladesh's economic for a long time. Country garment/garment/textile industry in Bangladesh accountants for 45% of all industrial employment and contributes 5% to the total national income. This is a chemicals based industry. There are different types of chemicals needed in the process of different types of garment/textile processing steps. So chemicals play a vital role in garment/textile industry specially wet processing factory. Like garment/textile, pharmaceutical sector has a great future. The pharmaceutical sector is widely regarded as a "hi-tech" industry, is a most developed among the manufacturing in the Bangladesh. Roughly 250 companies are operating in the market. So there are various types of chemicals used in this sector. Also there are so many chemicals are used in different industrial areas at present stage.

The Dyestuff sector is one of the important segments of the chemical industry in Bangladesh, having forward and backward linkages with a variety of sectors like garment/textiles, leather, paper, plastics, printing inks and foodstuffs. The garment/textile industry accounts for the largest consumption of dyestuffs at nearly 70%. Caustic soda market in Bangladesh witnessed strong growth over the past few years, owing to rising demand for chemical in several end user industries such as, paper, garment/textile, detergent, aluminium, etc., which is driving demand for caustic soda in Bangladesh. Moreover, expanding garment/textile,

paper and metallurgical applications are further expected to propel Bangladesh.

The market dynamics section of the report elaborates the factors that are driving the market as well as the challenges inhibiting growth. The research study also includes insights of the key market trends, a detailed analysis of the changing competitive landscape, and revenue forecasts for each segment and sub-segment. In addition, report also provides customers analysis including current suppliers, procurement prices & quantity being purchased annually.

According to "Bangladesh Caustic Soda Market Study", report studies the market size and share of various segments and sub-segments of caustic soda market in Bangladesh. In the study, the market has been categorized into six broader applications that include Garment/textiles, Pulp & Paper, Alumina, Organics, Inorganics, Soaps & Detergents, wherein Garment/textiles is the dominating as well as fastest growing application of Caustic Soda.

Two distinct scenarios for the future emerge, based on how effectively the industry leverages its strengths and manages challenges. In the base case scenario, with current initiatives of industry & government, the Bangladesh chemical industry could grow at 11% by 2017. However, the industry could aspire to grow much more and its growth potential is limited only by its aspirations. In such an optimistic scenario, high end–use demand based on increasing per capita consumption, improved export competitiveness and resultant growth impact for each sub-sector of the chemical industry could lead to an overall growth rate of over 15% p.a. This has a potential for further upside in the future considering Bangladesh's increasing competitiveness in manufacturing. The draft manufacturing policy recently approved by the Cabinet targets increasing the share of manufacturing in GDP to at least 25% by 2025 (from current 16%). Caustic soda demand in Bangladesh is currently estimated at 80,000 tonnes/year, so we can only meet 25% of that demand currently. Unlike most other countries, where caustic soda is mainly used in the pulp and paper, alumina and detergents sectors, in Bangladesh the garment/textiles segment is the biggest consumer.Bangladesh has a fast-growing garment/textiles sector, so demand for caustic soda is bound to increase rapidly.

Table of Contents

List of table

List of graphs

List of pictures

Chapter - 1

1.1 Introduction:

The garment/textile industry has played an important role in Bangladesh's economic for a long time. Country garment/textile industry in Bangladesh accountants for 45% of all industrial employment and contributes 5% to the total national income. A huge 78% of country's exports earnings come from garment/textiles and apparels sector, according to largest figures available. The garment/textile private sector in the country is the fastest growing sector in Bangladesh. So the future of garment/textile industry of Bangladesh is very bright. Combined the garment/textile and apparel sectors consist of around 4000 firms. The garment/textile industry is one of the largest in Bangladesh and is still expanding. The garment/textile industry is a chemicals based industry. There are different types of chemicals needed in the process of different types of garment/textile processing steps. So chemicals play a vital role in garment/textile industry specially wet processing factory. Like textile, pharmaceutical sector has a great future. The pharmaceutical sector is widely regarded as a "hi-tech" industry, is a most developed among the manufacturing in the Bangladesh. Roughly 250 companies are operating in the market. So there are various types of chemicals used in this sector. Also there are so many chemicals are used in different industrial areas at present stage. Chemicals are the most important ingredients of the wet process based industry. Textile wet processing industry can't imagine without chemicals. Without textile industry, chemicals also widely used in manufacturing of pharmaceuticals, papers, cements, fertilizers, paints, plastics etc. Different chemicals used for different manufacturing process. Mostly used chemicals in textiles and other industries are summarized below: One of the main basic chemical is caustic soda. Its chemical name is Sodium Hydroxide (NaOH). It is an industrial product. Different industries use Caustic Soda as raw material. We name here few of the large consuming industries of Caustic Soda consumption such as Soap, glass, drugs, paper & pulp, garment/textiles, leather, sugar, WTP and ETP etc.

1.2 Scope of the product

Report Scope:

- Brief country profile includes general information and main economic indicators and specifies business environment in Bangladesh
- Caustic Soda market is analyzed by different parameters including domestic production and consumption. Future market development is also estimated
- The report presents profiles of leading producers and lists major suppliers in the country

- The report also lists buyers within the sector, and provides results of the purchase activity monitoring, which is achieved by tracking various tenders databases, websites and marketplaces.
- The report will help you to find prospective partners and suppliers.
- Detailed analysis provided in the report will assist and strengthen your company's decision-making processes.

1.3 Limitation

Challenges of Basic Chemicals Industries and its product:

1. For Chlor-Alkali plant, more consumption of Cl2 is required to run the plant at design capacity. PVC plant is required to consume excess Cl2 from Chlor-alkali Plant.

2. More water treatment plant to be made by WASA at the different area of the country to increase liquid Cl2 consumption.

3. Cl2 can be used for de-coloring of dyeing waste colored water. In that case Liquid Cl2 consumption from ChlorAlkali Plant will be increased. The treatment of wastewater with chlorine gas is a proven process and this was discarded primarily for high cost of chlorine gas. The situation is different in Bangladesh and the cost of chlorine here favors the adoption of this proven process. This process provides an opportunity for both the industry and DOE to perform in a Win-Win situation. Instead of being awkwardly insincere and dishonest with our mission to serve the nation and its people by ensuring a clean environment, both the parties should strive hard to operate ETPs for complying with ECR-97 requirements. The wastewater treatment with chlorine gas can make all the difference by doing something positive rather than being smart by doing nothing purposefully. Operating experiences reveal that the cost of chlorine consumed is very low compared to the chemicals and aids used previously. These industries are now eager and committed to operate ETPs. Satisfactory operation of ETPs would require monitoring of pH, TDS, color, odor and free chlorine so that the right dose of chlorination is employed. In some ETPs adjustment of pH before chlorination and after treatment may be required.

4. We have to make central ETP at different industrial area and HCl consumption should be increase to balance Cl 2 from Chlor-Alkali Plant.

5. Regeneration of resins of DM plant to be done by HCl instead of H2SO4

6. Now Basic Chemicals plants are suspending due to natural gas permission from the government

1.4 Overview of caustic soda market in Bangladesh:

Basic Chemicals Industries in Bangladesh belong to mainly Chlor-Alkali Plant & its Chlorinated product and Hydrogen peroxide plant. Main products are being produced from these basic chemicals Industries are Caustic Soda (NaOH),Chlorine (Cl2), Hydrochloric Acid (HCl),

Sodium Hypochlorite (NaOCl), Stable Bleaching Power (SBP), Chlorinated Paraffin Wax (CPW) and Hydrogen Peroxide (H2O2). The Basic chemicals products of interest are now being supplied through import and local production. We can name only four /five companies who produce basic chemicals locally.ASM Chemical Industries Ltd., Global Heavy Chemicals Ltd, Samuda Chemical Complex ltd., Tasnim Chemical Complex and HP Chemicals are very important names who took challenges in this sector. Caustic soda is an essential ingredient in an array of industrial applications. In addition, consumers use caustic soda when using cleaners, such as oven and drain cleaners. See Product Uses. Caustic soda is highly corrosive and reactive. Caustic soda can be irritating to the skin, eyes and gastrointestinal tract. See Health Information and Physical Hazard Information. Occupational and consumer exposure is dependent upon the conditions under which caustic soda is used. See Exposure Potential. Although caustic is only slightly toxic to aquatic organisms, a large discharge can change the pH of the aquatic system which may be toxic to aquatic organisms

Caustic soda, or sodium hydroxide, is a strong base soluble in water. Produced by the electrolysis of salt brine, it is available on a wide industrial scale. Caustic soda is used in the manufacture of products which form part of our daily lives and in applications or uses as varied as the pulp & paper, detergents, the chemical, building and car industries, packaging, agriculture, environmental protection, water treatment, foodstuffs, health and textiles, and so on. Solvay produces and supplies caustic soda in liquid form (aqueous solution) and solid form (anhydrous), under the main quality international standards, in order to provide efficient services to industry. Caustic soda is used as the primary strong base in the chemical industry. Applications include cleaning, detergent production, water treatment, oil drilling, fuel processing, pulp & paper manufacturing, biodiesel production, food preparation and more Caustic Soda Lye is one of the most widely used chemicals in the industry.

