

SOURCING, PROCESSING, MANUFACTURING AND EXPORT STRATEGY OF INDIAN GEMS AND JEWELLERY INDUSTRIES

1.0. Introduction

Gems and jewellery form an integral part of Indian tradition. A legacy passed from one generation to another. The components of jewelry include not only traditional gold but also diamond, platinum accompanied by a variety of precious and semi-precious stones. Jewelry designs can vary from *vintage* and *antique* designs to *ethnic* designs to very flashy and chunky jewelry. Often *stone-studded*, *engraved*, *electroplated* and designed using various colors for creating an eye-catching effect, these jewelry items are designed for different occasions including bridal jewelry, formal and informal jewellery. The intricate motifs still holds the same charm as they did centuries ago simply because of their absorbing styles.

The gems and jewellery industry occupies an important position in the Indian economy. It is a leading foreign exchange earner and also one of the fastest growing industries in the country. The two major segments of the sector in India are gold jewellery and diamonds. Gold jewellery forms around 80 per cent of the Indian jewellery market, with the balance comprising fabricated studded jewellery that includes diamond studded as well as gemstone studded jewellery. A predominant portion of gold jewellery manufactured in India is consumed in the domestic market. Gold imports in the period of January-April 2010 were pegged at 126 tonnes, up 74 per cent from 72.3 tonnes in the previous year. Gold imports stood at 739 tonnes during the period April 2009-March 2010. According to MMTC statistics, the net imports of gold bars in 2009-10 was estimated at US\$ 6.91 billion, netting the growth rate at US\$ 49.62 over the corresponding month in 2008-09 at US\$ 4.62 billion.

In diamonds, however, a major portion of rough, uncut diamonds processed in India is exported, either in the form of polished diamonds or finished diamond jewellery. Besides being the largest

Abstract

Gems and Jewelleries occupy an important position in the Indian economy. This sector is a leading Foreign Exchange earner and also one of the fastest growing industries in the country. The major constituents of Gems and Jewelleries are precious metals such as gold, diamond, silver, as well as coloured Gemstones. Gold jewellery forms around 80 per cent of the Indian jewellery market, with the balance comprising fabricated studded jewellery that includes diamond studded as well as gemstone studded jewellery. The Indian gems and jewellery industry is competitive in the world market due to its low cost of production and availability of skilled labour equipped with latest State-of-the-Art technologies. In addition, the industry has a worldwide distribution network, which has been established over a period of time. India has set up more than 3,000 offices worldwide for promotion and marketing of Indian diamonds. G & J market is expected to grow at 40% p.a. to \$2.2 billion by 2010. Exports expected to grow from \$15.5 billion in 2005 to over \$25 billion by 2010. The future growth of the industry, to a large extent, will depend on global sourcing of raw material, innovations in processing, manufacturing, and designing together with sound and conducive export strategy as well as supportive government policies. The paper attempts to highlight these aspects; also suggesting therein the future growth perspectives of this important sector of the economy in a globally competitive manner.

consumer of gold, India is also the leading diamond-cutting nation in the world. India is the world's largest diamond cutting and polishing centre in the world with 11 out of 12 diamonds sold in the global market being processed in the country. Surat is India's diamond processing hub, contributing over 80 per cent of the country's diamond processing industry with annual revenue of around US\$ 13.03 billion.

2.0. INDIAN GEMS & JEWELLERY INDUSTRY—HIGHLIGHTS OF MARKET SIZE

The Indian gems and jewellery industry is competitive in the world market due to its low cost of production and availability of skilled labour. In addition, the industry has a worldwide distribution network, which has been established over a period of time. India has set up more than 3,000 offices worldwide for promotion and marketing of Indian diamonds. The Indian diamond industry has acquired leadership position in cutting and polishing of rough diamonds. India has the world's largest cutting and polishing industry, employing around 800,000 people (constituting 94 per cent of global workers) with more than 500 hi-tech laser machines. The industry is well supported by government policies and the banking sector - around 50 banks provide nearly US\$ 3 billion credit to Indian diamond industry. India is therefore a significant player in the world gems and jewellery market both as a source of processed diamonds as well as a large consuming market. Given below is the status of top ten destinations of India's Export for Gems & Jewellery in the world market during 2000-2003 periods.

