UNIT 14 CHEMICAL GOODS

Structure

14.0 OBJECTIVES

After studying this unit, you should be able to:

- describe the structure of the Indian chemical industry
- identify major exports markets and competing countries for Indian Chemical Products
- analyse the trend in world trade of chemical goods and prospects thereof
- describe international business environment in chemicals trade
- analyse India's imports of chemical products and foreign investment in the sector
- evaluate India's strengths and weaknesses in chemical sector

14.1 INTRODUCTION

The chemical industry including petrochemicals and pharmaceutical sub-sectors in India has recorded an impressive growth during the last few years. By virtue of the range of its products and also the inputs, the chemical industry is not only closely linked up with other industries and sectors of the economy but also intimately related with the well being and quality of life of the people. It contributes around 14 per cent to the country's export earnings and accounts for 11 per cent of our total import bill. This amply indicates the important place and role of the chemical industry in India's industrial as well as overall economic development and growth. By the same token of linkages, the fate of the chemical industry is tied up with the performance of the other sectors and industries. Thus chemical industry is amongst the engines of overall industrial and economic growth. In this unit, you will learn the highlights in Indian chemical industry, trends of exports and markets, avenues and prospects and India's competitive advantages and disadvantages.

14.2 INDUSTRY HIGHLIGHTS

While the chemical industry in the country has been one of the fastest growing sectors of the economy, consistently performing better than the manufacturing sector as a whole in the recent past, the fiscal year 1996-97 saw a sharp drop in the growth of the industry. The chemical industry grew by a mere 3.4% in 1996-97, more slowly than that of the overall manufacturing sector for the second year in a row.

This slowdown has been attributed to a number of reasons. The overall slowdown of the economy, including that of the agricultural sector, has had an impact on the chemical industry. The impact of reforms on the industry has also been severe. The industry, which enjoyed high levels of protection in the form of import duty barriers, has seen this protection eroded steadily in recent years.

The government has taken numerous steps to help the industry. Investment in the Chemical sector has grown after liberalisation of the economy. Except for a small list of hazardous chemicals, all chemicals and petrochemicals can be manufactured without any licensing controls. Majority of the chemicals and petrochemicals can be freely imported and exported. Private participation is now permitted in virtually all industries. Tax structure has been simplified and rates have been reduced. The new EXIM Policy 1997-2002 has further relaxed customs duties and tariffs. The main thrust in chemical sector is modernisation so as to improve the efficiency by lowering operating costs, as rapid technological obsolescence is one of the prominent features of the chemical industry. With the liberalised policy of the Government, it is expected that closely held technologies in certain specific areas would now be available. The industry is expected to witness accelerated growth with the concomitant acceleration in the growth of economy fuelled by the purchasing power of the 300 million upwardly mobile middle class population. Further excellence in R&D aided by national and private sector institutions, provides an edge to the industry. Also Indian Patent Act is being amended to be in tune with GATT regulations.

Some of the significant factors which have helped in the growth and development of chemical sector in India are :

i) Technically trained manpower

ii) Priority to investment in the inputs for the agricultural sector resulting in investment in basic chemicals required for the manufacture of fertilizers and pesticides.

iii) Importance of textiles and leather industry which have encouraged production of chemicals required for dye-stuffs, finishing of fabric and production of high quality leather.

iv) Abundance of salt along the long coast line, facilitating manufacture of caustic soda and soda ash.

India has, over the years, developed strengths in sectors like dyestuffs, pesticides, organic and inorganic chemicals, drugs and pharmaceuticals, plastics, rubber processing, synthetic fibres etc. India is also strategically located in Asia. These are our strengths and these must be fully exploited with more efficient and quality oriented facilities to increase our share in the world market. There is tremendous scope of growth in India in the chemical sector. The per capita consumption of chemicals is well below the prevailing world level.