Figure 1: Caustic Soda Flakes

Caustic soda is a solution of Sodium hydroxide (NaOH) in water. It is a strong base with a wide range of applications in different industries. The major users of caustic soda are the aluminum

industry, pulp & paper and the chemical industry. The main applications are water treatment and water purification, as cleaning agent, or a wide range of uses in chemical industry like starch production or for the desulphurization in the petrochemical industry.Sodium Hydroxide, commonly known as caustic soda, lye, or sodium hydrate, is a caustic compound which attacks organic matter. (caustic soda is sodium hydroxide, caustic potash is potassium hydroxide and silver nitrate is lunar caustic.) Caustic soda is available commercially in various white solid forms and as a solutions of various concentrations in water. It is very soluble in water, alcohol, and glycerin and absorbs carbon dioxide and moisture from the air. Sodium hydroxide is prepared by the reaction of sodium carbonate (soda) in concentrated solution form with calcium hydroxide (slaked lime). But the principal method for its manufacture is by the electrolysis of brine. (the two current technologies are the diaphragm and the membrane). The electrolyte is saturated brine (about 25% aqueous sodium chloride). The chloride ion is oxidized at the anode to chlorine gas. chlorine gas is a co product. Sodium hydroxide is a strong base and inexpensive which find many applications in the chemical industry. Sodium hydroxide provides functions of neutralization of acids, hydrolysis, condensation. Soapnification and replacement of other groups in organic compounds of hydroxyl ions. The major use of sodium hydroxide is as a chemical and in the manufacture of other chemicals. It is used in textile industry. Sodium hydroxide is used mainly for two processes in textile manufacture. Mercerizing of fiber with sodium and hydroxide solution enables greater tensional strength and consistent luster. It also removes waxes and oils from fiber to make the fiber more receptive to bleaching and dying. Sodium hydroxide is also used in

the production of viscose rayon. Cellulose is extracted from pulp using sodium hydroxide and subsequently treated with high purity sodium hydroxide to produce soda cellulose.

Further chemical treatment results in a rayon fiber. This is a declining market due to the competition from synthetic (i.e. petrochemical) fibers. It is used in making paper and pulp. Sodium hydroxide aids separation of cellulose fibers from lignin; this breaks down wood into pulp. Sodium hydroxide also helps bleach paper to required whiteness and brightness. In alumina production industry, a strong alkali solution separates pure alumina from bauxite ore. Alumina is then recovered through precipitation and finally, calcinations. Sodium hydroxide is also widely used in making soaps and detergents, Sodium hydroxide was originally used for soap manufacture, but now has a wider variety of functions. As well as an extracting and refining agent for certain oils, sodium hydroxide is used to produce active agents, or builders in modern synthetic detergents. Sodium Hydroxide is used for sodium hypochlorite which is used as a household bleach and disinfectant and for sodium phenolate used in antiseptics and for the manufacture of Aspirin. Caustic soda (also known as NaOH, sodium hydroxide, "household lye"), which is used extensively in industrial cotton textile processing, can produce effects in fabric which have not been utilized by artists using textile media. Outside of commercial textile production, it has been used traditionally by the textile artist to dissolve indigo in preparation for natural dyeing. Thus, it is a familiar material to the dyer. When a strong solution of caustic soda is applied to loosely woven cotton fabric, it will shrink to approximately one-half its original surface area. Cotton treated with caustic soda will absorb more dye than untreated cotton in the same dye bath.

Caustic soda's effects on cotton are different from those produced using other traditional materials. The author believes the application of caustic soda to cotton fibers holds potential for creating designs and fine artworks. Search of current literature reveals that procedures for creating caustic soda design effects on cotton do not appear in literature intended for artists It is highly probable that the majority of artists working with textiles are unaware of the capabilities of caustic soda. Chemical use during textile manufacturing

- Weaving
- Size (starch, polyacrylates) 10% of textile weight
- Pretreatment
- Sodium Hydroxide 35% of textile weight
- Hydrogen Peroxide 2% of fabric weight
- Additives (wetting agents,

dispersion agents, stabilizers) 2% of fabric weight

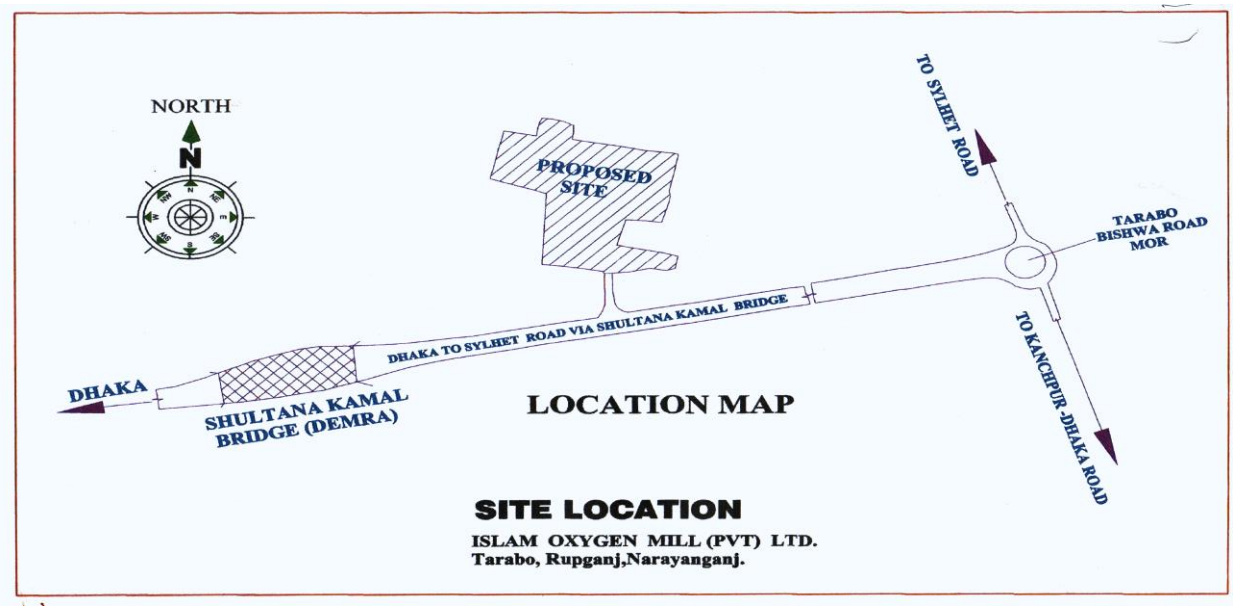
- Dyeing
- Salt (sodium sulphate) 40% of textile weight
- Dye 0 - 5% of textile weight
- Wasted 0 - 1% of textile weight
- Auxiliaries 2% of textile weight