Table 1: Top Ten Destinations of India's Export for Gems & Jewellery

Rank	Country Name	2000 - 2001 Value (In Million US\$)	2001 - 2002 Value (In Million US\$)	2002 - 2003 Value (In Million US\$)
1	U S A	2746.7212	2647.9774	3379.6951
2	Hong Kong	1748.3202	1689.3412	1884.8304
3	Belgium-Luxembourg	910.7119	865.0038	1028.5247
4	U A E	444.3111	546.4051	666.3678
5	Japan	387.0294	382.6252	420.1709
6	Israel	274.1978	258.628	413.9042
7	Singapore	121.7066	123.9816	260.4733
8	Thailand	190.8861	238.4102	234.2034
9	U K	149.1006	174.5455	210.0823
10	Switzerland	143.3983	121.3638	118.8112

Source: DGCI&S

The Gems and Jewelry market in India has a very strong potential due to low production cost and highly skilled labour. Here, gold dominates the market accounting for highest demand though in recent years platinum and diamonds are the top fashion symbols. Stones have also taken a place among a different group of people who believe in spiritualism; still this segment is on the development stage. In terms of regional classification, each region accounts for a special type of jewelry or follow a traditional style of jewelry making, like Karnataka is famous for temple jewelry. The rural jewellery market in India is set to grow strongly despite the global economic meltdown. Overall sales of jewellery dominated by the plain gold variety in India through 2008 rose by 23 percent over 2007.

India is the fastest-growing jewelry market in the world. 'Branded jewellery' is likely to be the fastest-growing segment in domestic sales. G & J market is expected to grow at 40% p.a. to \$2.2 billion by 2010. Exports expected to grow from \$15.5 billion in 2005 to over \$25 billion by 2010. According to Credit Analysis and Research Limited (CARE), the domestic jewelry market in India is pegged at US\$ 16 billion and contributes over 18% of the overall export turn-over. India-the largest consumer and importer of gold in the world imported around 400 tonnes of gold during 2008-09. Global consultancy firm GFMS Ltd estimated India's total gold demand at 432 tonnes in 2009. India contributes 4% of the global Gems and Jewellery market and accounts for 20% of the global consumption. India is the largest diamond cutting and polishing center in the world and the third largest consumer of polished diamonds after USA and Japan.

The organized sector of the gems and jewelry industry in India is estimated to grow at 40 per cent per annum to US\$ 2.2 billion by 2010. The *Gem and Jewellery Export Promotion Council's* (GJEPC) performance figures for the financial year 2009-10 showcased the true resilience of the Indian industry over the last year whence it continued with its consistent plans of building trading relations and penetrating newer markets. In its bid to enhance the market strategy, a *gems and jewelry special economic zone (SEZ)* sprawling over 40 acres with an investment of US\$ 441.1 million is being planned to be set up by Gold Souk- the jewelry mall developer. The company plans to have residential apartments named Gold Souk City, apart from having gems and jewelry manufacturers from Thailand and

Dubai who will open their units in India. Total net imports of gems and jewelry during the period April 2009 - March 2010 touched US\$ 27.49 billion, thereby posting a growth to the tune of US\$ 19.9 million over corresponding month in the previous year, according to the GJEPC.

The following tables (2 &3) give a detailed account of net imports as well as net exports of different categories of Gems and Jewelleries items to and from India during 2005 & 2006 along with % of growth over the previous year.

ITEMS	April-August'06 (Provisional)		April-August'05 (Same ports as current year)		% Growth / decline over previous Year	
	Rs. In Crores	US \$ in Million	Rs. In Crores	US \$ in Million	Rs.	US \$
Rough Diamonds	14860.87	3239.54	16314.25	3722.74	-8.91	-12.98
(Quantity in Lakh Carats)	(627.1857)	(627.1857)	(731.95)	(731.95)		
Gold Bar	3226.60	703.37	2950.68	673.41		
Others **	281.36	61.90	294.00	67.05	-4.30	-7.68
Total	18368.83	4004.81	19558.92	4463.20	-6.08	-10.27
Cut & Polished Diamonds	3646.23	791.56	7115.56		-48.76	-50.51
Others ***	829.97	183.09	495.56	113.15	67.48	61.81
Total Imports	22845.03	4979.46	27170.04	6175.88	-15.92	-19.37