The large manufacturing capacities commissioned for many petrochemicals and the still larger capacities to go on stream by the end of this decade have pushed the status of the chemical industry forward in the chemical manufacturing nations. The extensive modernisation of technology in plant and machinery and the measures adopted to conform to international levels of competitive efficiency have earned many manufacturers the distinctive certification under the exacting standards of the International Standards Organisation (ISO).

On the export front not only has there been a quantum jump in the volume and value of exports; the diversity in product mix and in the markets accessed have been noteworthy. On the environmental front, the industry has been put under severe pressure to ensure that its activities do not give rise to unacceptable levels of water, air or soil pollution.

The Indian chemical industry can well remain competitive vis-a-vis its counterparts in developed nations, even after fully complying with the Indian environmental regulations both in letter and in spirit. Let us now learn the major sectors of the chemical industry.

Organic Chemical Industry: The Indian organic chemical industry (covering petrochemicals, bulk organic chemicals and speciality chemicals) in the country is characterised by uneconomic capacities, fragmented production base and poor marketing focus. However, the industry can be viewed in terms of players with distinct characteristics. There are the large petrochemical cracker operating companies such as Reliance and ICPL producing all key

commodity plastics plus a slew of other bulk chemicals. There are single polymer manufacturing companies such as Finolex Industries, Chemplast Sanmar and Supreme Petrochem who procure either the basic chemical or the intermediate to make the commodity polymer. In bulk organic chemicals, there is a range- from benzene based producers such as Hindustan Organic Chemicals and Herdillia Chemicals to fertiliser companies which have diversified into products such as caprolactum and methanol. Another separate group is the molasses (industrial alcohol) based chemical producers some of whom even compete with petro-based manufacturers in products such as MFG, acetic acid and VAM. In addition, there are the speciality chemical companies which at the upper end are dominated by multinational companies such as Ciba Specialities.

Petrochemicals: The petrochemical market in India is essentially supply driven. Growth rates for various commodity polymers and polyester have been in double digits helping Indian companies to keep operating at high rates even in the face of a reduction in price. As Reliance has shown, Indian companies can build that extra cost advantage by world class delivery systems to a fragmented market, thereby keeping the working capital costs of the customers low. Integrated large producers, IPCL and Reliance, are well placed to ride out of the through of the price cycle and in fact are investing further to maintain the market share. Single polymer companies do not have the pricing flexibility of a cracker complex through some such as Finolex Industries have world class capacities. Most of the remaining companies are likely to continue as marginal players.

Bulk Organics: This is one segment of the industry which could soon witness a phase of consolidation. Even companies with reasonably large capacities such as Hindustan Organic Chemicals Limited are finding the going tough. Unlike in petrochemicals, investments have been tardy. Although some companies have been successful in reducing conversion costs, competitive advantage could come through only world class capacities and integration. Many of these companies are hampered by lack of resources to invest and stay competitive. Multi-business companies in fertilisers and chemicals are also intent only on maintaining the status quo.

Alcohol-based chemicals: The alcohol based chemical industry became subject to the vagaries of molasses prices after these prices were decontrolled in 1993. Raw material supply and prices for these companies are inextricably linked to the sugar economy and State level policies. Large sugar producers now operate an integrated complex producing apart from sugar, paper and organic chemicals. This segment of the chemical industry is likely to remain marginal without attracting large investments.

Speciality Chemicals: As far as the speciality chemical industry is concerned, high margin product segments should continue to be dominated by the technologically strong multinational companies. Indian companies have a reasonable presence in this sector and should continue to maintain their share although margins will be linked to end user industry performance and therefore on an economic revival.

Pharmaceuticals: Over the past five decades, the Indian pharmaceutical industry has moved through several phases, largely in accordance with government policy. Commencing with repacking and preparation of formulations from imported bulk drugs, the Indian industry had moved on to become a net foreign exchange earner, with capability of producing almost all drugs.