Chapter - 2

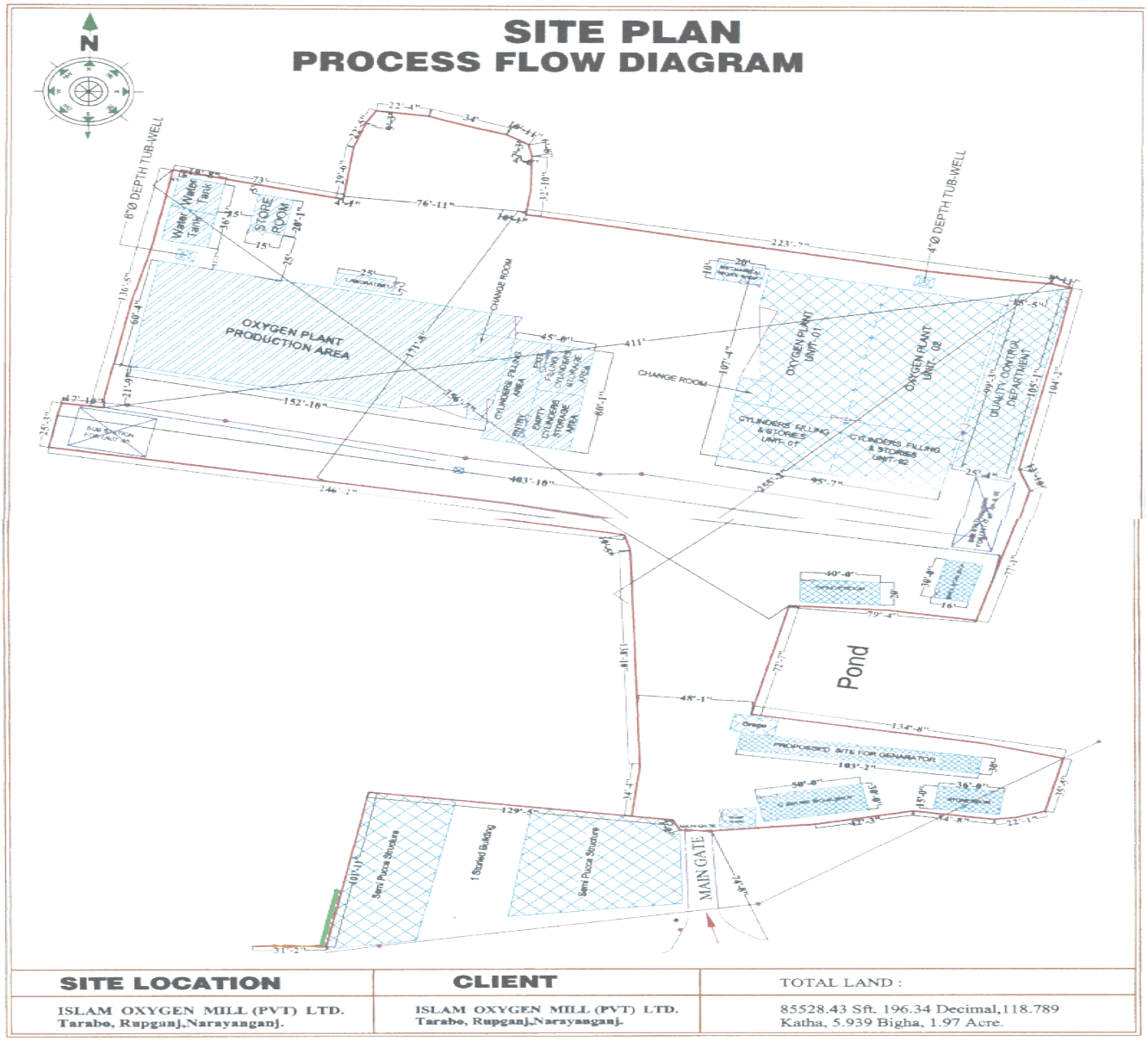
2.0 Overview of the Company

Islam Oxygen (Pvt.) Limited (IOPL) is a concern of Islam Steel & Re-Rolling Mills (Pvt.) Ltd. It has been manufacturing industrial chemicals and gases since 2009 by incorporating as a limited company and enlarged the business area to the medical sector in 2014 by ensuring the license no.- 500 from DGDA. More than 100 cr. tk. has been invested to develop the project. Currently, 400 employees in a different form of employment are working with IOPL. The most efficient team of IOPL is highly responsible to produce the best quality products. It is now producing **Commercial Caustic Soda, Hydrochloric Acid, Calcium Hydroxide, Dissolved Acetylene, compressed medical oxygen(BP/EP) gas, compressed medical nitrogen(BP/EP) gas and compressed medical air(BP/EP)**. The three quality assurance systems "**Good Laboratory Practice" (GLP), "Good Manufacturing Practice" (GMP)** are the main principles of our organization. Personal accountability, collaboration and innovation are the strength of IOPL's departmental unity and success. The organization focus is to add more value added products such as; nitrous oxide, carbon dioxide, mineral drinking water etc. with existing one. Nitrous Oxide is just in the pipeline and others are in planning.

The area of the plant is about 6 km away from Dhaka and is connected with the Dhaka-Sylhet main road. The total land is about 196.34 decimal /1.97 acre. In the east of the site



industrial oxygen plant, west of the site medicinal oxygen plant and north of the site medicinal nitrous oxide plant are situated.



Two buildings are in the site; one is office building and another is dormitory for the employees. There is no heavy industry emitting wind-borne pollutants or other risk-related materials in the vicinity of the plant. Total area of production is about 21,336 millimeters in width and 39,624 millimeters in length. The area is divided into many parts, such as; electrical maintenance room, plant manager office room, cylinder integrated test room, engineering lead workshop, storage room, cooling tower-1, cooling tower-2, power sub-station and cold water tank. The main raw material for the production

of medicinal gas (oxygen BP/EP) is fresh filtered air. The oxygen gas BP is produced from air by the use of power through separation process which is a major component for the production medicinal gases.

Company Details

Islam Oxygen (Pvt.) Limited

Address:

Head Office

119/A/B, Distilary Road, Gandaria, Dhaka-1204

Factory

Tarabo, Rupgonj, Narayangonj.

Assurance Unit)