Table 3: Net Exports of gems & Jewelleries during 2005-06

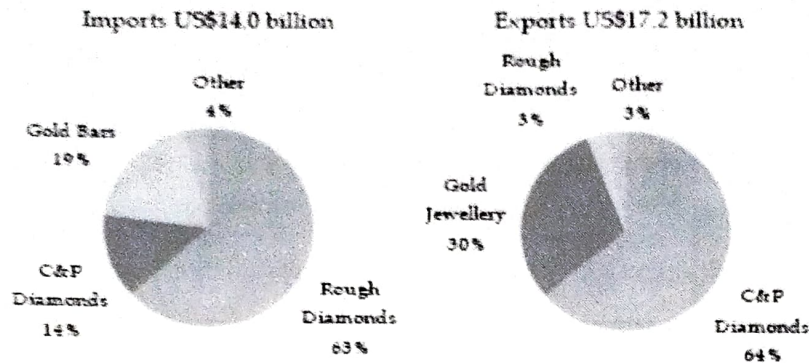
ITEMS	April-August'06 (Provisional)		April-August '05 (Same ports as current year)		% Growth / decline over previous Year	
	Rs. In Crores	US \$ in Million	Rs. In Crores	US \$ in Million	Rs.	US \$
Cut & Pol Diamonds *	19033.70	4179.65	21864.76	5030.81	-12.95	-16.92
(Quantity in Lakh Carats)	(140.48)	(140.48)	(194.28)	(194.28)		
Gold Jewellery - D. T. A.	5325.01	1170.27	4098.67	943.30	29.92	24.06
SEZ / EPZ / EOU	2914.92	638.76	2011.47	462.70	44.92	38.05
Total	8239.93	1809.03	6110.14	1406.00	34.86	28.67
Coloured Gemstones	414.05	90.07	380.16	87.44	8.92	3.01
Others	297.93	65.26	266.81	61.35	11.40	6.37
Net Exports	27984.91	6144.01	28621.86	6585.60	-2.23	-6.71
Exports of Rough Diamonds	966.29	212.16	1048.59	241.12	-7.85	-12.01
(Quantity in Lakh Carats)	(153.836)	(153.836)	(150.83)	(150.83)		
Total Exports	28951.20	6356.17	29670.45	6826.72	-2.42	-6.89

Source: MMTC, August, 2006

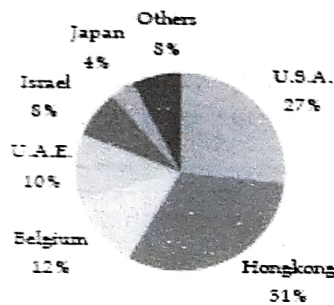
It would be seen from above tables that rough Diamonds constitute the major importing item followed by the Gold bar to cater to Gems and Jewellery industries in India. Similarly, cut & polished Diamonds and manufactured as well as designed golden jewelleries constitute the bulk

of export earnings for India. The progressive status of Import and Export of Gems & jewelleries in real value terms during 2006-2007 and market segments of cut-&-polished Diamonds as well as Jewellery items to major Export destination countries are shown below in Fig.1.

India's imports and exports of raw material and gems and jewellery (2006-07)



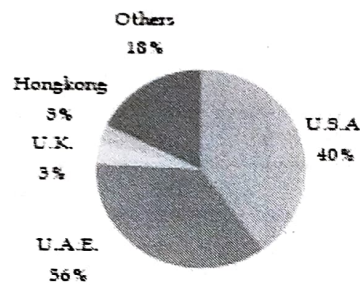
Exports of cut and polished diamonds (2006-07)



US\$10.9 billion

Source: GIEPC

Exports of Gems and Jewellery (excluding Cut and Polished Diamonds) (2006-07)



US\$6.3 billion

India is the world's largest diamond cutting and polishing centre in the world with 11 out of 12 diamonds sold in the global market being processed in the country. Data from Rapaport—the primary source of diamond price and market information—indicated that during April 2009 to January 2010, India's polished diamond exports were up by 11 per cent at US\$ 13.8 billion from the corresponding period of the previous fiscal, while polished diamond imports increased 15.5 per cent to US\$ 8.5 billion.

The rural jewellery market in India is set to grow strongly despite the global economic meltdown. Overall sales of jewellery dominated by the plain gold variety in India through 2008 rose by 23 percent over 2007. In the time of economic depression, budgetary pressure is a major constraint, resulting high gold prices. The situation of the Indian jewelry sector is cautious for the next two years (2010-2012) due to high prices and budget constraints. The global demand for precious metals for manufacturing of jewellery has gone down by more than 700 tonnes from 2004 to 2008.

Disposable income is one of the factors influencing demand for diamond jewelry; with growing income level purchasing power of individual is also becoming strong. Overall exports during the period between April 2008 and February 2009 saw gems and jewellery exports at US\$~ billion, showing a decline (but a rise of 5.65 percent in rupee terms) as compared to US\$~ billion in the same period previous year. There is a massive demand for hand-made jewellery, especially in ethnic Indian designs, from the sizeable Indian emigrant population in the Middle-East, South-East Asian countries, the US and Canada among others.

3.0. MARKET STRUCTURE AND G&J GROWTH POTENTIAL

The Indian Gems & Jewellery industry is highly fragmented with a large number of domestic private sector companies. A large portion of the market is in the unorganized sector. India is gaining prominence as an international sourcing destination for high quality designer jewelry.