The Indian pharmaceutical industry has been regulated through the Indian Patents Act, 1970 (IPA), the FERA for foreign equity holding, and the Drug Price Control Order (DPCO). The IPA recognises process patents as against product ones that are in use in the developed world. As a result, Indian manufacturers have been able to produce internationally patented drugs within the country by developing an alternate process for the drug with the help of a large, cheaper pool of qualified pharmacists and scientists available in the country. The IPA has, in effect, supported the rise in the number of pharmaceutical units in the country, making this sector highly fragmented.

In 1994, India signed the GATT (now WTO) agreement, in which India agreed to improve legislative protection to Trade Related Intellectual Property Rights (TRIPS). Intellectual

Property Rights (IPR) are the rights of the originator of an innovation or a product to hold sole international commercial rights for a period of time. The introduction of product patents in the country will definitely lead to a shake-out in the industry. The 10-year transition period had been granted so that Indian companies could put up R&D facilities to meet new challenges thrown up by the product patent regime. India is expected to become a manufacturing base for MNCs due to the relatively lower cost of production. Further, a large domestic market makes India an attractive base for production.

Oil and Gas: India is currently the fourth largest oil consumer in the Asia-Pacific region after Japan, China and South Korea. Estimated to increase at the rate of 7 per cent a year, the demand for petroleum products, in absolute terms, is expected to nearly double from the present level of 80 million tonnes to 155 million tonnes per annum by 2006-07.

Until very recently, India's oil industry could have easily qualified as one of its most regulated. The sweep and severity of the regulations, in fact, precluded any competition among companies. Besides, the industry was greatly insulated from international movements in oil prices. However, several of the regulations have been rolled back and prices of industrial fuels were taken off the APM and allowed to float with price of comparable international fuels recently. Over the next few years, India's oil industry will make the transition from a completely regulated industry to competitive one with declining tariffs, withdrawal of government intervention and the entry of private players.

Global Restructuring

Many companies are in the process of rediscovering their strategic focus. At the global level, the chemical industry is restructuring into distinct groups to retain competitiveness. There are global companies which focus on low delivered cost of products through feedstock advantages, integration, scale and cost competitive technology. Another group consists of specialist manufacturers who are technology leaders. This is the case with many Indian companies too. There is significant potential for Indian companies operating integrated cracker complexes who could do well in the high growth commodity plastics and fibre market. This is also borne out by the extent of investment activity in this area. Many of the single product companies who do not have technological strength or cost competitiveness could eventually lose out completely.

14.3 GROWING RESPONSIBILITIES

Unlike many other industries and services, the chemical industry has to all along ensure utmost safety of health and environment within the plants and in the area surrounding the chemical complexes. The laws in this regard enforced by the Central and State regulatory authorities are becoming increasingly stringent by the day. Even the existing chemical units have to put up additional safeguard facilities at extra costs which were not envisaged originally when these units were set up. Moreover, NGOs like the Greenpeace brigades often oppose and resist the setting up of new projects at places which have certain locational advantages. And moving over to any alternate location not only add to the capital costs of the projects but also put a perpetual strain on their operating expenses. As a consequence, the cost of compliance to regulations has been increasing beyond the reach of the industries, particularly when in our country the production capacities are traditionally low.

The Chemical industry is also under obligation to abide by several international treaties like the Chemical Weapons Convention, Basel Convention, Montreal Protocol on Ozone Depleting Substances, and Conventions on Prior Informed Consents in respect of Dual Purpose Chemicals, Persistent Organic Pollutants, etc. to which the country is bound either as a signatory or as a member of the negotiating committees. While planning its activities the industry has to therefore constantly keep in view the stipulations of these treaties which have long term implications. The industry also has to remain sensitive about the provisions of World Trade Organisation and the Intellectual Property Rights, and such other non-tariff barriers. It has to keep a vigil on the possible dumping of goods that hurt the interest of the

industry and promptly notify the same to the designated authorities to initiate anti-dumping and safeguard procedures.