Telephone : 02-7453864

Mobile : +8801720-666169
+8801917-738861
+8801678-176405
+8801680-997585

+8801925-615233
+8801676-335660

E-mail : islamoxygen@yahoo.com

Web-Address : www.islam.com

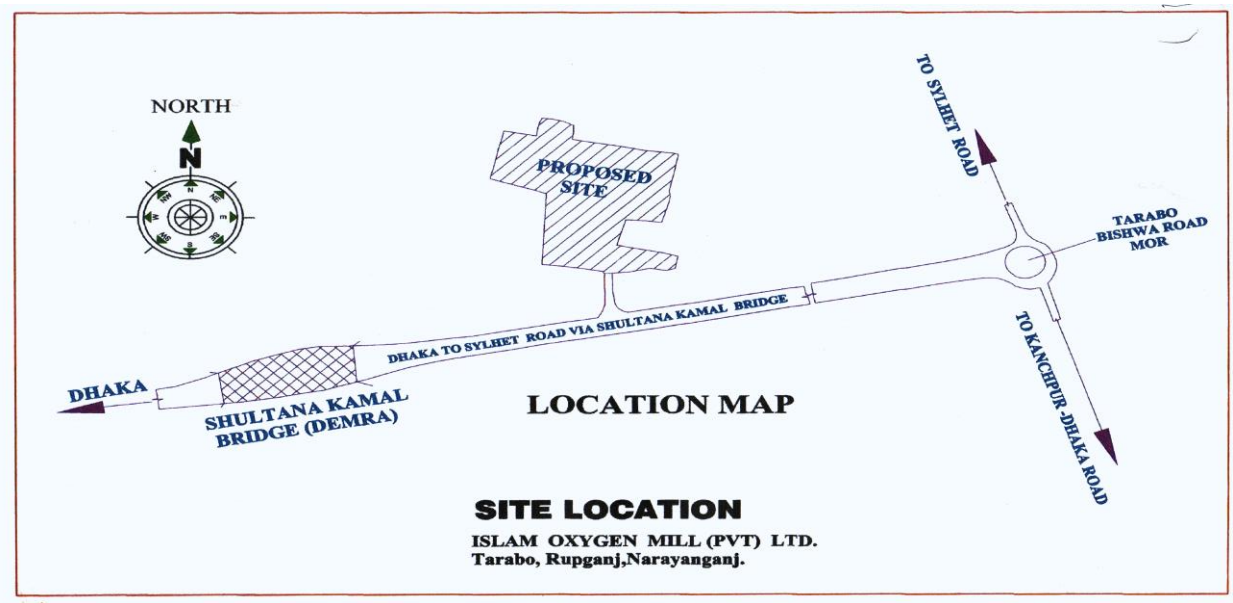


Figure 2 Site Location Map

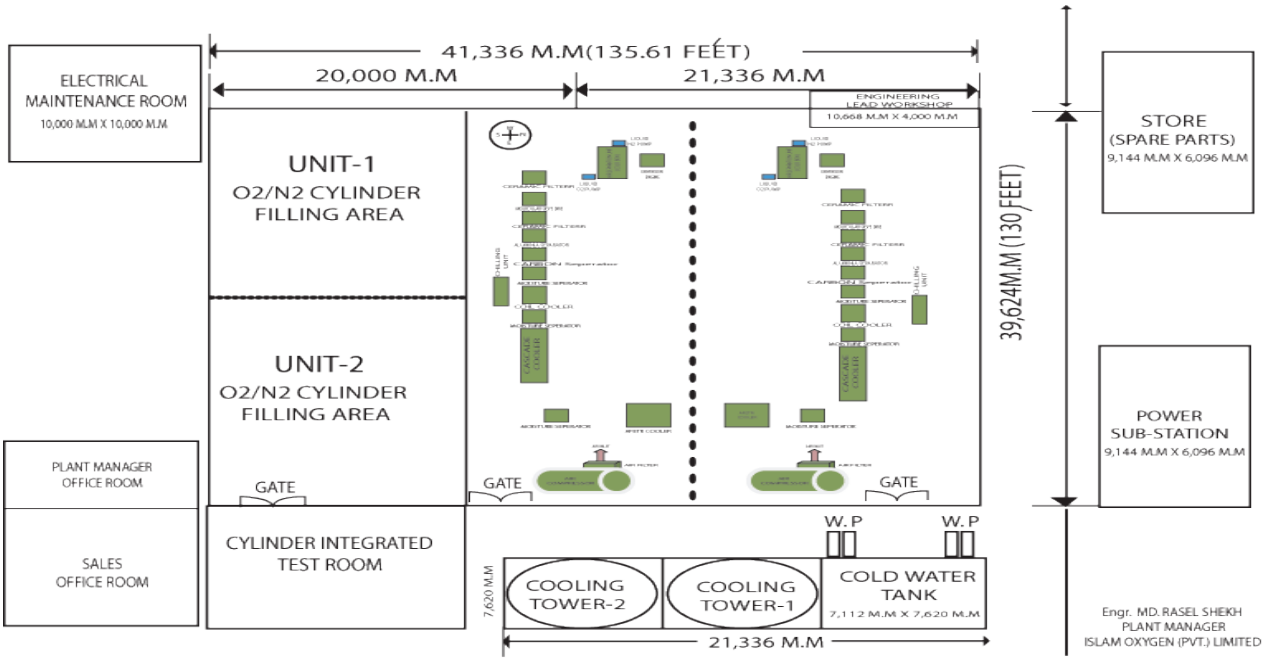


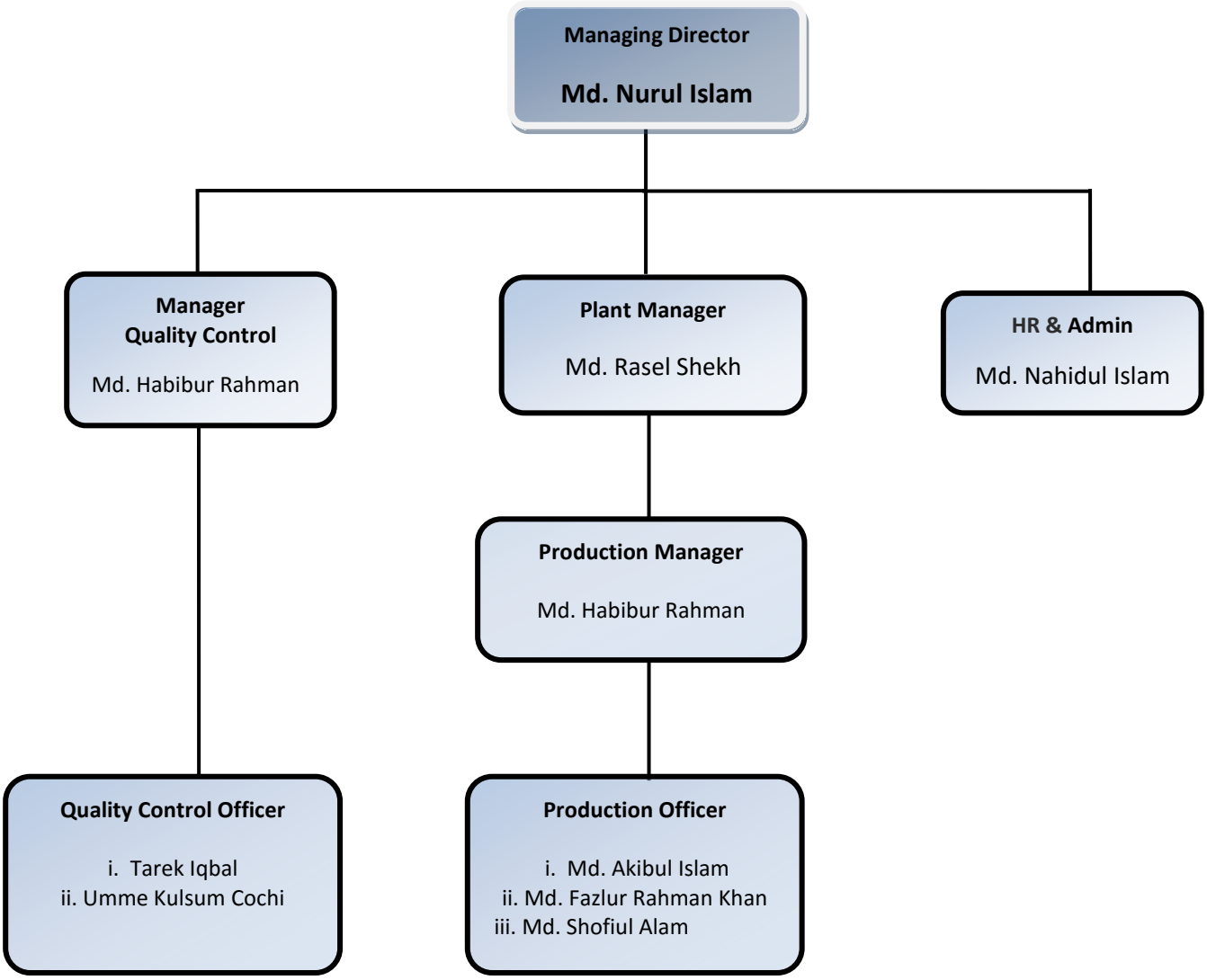
Figure : 300 M3 Oxygen, Nitrogen Gas Plant Layout

- **Divisions IOPL**:
  Finance Division
  Marketing Division
  Human Resource
  Information Technology Division
  Technical Division

Departments:
Administration Department
Internal Audit Department
Division Coordination Department
Corporate Strategy Department
Corporate Affairs Department
Credit Control Department

Photo Gallery IOPL :

IOPL's Organogram



IOPL's LOGO

Chapter - 3

3.1 Capacity in Bangladesh

Caustic soda (NaOH) is a basic chemical used in soap, glass, drugs, paper & pulp, textile, leather, sugar, WTP and ETP etc industries in Bangladesh. The demand of caustic soda has been increasing gradually, which for the fiscal 2011-12 is predicted to be 1, 53,608 MT. Under this circumstance, there are only few chloralkali industries in Bangladesh to produce this soda. The total production capacity is now 290 MT per day and 95,700 MT per year. The existing production capacity lagged behind the FY 201112's demand by 38 per cent. Moreover, the total yearly production is now substantially lower than production capacity even though the demand is remarkably high. Hence, the balance demand is met through the import from foreign markets. The growth per year in the import of last eight years was around 5.0 per cent (source: NBR)

The reason behind the lower production of caustic soda is the lower demand of chlorine (Cl2), which is a bi-product of the chlor-alkali plants in Bangladesh currently. The plants are operating at lower production rate mainly to have less amount of chlorine since chlorine has low demand in Bangladesh. If it is possible to create a proper demand for chlorine produced from the chloralkali plants, it is certainly possible for the plants to operate at their full production capacity. Even it is quite possible to build more chlor-alkali plants resulting in no import of caustic soda from foreign countries. PVC granule producing plants (i.e., VCM section) consume chlorine as a raw material. A viable PVC granules plant requires chlorine at 400 MT per day, while our total current production capacity is 250 MT per day. Hence, developing a PVC granule producing plant can create a scope for the consumption of chlorine produced from local chloralkali plants. It can create a very good scope for the expansion of chlor-alkali industries in Bangladesh. PVC is produced by the polymerization reaction of vinyl chloride monomer (CH2CHCl, VCM) as shown in Fig1. The principal feedstock needed to produce PVC is VCM. Generally, there are

two routes to synthesize VCM, which are acetylene route and ethylene route. However, the ethylene route is commonly adopted worldwide nowadays, since ethylene is less costly than acetylene. In the context of Bangladesh, the ethylene route is also preferred if the ethylene can be made available conveniently. There are two special reasons for adopting ethylene route: (i) ethylene route utilize chlorine which can directly be supplied by the local chloralkali industries and (ii) ethylene needed to produce VCM is also needed to domestically produce the PE polymer granules, which are also consumed in Bangladesh at a very large amount. A common effort can be made to procure the ethylene for both (PVC and PE) applications. There are three options for the procurement of ethylene. Firstly, it can directly be imported from foreign countries.