The voluntary disciplines like the Responsible Care and ISO Certification are also becoming preconditions when it comes to international trade and dealings. With rapid strides made in information technology leading to global connectivity, the international trade through the medium of E-commerce is becoming exceedingly competitive as bids can be struck instantly with the most preferred offerer and even the goods on the high seas can be prompty directed for delivery at the desired destination with the least costs of transportation and time. Hence, a company can easily get marked out for any lapse in compliance of disciplines like the RC or ISO or other such obligations.

With the passage of time, customers and consumers are becoming ever more demanding. Particularly for the chemical industry they are discriminating in favour of not only products matching high quality standards but also for safer products and cleaner and environmentally benign processes, with conscious commitment about social responsibility as well on the part of manufacturers. Institutional investors and bankers too look for such assurances. As a result, the erstwhile quality control methods have given way to strict quality assurance systems and further to Total Quality Management systems in the chemical process industries. In the changing context, RC and ISO culture is becoming more relevant at all levels of organisational structure. Also consequently, in the chemical process industries, well conceived programmes of continuing education, orientation and training for all categories of work force, followed by rigorous performance assessment, are becoming inevitable. Awareness among the formulators and product users is also the responsibility devolving on the manufacturers.

14.4 EXPORTS FROM INDIA

India's exports of chemicals increased from Rs. 15,283 crore in 1996-97 to Rs. 19,473 crore in 1997-98 showing an increase of 27.4 per cent as compared to 10.7 per cent in the previous year. Chemicals share in India's exports was 14.6 per cent in 1997-98. The Table 14.1 depicts the India's exports of chemicals by major sectors.

Table 14.1: India's Exports of Chemicals

(Rs. Crore)

Sector	1994-95	1995-96	1996-97	1997-98
Drugs & Pharmaceuticals	2266	3178	4090	5228
Dyes/Intermediates	1502	1546	1945	2228
Inorganic/Organic//Agro Chemicals	1431	2026	2082	2195
Cosmetics & Toiletries	477	479	503	611
Plastic and Linoleum Products	1502	1958	1886	1904
Castor Oil	388	672	552	375
Man-made Staple Fibres	80	71	79	97
Paints/enamels/Varnishes	381	417	533	560
Other Chemical Products	2927	3461	3613	6275
Total	10,954	13,808	15,283	19,473

Source: Chemicals & Allied and Basic Chemicals EPCs and DGCI&S.

The above table reveals that except for castor oil, export of which almost remained static, all other sectors recorded significant growth during the review period. The growth, however, should be qualified in as much as the developed countries are moving out of the some of the chemical sectors, such as tanning and dyeing due to environmental considerations.

Chemical exports from India are to both developed and developing countries. Major destinations of exports of select chemical sectors are given in Table 14.2.

Table 14.2: Major Markets for the Chemical Products

Product	Major Markets
Drugs and Pharmaceuticals	USA, Russia, Germany, Hong Kong, Singapore, UK, Netherlands, Nigeria
Dyes and Dye Intermediates	USA, UK, Korea, Germany, Taiwan, Netherlands, Italy, Turkey, Japan, Bangladesh, Indonesia
Inorganic/Organic/Agro Chemicals	USA, Netherlands, Germany, Taiwan, UK, France, Indonesia, Korea, Belgium, South Africa, Australia, Thailand
Cosmetics & Toiletries	UAE, USA, Russia, Bangladesh, UK, Saudi Arabia, Malaysia, Singapore, Nepal, Netherlands, France, Sri Lanka, Germany
Plastic and Linoleum Products	USA, UK, UAE, Russia, Germany, Italy, Netherlands, Saudi Arabia, Hong Kong, Sri Lanka
Manmade Staples Fibres	UAE, USA, UK, Italy, Malaysia, Korea, Singapore, Saudi Arabia, Portugal, Tanzania
Paints/Enamels/Varnishes	Japan, USA, UK, UAE, Russia, Qatar, Pakistan, Nigeria, Malaysia, Italy, Germany, Egypt
Castor Oil	France, Netherlands, USA, Japan, China, Thailand, Brazil, Italy, Germany, UK, Spain, Russia

Source: DGCI&S, Calcutta

It may be seen from above that the Western European Countries, the USA and UAE are the main markets for most chemical products exported from India.

Check Your Progress A

1) Enumerate three factors which have helped the growth of chemical industry.

.....

.....

.....

.....

2) What is global restructuring?

.....

.....

.....

.....

3) Enumerate five major sectors of India's Chemical exports.

.....

.....

.....

.....

4) State whether following statements are **True** or **False**.

i) Chemical industry is amongst the engines of overall industrial and economic growth.

ii) Majority of the chemical and petrochemicals can not be freely imported and exported.

iii) The diversity in product mix and markets of India's chemicals exports have not been noteworthy.

iv) India is expected to become a manufacturing base for MNCs due to the relatively lower cost of production.

v) Chemical industry is restructuring into distinct groups to retain competitive advantage.

14.5 AVENUES AND PROSPECTS

Europe has a dominant presence in the world chemical industry. The EU is the world's largest producer of chemicals, it is also the largest market for chemicals. Of the world's top 15 chemicals companies, nine are European.

The chemical industry is heterogeneous, with hundreds of broad product categories, supply roughly half its turnover to other manufacturing businesses, such as electrical appliances, factory equipment, defence, cars, packaging and construction. The most important markets for chemicals are West Europe, the USA, and Japan which together account for about 70 per cent of production and consumption.

The chemical industry may be grouped into five broad sectors:

i) **Petrochemicals:** As oil and natural gas derivatives, they constitute the most important basic feedstock for chemicals generally. Mostly produced in large volumes and at low prices, many of the substances in this category are used as building block chemicals to make other synthetic materials.

ii) **Plastics:** Although sometimes categorised under petrochemicals, this sector by itself accounts for about $ 120 b a year. The largest selling plastics are polyethylene, polystyrene, polypropylene and polyvinyl chloride (PVC). Another important component of the plastic industry is the high value, speciality sector, known as engineering plastics. This area includes materials such as polycarbonate and acrylonitrile butadiene styrene (ABS) which have especially tough or heat resistant properties.

iii) **Inorganic Bulk Materials:** These are also high volume substances. The largest selling products in this area are chlorine, sodium hydroxide, sodium carbonate (caustic soda), titanium dioxide and hydrogen peroxide.

iv) **Fine Chemicals:** Organic or inorganic, the main characteristics are production in low volume and high prices. Relatively sophisticated manufacturing routes are used in their production. Their application is also more often than not tailored to a particular job.

v) **Pharmaceuticals.:** This is a $ 180 billion a year industry with major markets in West Europe, North America and East Asia. Europe is currently the world's leading location for production and export of pharmaceuticals.

The chemical industry spends a high proportion of production costs on R&D. Within the chemical industry, biotechnology absorbs a large proportion of R&D expenditure. The exploitation of new technologies has led to emergence of many new products and processes in the pharmaceuticals, pesticides, agrochemicals and fine chemicals industry. These technologies have also substantially raised the levels of environmental safety. Good Laboratory Practice (GLP) guidelines have been developed for specific use in chemicals in Europe. Mergers and acquisitions in the chemical industry in general have been on a large scale.