Secondly, liquefied petroleum gas (LPG) can be imported and the ethylene can then be produced from the imported LPG through the pyrolysis process. A pyrolysis plant is also required to be developed in the second option. A large number of imported condensate fractionation plants are under development in Bangladesh. Naphtha or gasoline obtainable from the condensate fractionation plants can give ethylene through a pyrolysis process. A pyrolysis plant is also needed in the third option. This option seems to be more secure and economical for procuring ethylene to produce VCM through ethylene route. Hence, a collective effort must have to be put in by the plastic industry (especially PVC and PEbased industry), chloralkali industry and the government to develop the required facilities. Dr Iqbal Hossain is Assistant Professor, Department of Chemical Engineering, Of the total domestic market demand of 35,000 tonnes of hydrogen peroxide, Samuda and another local company produce around 20,000 tonnes of the product, while the remaining 15,000 tonnes are imported at a price of US$ 520 to $ 525 (around Tk 36,400 to Tk 36,750) per tonne. "After starting production at our additional units, we can transform Bangladesh into a hydrogen peroxide exporting country from its present status of a hydrogen peroxide importing country within a year," Haider said.

"With the addition of two new units, we will also be the largest hydrogen peroxide producer in the country with a total production capacity of around 30,000 tonnes of hydrogen peroxide per year," he said, adding that the company will be able to supply each tonne of hydrogen peroxide at a price of Tk 21,000 to Tk 25,000.

Samuda, which started hydrogen peroxide manufacturing in the mid 2006, has already signed a memorandum of understanding with Nuberg Engineering Ltd for installation of two new hydrogen peroxide units, using Swedish technology.

Haider said the use of hydrogen peroxide in textile dyeing industry is on the rise as it is more eco-friendly than chlorine based products, which is also used in the dyeing units for bleaching or cleaning textile products.

3.2 Nameplate capacity, shares in global and regional markets

The first Chlor-Alkali Plant has commenced its commercial production from 2002 in the private sector and the products have acquired a strong foothold in the market within a very short time. The first Hydrogen Peroxide plant is in full operation from early 2005 and the peroxide has graced the market with huge success. **ASM Chemical Industries Ltd.**, an integrated Chlor-Alkali & Hydrogen Peroxide plant was established in 2006 and was commissioned in 2008. The feasibility of the project has been conducted and analyzed from the viewpoint of marketing, technical, financial, management, and economic aspects, and was found to be a worthwhile and desirable investment opportunity.

The projected financial results and the profitability estimated based on the assumptions explained in this report indicates that this project would successfully service a niche market that has not yet been explored fully and hence it is a very lucrative proposition. The versatile demand for Peroxide, Caustic and its other bi-products are currently met through imports and are sold for premium prices. Moreover, the huge prospect in the textile
sector is also going to increase the demand for Caustic Soda and H2O2 in the near future. These scenarios, coupled with the overall industrialization trend in Bangladesh, present us with a unique opportunity for backward integration and service a niche budget. Global Heavy Chemicals Ltd., (GHCL) a concern of OPSONIN GROUP was incorporated on the 19th of September 2000. In the beginning of 21st Century, GHCL starts its journey as the first private sector Chlor-Alkali Industry in Bangladesh. Significantly related to all the hopes and expectations of the new century, GHCL has energized the vision to open new horizon for industrial development in the country. Integrating the visionary imagination for basic industrial development in this country by our Founder Chairman Late Abdul Khaleque Khan, the successors have already established a number of innovative & import substitute industrial units mainly in the pharmaceuticals and related sectors. GHCL is producing import substitute Industrial Chemicals like Caustic Soda, Hydrochloric Acid, Bleaching Powder, Chlorine, Sodium Hypochlorite & Chlorinated Paraffin Wax (CPW). GHCL is also exporting Chlorine to Bangladesh on regular basis.
The annual production capacity is as follows:

(1) Caustic Soda 22,000 MT

(2) Hydrochloric Acid 32,400 MT

(3) Bleaching Powder 2,352 MT

Global Heavy Chemicals Limited (GHCL) is located on the southern part of Dhaka district in Hasnabad union under Keraigonj Thana on the south side of the river Buriganga. GHCL has setup its production unit on 11.00 acres of land with multiple buildings where almost 80% is covered area for different product buildings. **Samuda Chemical Complex Limited (SCCL)** manufactures high-quality and competitivelypriced products.Caustic Flakes, Caustic Liquid, Hydrogen Per Oxide, Stable Bleaching Powder, Chlorinated Paraffin Wax, Hydrochloric Acid, Liquid Chlorine and Sodium Hypo Chloride comprise our product list which delivers outstanding value to its customers. The company's product and production processes are benchmarked with the best of global touchstones, and meet the most rigorous international specifications. The products of Samuda Chemical Complex Ltd. go into numerous end-use applications in a variety of industries:

Paper and Pulp, Textile, Pharmaceutical, Food, Tanning, Water Treatment, Plastics, Footwear, and Petroleum Refining. As it has acquired a strong foothold in local market based on trust, quality and service, the company also exports its products to other countries in South Asia. Since its inception as the first company in Bangladesh to produce Hydrogen Peroxide up to 70% concentration, SCCL has been continuously raising the bar in technological competence and gaining recognition as an innovator. The company has an enduring commitment protecting and enhancing the environment, serving and improving the communities in which it functions, and adhering to the highest ethical standards of corporate behavior.

Tasnim Chemical Complex Ltd are one of the leading group of companies in bangladesh and manufacturing and exporting hydrogen peroxide50%conc, caustic soda flakes, hyrochloric acid , sodium hypochlorite. liquid chlorine and wide ranges of industrial products like portable cement, edible oil ,sugar, and beverage. our all products trade mark is FRESH and all the factories are located on the megna river called fresh village where 15000 people are working , we have setup residential house ,water sanitation ,power plant, hospital, school , cinema hall, exclusively for the employee special rest house for foreign guest. this group of company is only family based private company.

Chapter - 4

4.1 Caustic soda manufacturers

Basic Chemicals Industries in Bangladesh belong to mainly Chlor-Alkali Plant & its Chlorinated product and Hydrogen peroxide plant. Main products are being produced from these basic chemicals Industries are Caustic Soda (NaOH), Chlorine (Cl2), Hydrochloric Acid (HCl), Sodium Hypochlorite (NaOCl), Stable Bleaching Power (SBP), Chlorinated Paraffin Wax (CPW) and Hydrogen Peroxide (H2O2). The Basic chemicals products of interest are now being supplied through import and local production. We can name only four /five companies who produce basic chemicals locally.ASM Chemical Industries Ltd., Global Heavy Chemicals Ltd, Samuda Chemical Complex ltd., Tasnim Chemical Complex and HP Chemicals are very important names who took challenges in this sector. There are a number of companies or agents import chemicals from abroad and supply chemical door to door in textile industry. Among them half of unknown because they don't have government license. So they are out of list. Here is given a list of top chemical importers and suppliers in Bangladesh.