Large companies have now begun to concentrate on low volume, high value speciality chemicals as their main area of expansion, reducing activities at the high volumes, commodity end of the industry, in which the competition is keen and the balance between supply and

demand is difficult to forecast accurately. Speciality chemicals are expected to reap large profit margins. Most companies are now targeting for profitable 'niche' sectors. The growing segments are paints, agro chemicals, pharmaceuticals and high value plastics, soaps, detergents, perfumes, varnishes and inks, and downstream industrial chemicals. Development of new materials will continue to have a significant impact on the chemical industry. The two biggest customers of the chemical industry, namely, construction and automobiles are undergoing radical changes due to the trend towards wider use of new materials such as optic fibres, super polymers, composites, fine ceramics, fibre-reinforced plastics, etc.

Substantial opportunities exist for less developed nations to play a part, particularly at the lower technology levels of the chemical industry. In areas such as fibres, basic oil-derived chemicals, bulk plastics and fertilisers, several developing countries, including India, have built up substantial expertise and production capacity during the last 10 years. While, on the one hand, the market for these products is shrinking in Europe, on the other, there are also strong competitors like Taiwan, Thailand, Korea, Malaysia and Singapore, which have also acquired export capabilities in these sectors. Competition among developing countries will thus be tougher than before.

Because of increasing environmental controls, any product certified to be pollution-free is expected to perform better hereafter. 'Niche' sectors such as waste water treatment are also expected to have better prospects.

Future prospects of sustained growth in the chemical industry are outside the developed world. Chemical industry in these parts has reached a high level of maturity and is increasingly R&D oriented. Areas of growth are Eastern Europe, the Pacific Rim, India, China, etc.

The Asia-Pacific region is emerging as the future market for chemicals. Forecasts indicate that as much as 40 per cent of chemical growth will be accounted for from this part of the globe. According to industry forecasts, chemical demand is growing at an annual rate of nearly 10 per cent in the Far East. The likely rate of future growth in demand from this region is also projected to outstrip the rate of growth in other regions. The US and European companies are moving in a big way into markets of the Far East. Some are even using Japan as a springboard to gain access to the growing markets of the region. South Korea is experiencing a rapid growth in petrochemicals, and measures are being taken to avert over capacity in it.

Much of the planned investment in the developing Asia-Pacific economies is for either chemical raw material complexes, producing ethylene and aromatics, or plants for production of the chemical raw materials for industrial growth. Asian producers have increased their market share in a number of key sectors. The Asia-Pacific region now accounts for 34 per cent of all synthetic fibres and 17 per cent of all plastics produced. It is likely that the polyester market would grow by 10 per cent a year over the next five years. However, this growing market for synthetic fibres is being strongly contested by companies from Japan, Europe, Taiwan and South Korea. In East Asia, plastics and textiles expansions are expected to fuel demand for additives and dyestuff chemicals. The fibres sector is also seen as an area of growth.

Petrochemicals are a fast-growing area in the Asia Pacific region, in particular, in Taiwan, South Korea, Malaysia, the Philippines, Thailand and Indonesia. There is a general upscaling of petrochemicals facilities in these countries, especially in South Korea, where the situation is heading towards over capacity. Taiwan, Malaysia, the Philippines, Thailand and Indonesia are all seeking to enhance their domestic petrochemical capabilities through foreign investment.

The chemical industry has become increasingly conscious of environmental concerns, which may spread to affect other industries as well. India cannot escape tougher environmental standards. All EU countries have stringent environmental laws, particularly for chemicals, given their risk-prone characteristics. Therefore, for any project exports or technological collaborations through joint ventures, India should formulate similarly tough environmental protection measures.

14.6 INDIA'S COMPETITIVE ADVANTAGES AND DISADVANTAGES

Growth in value of world merchandise exports by product groups reveals that chemicals product group registered the third highest growth rate of 22%, after office and telecom equipment (26%) and iron and steel (25%) in 1995 over the previous year. Polymerisation products and medicinal, pharmaceutical products are the major items of this industry, accounting for more than 45 per cent of its total exports. Nitrogen compounds and products of condensation are the other important items in the group. During 1991-95, world imports of chemicals registered an annual growth of 11.9 per cent.