List of Chemical Manufacturers Company:

Spectra Dye-Chem
Address: 5/2, Block A, (1st floor) Lalmatia,Dhaka – 1207
Dysin-chem Limited
Address: Skylark Point, (3rd floor), 24/A, Bijoy Nagar, 175, Shohid Syed Nazrul Islam Soronee, Dhaka – 1000
Rang
Address: RANG, 114 North Chashara, (Mamtaj Bhaban) 3rd Floor,Narayanganj – 1400
Imperial International Ltd.
Address: Bangladesh masjid Mission Complex Central Mosque, Katabon, New Elephant Road, Dhaka – 1000
OMI Colour Chem Corporation
Address :15, Purana Paltan, (4th floor)
City Dhaka – 1000
Asiatic Chemical Agencies
Address :Aziz Bhaban, 93, Motijheel C/A, (9th floor)
City Dhaka – 1000
Daewoo International Corporation
Address :House # 33, Kemal Attuek Avenue, SMC Tower (7th floor)
City Dhaka – 1213

Sulaiman and Sons
Address :Hossain Mainsion, 77/1, Begum Bazar
City Dhaka – 1000
Diamond Gas Co.
Address : 9/2, New Secretariate Road, Fulbaria,
Dhaka – 1000
Panorama International
Address: Aziz Co-Operative Super Market, Room # 61-62, (2nd Floor), Shahbag,
Dhaka – 1000
Tradex
Address: Red Crescent Chamber, (Ground floor), 87, Motijheel C/A,, Dhaka – 1000
Swiss Colours Bangladesh Limited.
Address: Ahmed Tower (3rd floor), House # 54/1, Road # 4/A, New Dhanmondi R/A,
Dhaka – 1209
Cotton Group
Address:IMP Plaza, 14, Kamal Ataturk Avenue, Banani
City Dhaka – 1213
JNZ Chemi Enterprise
Address : 51/1, VIP Tower, (13th floor), VIP Road, Nayapaltan
City Dhaka – 1000
Textile Agencies and Trade Ltd.
Address:House # 18, Road # 4, Block-C, Banani, City Dhaka
Al-Amin Traders
Address :37, Sayed Awalad Hosaain Lane, Islampur
City Dhaka – 1100
Goodnather Cable Industries
Address :163, Nobabpur Road (1st Floor)
City Dhaka – 1000
Trade Aid
Address :55, Motijheel C/A
City Dhaka – 1000
Colour Quest Ltd.
Address :43, Dilkusha C/A, (2nd floor)
City Dhaka – 1000
Daffodil Intentional
Address :78, Motijheel (9th floor)
City Dhaka – 1000
Harris & Menuk (Pvt.) Ltd.
Address :House # 8, Road # 19/A, Banani
City Dhaka

Dolphin Enterprise
Address :106, Islampur Road, M. R. Bhababn (2nd floor), Islampur , City Dhaka – 1100
Isamail & Company
Address :3, Zindabahar 1st Lane, Islampur
City Dhaka – 1100
Molla Chemical Co.
Address :32/1, Nababpur
City Dhaka – 1100
Sonarwar Hossain & Co.
Address :12, A. C. Roy Road, Armanitola
City Dhaka – 1100
Sunny Adhesive Co.
Address : Samsuddin Mainsion (5th floor), 17, New Eskaton Road, Bara Mogh Bazar,City Dhaka - 1000
Tanisha Trading Corporation
Address : Mohammady Housing Society, Dhaka Bangladesh
Golden Chemical Company
Address : Gulshan, Dhaka, Bangladesh
In case of chemical, Bangladesh is fully dependable on foreign chemical companies. Every year Bangladesh import huge amount chemicals from foreign company. A large number of company supply chemical in Bangladesh. We highlighted only top company, they export in Bangladesh. Dyestar (Germany).,Swiscolor (Switzerland),Merk (Germany),Clariant (Switzerland),Kisko-kyunin synthetic corporation (Korea),Novozymes (Denmark),Britacel (Bangladesh),,Merk (Bangladesh),Lova (Bangladesh),Denge Global chemicals co.ltd. (China),Tian huiquan fine chemical co. ltd. (Korea),Huntsman Bangpoo chemicals co.ltd (Thailand),Pure Chemicals (Bangladesh)

4.2 Caustic soda manufacturers' profiles

ASM Chemical Industries is a leading edge Chlor- Alkali manufacturing company, based in Dhaka, Bangladesh with a set up to manufacture and market world class chemicals with outstanding product quality, product development capabilities and outstanding services.

Tasnim Chemical Complex Limited: To fuel industrial growth, reduce import dependency of basic chemicals, manufacture and market world class chemical with outstanding product quality, product development capabilities and outstanding services; MGI established Tasnim Chemical Complex Limited in 2009 with an ambitious plan to enter in Chemical Industry. TCCL has two chemical production units namely chloro-alkali plant and Hydrogen peroxide plant. Both units are operated by distributed control system which is designed with fully automation facilities state-of-the-art plants with latest technology of the world. We are using Bi-poler Membrane technology and Auto-Oxidation technology for Chloro-alkali and Hydrogen peroxide plant respectively. These plants are environment friendly and energy economic. Utmost care has been attached to all operation units for the maximum safety of all executives and workers in the plants. Our mission is to sustain company’s growth though customer satisfaction.

Plant capacity: 4800 MT Per Month

Technology Used: Bi-polar membrane technology & Auto-Oxidation process
Manpower: 570

Global Heavy Chemicals Ltd., (GHCL) a concern of OPSONIN GROUP was incorporated on the 19th of September 2000. In the beginning of 21st Century, GHCL starts its journey as the first private sector Chlor-Alkali Industry in Bangladesh. Significantly related to all the hopes and expectations of the new century, GHCL has energized the vision to open new horizon for industrial development in the country. Integrating the visionary imagination for basic industrial development in this country by our Founder Chairman Late Abdul Khaleque Khan, the successors have already established a number of innovative & import substitute industrial units mainly in the pharmaceuticals and related sectors.
GHCL is producing import substitute Industrial Chemicals like Caustic Soda, Hydrochloric Acid, Bleaching Powder, Chlorine, Sodium Hypochlorite & Chlorinated Paraffin Wax (CPW). GHCL is also exporting Chlorine to Bangladesh on regular basis.

The annual production capacity is as follows:

(1) Caustic Soda 22,000 MT
(2) Hydrochloric Acid 32,400 MT
(3) Bleaching Powder 2,352 MT
(4) Chlorine 18,480 MT
(5) Sodium Hypochlorite 3,500 MT
(6) Chlotech (4 & 2 Liter Bottle) 750 MT
(7) Chlorinated Paraffin Wax (CPW) 2000 MT

Samuda Chemical Complex Limited (SCCL) manufactures high-quality and competitively priced products. Caustic Flakes, Caustic Liquid, Hydrogen Per Oxide, Stable Bleaching Powder, Chlorinated Paraffin Wax, Hydrochloric Acid, Liquid Chlorine and Sodium Hypochlorite comprise our product list which delivers outstanding value to its customers. The company's product and production processes are benchmarked with the best of global touchstones, and meet the most rigorous international specifications. The products of Samuda Chemical Complex Ltd. go into numerous end-use applications in a variety of industries: Paper and Pulp, Textile, Pharmaceutical, Food, Tanning, Water Treatment, Plastics, Footwear, and Petroleum Refining. As it has acquired a strong foothold in local market based on trust, quality and service, the company also exports its products to other countries in South Asia. Since its inception as the first company in Bangladesh to produce Hydrogen Peroxide up to 70% concentration, SCCL has been continuously raising the bar in technological competence and gaining recognition as an innovator. The company has an enduring commitment protecting and enhancing the environment, serving and improving the communities in which it functions, and adhering to the highest ethical standards of corporate behavior.

Table – 1 : Market Demand and Comparative Study of Different Basic Chemical Industries.

Product name	ASM Production capacity (MT/Day)	Global (MT/Day)	Samada (MT/Day)	Tasnim Chemical (Meghna Gr.) (MT/Day)	HP Chemicals (MT/Day)	Total Production Capacity (MT/day)	Present Market demand (MT/Day)
Caustic Soda (100% basis Flake/Liquid)	60 (Expandable to 100)	70	60	100	-	290	250~300
Chlorine (Cl_2) From Electrolizer	53	62	53	89	-	257	Cl_2 Converted to Liq. Cl_2, HCl , SBP, CPW, NaOCl etc.
Hydrogen Peroxide (50% Conc, H_2O_2)	60	-	70	60	28	218	200~250
Chlorine (Cl_2) liquid	10	10	7	15	-	42	10-12
Hydrochloric Acid (32% HCl)	110x2	100x2	100	140x2	-	800	150-170
Sodium Hypochlorite (NaOCl)	10	10	20	15	-	55	10-15
Stable Bleaching Powder (SBP)	20	15	16	-	-	51	15-20
Chlorinated Paraffin Wax (CPW)	20	10	20	15	-	65	15-20

4.3 Caustic soda demand in Bangladesh

Global chemical industry is estimated to be USD 3.5 trillion and considered one of the fastest growing sectors of the manufacturing industry. The base chemicals form the largest segment accounting for 45% of the total industry, followed by pharmaceuticals accounting for 27%, specialty chemicals attributing 22% followed by bio-technology and agro-chemicals at 5% and 1%, respectively. Of these specialty chemicals are expected to grow at a faster pace in the next few years in comparison to their global counterparts. According to "Feed Mill Industry in Bangladesh: Business Report 2012" the chemical industry in the country by identifying key market players, (including major producers, traders, etc), as well as evaluating foreign economic relations within the sector in the last three years. The textile wet processing industry is a chemicals based industry. Different types of chemicals need in the process of different types of textile processing steps. So chemicals play a vital role in textile industry. There are number of company or suppliers supply the chemicals in the Bangladesh, Some of their Bangladeshi suppliers and some of their foreigner company. So there is a vast market demand in textile chemicals. This market research report offers a perspective on the actual market

Table – 2 : Consumption of NaOH and future market demand

Year	Quantity
	MT
Previous Consumption	
96-97	53,510
97-98	55,538
98-99	57,910
99-00	59,440
00-01	61,690
01-02	63,830
02-03	65,145
03-04	71,660
04-05	78,825
Projected Demand	
05-06	86,708
06-07	95,379
07-08	1,04,917
08-09	1,15,408
09-10	1,26,949
10-11	1,39,644

situation, trends and future outlook for chemical in Bangladesh. The study provides essential market information for decision-makers including:

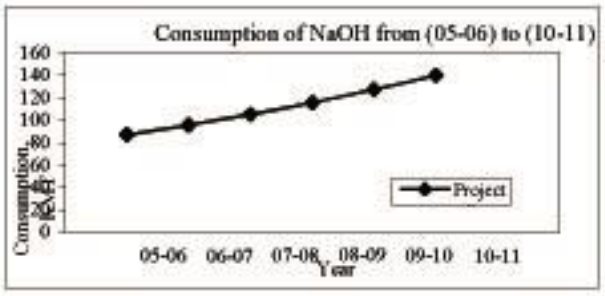


Figure – 2 : Projected Demand of NaOH for year (05-06) to (10-11)

4.4 Demand structure, consumption (2009-2014)

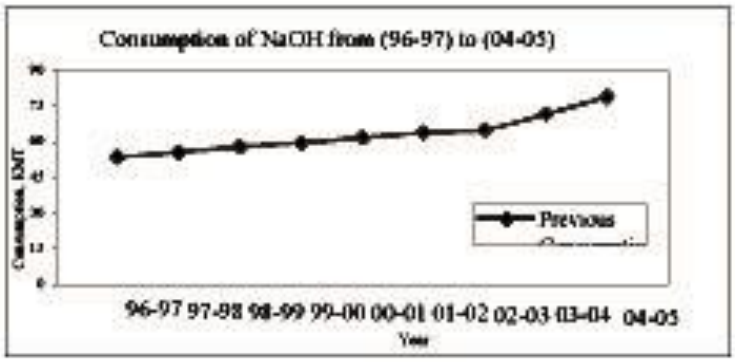


Figure – 1 : Consumption of NaOH for year (96-97)

14

Comparison of cell technologies

	Mercury	Diaphragm	Membrane
Operating current density(KA/m^2)	8-13	0.9-2.6	3-5
Cell voltage (V)	3.9- 4.2	2.9- 3.5	3.0-6.0
NaOH strength(wt%)	50	12	33-35
Energy Consumption($KWh/MT\ Cl_2$)	3360	2720	2650
Steam Consumption ($KWh/MT\ Cl_2$) for concentration to 50% NaOH	0	610	180

Table: 3 Caustic Soda Cost Consumption

Market size of Global Chlor-alkali industry is $70 billion (2012), and that of the Bangladeshi Chlor-Alkali Industry is 4% (2012) of the world market. Globally the installed capacity of Caustic soda is 78.6 mn (2012), while Bangladeshi Caustic Soda capacity constitutes for 4% (2012) of the global capacity. Domestic capacity utilization of the Caustic soda industry was 80% in the financial year 2011 as compared to 74% of the global Caustic Soda industry. Major Bangladeshn Caustic Soda manufacturers include Aditya Birla Group, Gujarat Alkalies & Chemicals and DCM Shriram Consolidated (DSCL) among others.

Caustic Soda is mainly used by Textile, Pulp & paper, Aluminium, Soaps & detergents industries in Bangladesh. Bangladeshi Caustic soda prices have firmed up gradually in the past two years. Domestic suppliers gained higher profit margins as imports got costlier because of the imposition of anti-dumping duty on Caustic Soda imports. The demand for textiles and apparels is growing in Bangladesh, which will drive the demand for textile chemicals.

Chapter - 5

5.1 Future trends in caustic soda market to 2019

Chlor Alkali Sector

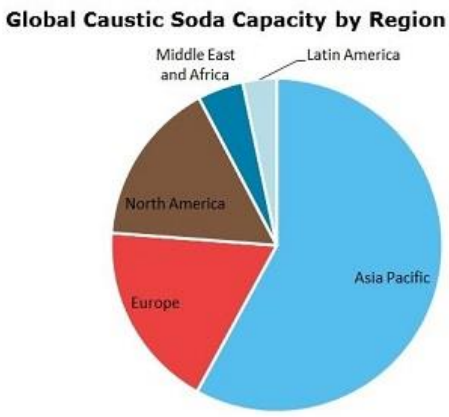
Caustic Soda (Sodium Hydroxide) also known as "Lye" as a trade name, is a high alkali material which is available in different concentration. Generally it comes under Chlor Alkali industry where the electricity costs account for about 40 – 50% of operating costs. It is deliquescent in nature & wherever strong base requirement is present in industries, this chemical is used mostly.Chlorine & Caustic Soda are the 2 main commodity inorganic chemicals in chlor Alkali industry, followed by Soda Ash, Caustic Potash etc.

Growth Estimates

According to Alkali Manufacturers' association of Bangladesh, there is an existing "Demand gap" which is expected to grow in the future. Further this fact is supported from the data of import by Bangladesh, which is approx 5 lakh MT (33% higher than 2014).

The market is expected to witness a CAGR of 6.78% betweeen 2014 & 2019 in terms of value & in turn is anticipated to generate a global market value of 38,484 million USD by 2019. The driving force includes the growing demand from the chemical industry & increased usage in food, pulp & paper industries.

The Biggest Market : Asia-Pacific



Various mergers & acquisitions, expansions in caustic soda industry & growing chemical industry are the prime reasons for Asia-pacific region being a potential market. China is the key player in this segment & expansions are key growth strategy being adopted by top players in the industry.

In parallel with the expansion strategy, some of the companies are engaged in enhancing the existing technology for less energy consumption & orienting their process to be

more environment friendly. Further many industries in Asia-Pacific is known for best quality caustic soda bulk sourcing center.

Top Growing consumption sectors

1. Paper Industry

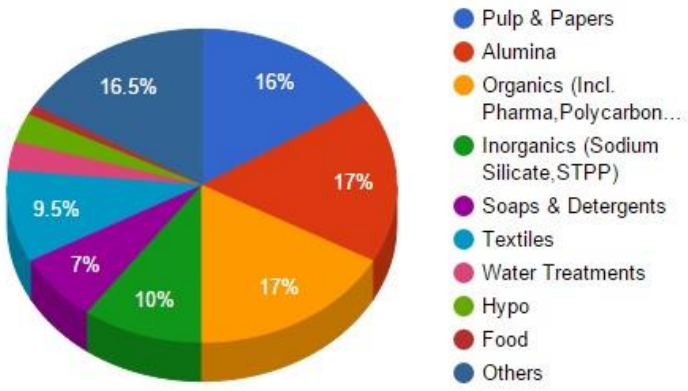
- Caustic soda is also used in pulp and paper industry during the cooking process and oxygen delignification process
- In some Kraft mills, caustic soda is also used as a make-up chemical
- It is also used as the initial treatment in de inking secondary fibres
-

2. Textile Industry

- Caustic soda is used in the scouring process, mercerization process, as well as dyeing process
- Caustic soda also serves as a pH regulator and controls the pH of dyeing bath, which is required to be precise and constantly maintained throughout the process.

3. Alumina Industry

Caustic soda helps to extract alumina from bauxite ore via Bayer process and is employed to produce an array of organic and inorganic chemicals. Further it forms one of the major application of Lye for around 17% of the world usage, next to Paper industries.