Exports of medicinal products, carboxylic acids and perfumery cosmetics continued to grow rapidly. Below average growth was recorded for dyes, cellulose derivatives, plastic materials and pesticides.

As developed world consumes about 70 per cent of the global production of chemicals, world trade too is virtually among developed countries. USA and Germany are the leading exporting countries and are followed by UK, France, Switzerland, Japan and Belgium. Among the developing countries Korea Republic has a significant share in hydrocarbons (6.0%), products of condensation (4.5%) and polymerisation products (4.2%) and Hong Kong, India and China have considerable share in synthetic dyes exports. China is a major exporter of plastic materials also. Imports too are dominated by developed countries. Korea Republic and Hong Kong are the only developing countries having significant imports.

Though India has substantial exports in some of the sectors such as medicinal, pharmaceutical products, synthetic dyes, nitrogen compounds and products of condensation, overall share in the chemical group is below one per cent. The recent growth rate in India's exports, 27.4 per cent in 1997-98 , is indicative of the growing acceptability of Indian products overseas. Owing to the high cost of labour, the overheated economies of many countries are endeavouring to re-locate their manufacturing and sourcing bases. Industry should take advantage of the emerging opportunities.

India's competitive advantages and disadvantages of chemical sector may be evaluated through the SWOT analysis. Let us evaluate strength, weakness, opportunity and threat of chemical sector.

SWOT ANALYSIS (Strength, Weakness, Opportunity, Threat)

Strengths

- Easy availability of a highly skilled pool of technical and scientific manpower gives a technological edge and helps creation of value addition from basic stage to finished products.
- Industry is six decades old with well-diversified sectoral composition.
- Important linkages with the other sectors of the economy and provides vital inputs.
- Easy availability of raw materials/feed stocks such as naptha, gas, ethyl alcohol etc.
- Presence of MNCs in the industry is an added advantage.
- From position of net importer, the industry graduated to a growing exporter with 14 per cent contribution to total exports.
- Excellence in R&D aided by national and private sector institutions, provides an edge.
- Low cost of technical manpower gives a competitive edge.
- Indian patent act being amended to be in tune with GATT regulations.
- Petrochemicals has been declared as a "Thrust Area" by Government of India for prioritised development.

- India has, over the years, developed strength in sectors like dyestuffs, pesticides, organic and inorganic chemicals, drugs and pharmaceuticals, plastics, rubber processing, synthetic fibres etc. India is also strategically located in Asia.

Weaknesses

- Contract manufacturing in India has not yet developed.
- The chemical industry worldwide spends a high proportion of production costs on R&D, whereas in India it is not so.

Opportunities

- Petrochemicals are a fast growing area in Asia-Pacific region. Most countries in the region are seeking to enhance their domestic petrochemical capabilities through foreign investment.
- In East Asia, plastics and textiles expansions are expected to fuel demand for additives and dyestuff chemicals.
- Owing to the high cost of labour, the overheated economies of many countries are endeavouring to re-locate their manufacturing and sourcing bases. Industry should take advantage of the emerging opportunities.
- Future prospects of sustained growth in the chemical industry are outside the developed world. Areas of growth are Eastern Europe, the Pacific Rim, China etc.
- Two biggest customers of the chemical industry namely, construction and automobiles are undergoing radical changes due to trend towards wider use of new materials such as optic fibres, super polymers, composites, fine ceramics, fibre reinforced plastics etc.

Threats

- The chemical industry has become increasingly conscious of environmental concerns. All EU countries have stringent environmental laws, particularly for chemicals, given their risk-prove characteristics.
- Rapid technological obsolescence is one of the prominent features of the chemical industry.

14.7 PROBLEMS AND SUGGESTIONS

The track record of growth of the Indian chemical industry cited above should be viewed against several restraints that apply to it. It has to enlarge the product range and improve the quality to match the international standards and meet the rapidly changing demand pattern and preference of the customers. This calls for continuous upgradation of technology, which in turn often entail additional investments. While doing so, under Indian conditions, it has to put with high costs of borrowings together with the inadequate, inefficient and yet expensive infrastructure and utilities like power, water, transport etc., all of which erode the industry's competitiveness vis-à-vis imported goods. While it is denied level playing field on these counts, the high level of local levies add to the cost to the ultimate consumers and removal or reduction of customs tariff further add to its woes. On the other hand factors affecting growth of exports of the chemical products are by and large general in nature, but a few of them are industry specific. Exports can only flourish and become competitive in a supportive infrastructure. This calls for fast clearance of documentation formalities, port formalities, easy availability of finance at competitive rates, etc. Our efforts should be to minimise cost of production by eliminating various hidden costs. The Govt. of India is seized of these problems and is taking suitable steps wherever necessary. Indian industry too, should reorient its focus to produce mainly for exports.

The Indian chemical industry, which had been on a path of high growth since the process of liberalisation was initiated, slowed down in 1996-1997. The growth rate seen in the last year

was even lower than that for the manufacturing sector as a whole. The trend is expected to improve further.

The industry will continue to be a net exporter, the trade balance may be higher in the coming years due to larger production from new capacities coming on stream in the industry. The competitiveness of the industry will be severely tested as protective import duties on finished products come down further and foreign majors seek to establish a toe-hold in the industry. FDI inflows into the industry have been a significant portion of the total inflows, but are still low compared to the levels being seen in other developing countries.

14.8 LET US SUM UP

The chemical industry has recorded an impressive growth during the last few years. It plays an important role in India's industrial and economic development. The major components of chemical industry are: chemicals and organic chemical, petrochemicals, bulk organics, alcohal based chemicals, speciality chemical, Pharmaceuticals, oil and gas, etc. The chemical industry has to ensure safety of health and environment, hence, it has larger responsibility.

The exports of chemical products have been steadily growing. It contributes 14% to the country's export earnings. Chemical exports from India are destined to both developed and developing countries. Major markets include: West European countries, USA, UAE, etc.

India enjoys competitive advantage in the area of chemical products due to easy availability of work force, diversified sectoral composition, linkages with other sector, easy availability of raw materials, excellent R & D, thrust area by the govt and strengths in various sub-segments of chemical sector. Despite these strengths, the growing environmental concern and rapid technological obsolescence pose a severe threat on this sector. India requires to manufacture high quality environment friendly chemical to catch the growing market of chemical export.

Check Your Progress B

1) Enumerate five group of chemical sector.

.....

.....

.....

.....

2) Enumerate five strengths of India's Chemical sector.

.....

.....

.....

.....

3) Enumerate five opportunities of India's chemical sector.

.....

.....

.....

.....

4) State whether following statements are **True** or **False.**

i) North America has a dominance presence in the world chemical industry.

ii) Asia-Pacific is emerging as the future market for chemicals.

iii) Exports of medicinal products, carboxylic acids and perfumery cosmetics continued to decline.

iv) Imports of chemicals are dominated by developed countries.

v) Rapid technological obsolescence is one of the prominent features of the chemical industry.

14.9 KEY WORDS

Intellectual Property Rights: Rights of the originator of an innovation or a product to hold international rights for a period of time.

Global Restructuring: Restructuring into distinct groups to retain competitiveness.

14.10 ANSWERS TO CHECK YOUR PROGRESS

A 4 i) True ii) False iii) False iv) True v) True

B 4 i) False ii) True iii) False iv) True v) True

14.11 TERMINAL QUESTIONS

1. Describe various components of chemical sector. What factors have helped in the growth of chemical industry in India.
2. Do you think that India's chemical exports have been growing? Discuss. Explain various sectors and markets for India's chemical exports.
3. Describe the avenues and prospects for India's chemical exports.
4. Explain India's competitive advantages and disadvantages of chemical exports.