So there is a huge growth trend ahead for Caustic soda suppliers based on the demand pull market ahead. To know more about the industry price & details of Caustic soda

5.2 General market forecast

Caustic Soda, is also known by its chemical name as Sodium hydroxide. This chemical is an alkaline inorganic compound and it's chemical formula is NaOH. Caustic soda is a white, odourless and colourless solid chemical substance, which is available in various forms such as,

flakes, granules or pellets and has high solubility in water and is sparingly soluble in organic solvents like methanol and ethanol. Caustic soda market in Bangladesh witnessed strong growth over the past few years, owing to rising demand for chemical in several end user industries such as, paper, textile, detergent, aluminium, etc., which is driving demand for caustic soda in Bangladesh. Moreover, expanding textile, paper and metallurgical applications are further expected to propel Bangladesh caustic soda market in the coming years. According to "Bangladesh Caustic Soda Market Study", report studies the market size and share of various segments and sub-segments of caustic soda market in Bangladesh during 2011-2025. In the study, the market has been categorized into six broader applications that include Textiles, Pulp & Paper, Alumina, Organics, Inorganic, Soaps & Detergents, wherein Textiles is the dominating as well as fastest growing application of Caustic Soda during 2016-2025.The market dynamics section of the report elaborates the factors that are driving the market as well as the challenges inhibiting growth. The research study also includes insights of the key market trends, a detailed analysis of the changing competitive landscape, and revenue forecasts for each segment and sub-segment. In addition, report also provides customers analysis including current suppliers, procurement prices & quantity being purchased annually. All this information is provided to assist the established market players and new entrants in taking their strategic decisions, thereby aiding them in strengthening their market position in a highly competitive caustic soda market in Bangladesh.

Chapter - 6

6.1 What is Marketing?

Marketing is the management process through which goods and services move from concept to the customer. As a philosophy, marketing is based on thinking about the business in terms of customer needs and their satisfaction. Marketing differs from selling because selling concerns itself with the tricks and techniques of getting people to exchange their cash for your product. It is not concerned with the values that the exchange is all about. And it does not, as marketing invariably does, view the entire business process as consisting of a tightly integrated effort to discover, create, arouse, and satisfy customer needs.

6.2 What is Marketing Strategy?

A marketing strategy defines objectives and describes the way company going to satisfy customers in own chosen markets. It does not have to be written down but it is easier to communicate to outsiders. Marketing Strategy includes –

1. Marketing Mix
2. Target Market
3. Competition

6.3 Marketing Mix

The Marketing mix is a set of four decisions which need to be taken before launching any new product. These variables are also known as the 4P‟ s of marketing. These four variables help the firm

in making strategic decisions necessary for the smooth running of any product / organization. These variables are

1. Product
2. Price
3. Place
4. Promotions

Product:

Product and Service is the main item for an IT firm. Therefore Product is also the first variable in the marketing mix. Product decisions are the first decisions which need to take before making any marketing plan. A product can be divided into three parts - The core product, the augmented product and the tertiary product.

Price:

Pricing of a product depends on a lot of different variables and hence it is constantly updated. Major consideration in pricing is the costing of the product, the advertising and marketing expenses, any price fluctuations in the market, distribution costs etc. Pricing affects the targeting and positioning of a product. Pricing is used for sales promotions in the form of trade discounts.

Thus based on these factors there are several pricing strategies, one of which is implemented for the marketing mix.

Place:

Place refers to the distribution channel of a product. The place where the product is distributed depends on the product and pricing decisions, as well as any STP (situation/ target/ proposal) decisions taken by a firm.

Promotion:

Promotions in the marketing mix include the complete integrated marketing communications as well as sales promotions. If the product is completely new in the market, it needs brand / product awareness promotions, whereas if the product is already existing then it will need brand recall promotions. Promotions also decide the segmentation targeting and positioning of the product. The right kind of promotions affects all the other three variables – the product, price and place. If the promotions are effective, a company might have to increase distribution points, might get to increase the price because of the rising brand equity of the product, and the profitability might support a company in launching even more products.

6.4 Marketing overview of the product

The global caustic soda market size exceeded 74 million tons in 2015. Caustic soda accounts for over 40% of the total inorganic chemicals and finds application in various applications such as pulp & paper, chemicals, alumina, soaps & detergents, textiles, etc. Caustic soda industry growth is directly linked to the end-use industry extensions. Increasing demand from pulp & paper and textile industries is expected to foster the market growth over the forecast period**.** Caustic soda serves as a strong alkali compound and readily reacts with various substances including zinc and aluminum. This is another major factor likely to propel the market demand in metallurgical applications. Moreover, the market is further expected to accelerate with the increase in consumption of caustic soda in alumina extraction.

High corrosive and reactive nature of caustic soda which causes harmful environmental impact is expected to pose a challenge towards the market growth. Also, limited consumption of PVC is likely to affect the chlorine demand and thereby its production. Caustic soda being a by-product of chlorine manufacturing process, lower production rates for chlorine will have an adverse impact on the caustic soda market in upcoming years.

6.5 Marketing strategy & marketing mix

Product:

demand for the product:

We studied import data of Bangladesh that had been collected from NBR. Also we gathered information from different government, semi-government and private organizations. After collecting those data we compiled them to ascertain aggregate market demand and their growth trend. The figures looked attractive.

CAUSTIC SODA

One of the main basic chemical is caustic soda. Its chemical name is Sodium Hydroxide (NaOH). It is an industrial product. Different industries use Caustic Soda as raw material. We name here few of the large consuming industries of Caustic Soda consumption such as Soap, glass, drugs, paper & pulp, textile, leather, sugar, WTP and ETP etc.

IMPORT OF CAUSTIC SODA

After analyzing following historical data of import it was found that the growth rate in last 8 years was 5%. We have calculated projected demand of caustic soda for next 7 years with same growth rate and we think it is logical. We have only four caustic soda manufacturing project in our country that can meet a small portion of our demand.

Caustic Soda has an affordable price. Caustic Soda (NaOH)

	:	White Crystalline solid, colorless sticks,flakes, powder or pellets, Colorless to Sodium
	:	Hydroxide slightly hazy liquid
	:	NaOH
Physical Appearance	:	40
Chemical name		
Chemical Formula	:	98% / 45%
Molecular Weisht	:	20 m max
NaOH		
NaCl	:	10 ppm max
Fe	:	2% max
Na2CO3		
Ni	:	2 ppm max
SO4-2	:	50 ppm max
Heavy Metals	:	20 ppm max

Air tight polywoven bag of 50 Kgs, Liquid Caustic (45%) tk. 48 and tk. 25, Rubber lined road tankers or plastic container of customer. Water treatment plant for pH control, lon exchange resin re-generation, effluent treatment and descaling of pipe work systems. Pulp and paper processing industry, textile industry is mainly confined to finish operation i.e. Scouring, Bleaching etc. Soap hydrolysis of animal and vegetable oils and fats, detergents manufacturing industy etc. Rayon industry in the process of rayon from bleached wood pulp. Food industry for washing, cleaning, refining of animal and vegetable oils to remove fatty acid etc. Laboratory, etching and electroplating industry.

Place:

We studied import data of Bangladesh that had been collected from NBR. Also we gathered information from different government, semi-government and private organizations. After collecting those data we compiled them to ascertain aggregate market demand and their growth trend.

Promotion:

Caustic soda can be promoted through newspaper, website, and billboard. Since, the demand is very high so it is possible to minimize the promotional cost of the product.

Conclusion:

We should study marketing strategy because we all use marketing techniques in every aspects of business. If we want to work in business, we need to know about marketing strategy because marketing people play a vital role in business activities. Marketing jobs are inherently interesting because of the variety of people encountered and activities undertaken. In addition, it offers the opportunities for financial rewards and promotions. After conducting this report successfully I have found that caustic soda can be able to create a significant position to our economy and try to boost up the economy of Bangladesh. In conclusion I can strongly predict that caustic soda companies contains a great future ahead of it.

Refferences:

1. Philip Kotler, Principles of Marketing, Prentice – Hall, 1980

2. Marketing Mix: http://www.mindtools.com/pages/article/newSTR_94.htm

3. http://asmchemical.lookchem.com/

4. https://www.linkedin.com/company/samuda-chemical-complex-ltd..

5. Google

6. Wikipedia

7. answer.com