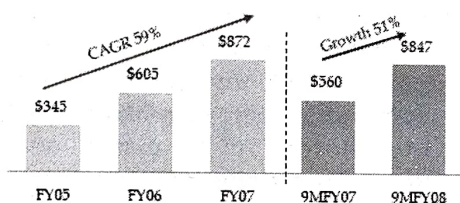
Walmart, JC Penney etc. procure jewelry from India. To encourage domestic industry, 100% FDI is permitted in the Gems & Jewellery sector through the automatic route. SEZs and Gems and Jewelry Parks have been set up to promote investments in the sector. India has several well recognized strengths which have made it a significant force in the global Gems and Jewelry business in view of following strengths:

- Highly skilled, yet low-cost labor.
- Established manufacturing excellence in jewelry and diamond polishing.
- India is the most technologically advanced diamond cutting center in the world.
- Opportunity to address one of the world's largest and fastest-growing Gems and Jewelry markets.
- Opportunity to leverage India's strengths to address the global market.

The 'Indian Gems and Jewellery Market' report provides a snapshot of the Gems and Jewelry industry in India. The Indian Gems and Jewellery (G&J) market contributes significantly to the Indian economy through its vast domestic and export market. India apart from being the largest consumer of gold is also the largest diamond processor in the world. Although, the gold processing industry in India has 15,000 players, there are only 80 players with revenues over USD 5 million. Despite a high growth potential for Indian gems and Jewelry in the global market India is not a major miner of precious metals and Gem-stones. All the same, the country's inexpensive and skilled workforces are one of the best in the world for processing of diamonds. Economic growth potential in terms of revenue earnings and net profit from export of Gems & Jewellery during 2005-2008 can be seen from the following graphic presentations.

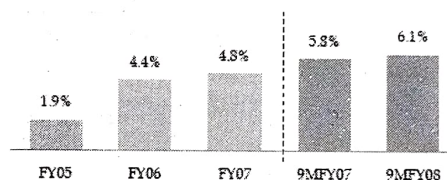
Revenues on high growth trajectory

Sales (Net) (US\$ million)



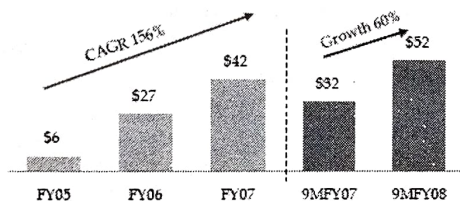
Improving business mix leading to better margins

EBITDA Margin (%)

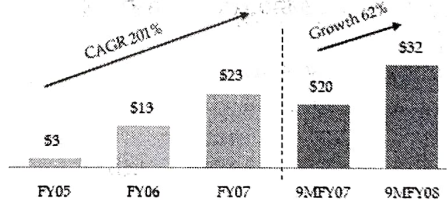


Improving business mix and operating leverage leading to strong earnings growth

EBITDA (US\$ million)



Net Profit (US\$mm)



4.0. G&J VALUE-CHAIN

The Gems and Jewellery (G&J) market essentially comprises of sourcing, processing, manufacturing, marketing and export of precious metals and gemstones, such as, Gold, Platinum, Silver, Diamond, Ruby, and Sapphire etc. The G&J market is a significant contributor to the Indian economy, based on the size of the domestic market and through its contribution to the country's exports. The value chain of the industry starts from sourcing and mining of the metals and extends to jewelry retail. While India is not a major miner of previous metals and stones, the country's inexpensive and well skilled workforce makes it a world leader in processing

of diamonds. Cutting a raw stone into a faceted and polished gemstone is a multi-step process. Each step is critical to the final outcome. The steps are: (i) Marking; (ii) Cleaving; (iii) Sawing; (iv) Girdling (Bruting); (v) Faceting (Cross Working) and (vi) Brilliantteering

Marking: A rough stone is marked prior to cleaving or sawing to determine the direction of the grain or "cleavage", eliminate waste, and bypass inclusions or imperfections. The natural shape of the rough stone will also be a major factor in deciding how to cut the stone.

Cleaving: The term "cleaving" refers to splitting a stone along its grain by striking it. A rough stone is cleaved if there are conspicuous defects

and/or inclusions which would prevent it from being made into a single gemstone.

Sawing: The rough stone is cut to a shape that approximates the shape of the finished cut stone but without the facets.

Girdling: The rough is placed in a chuck on a lathe. While the rough stone rotates on the lathe, a second diamond mounted on a dop is pressed against it, rounding the rough diamond into a conical shape. This step is also referred to as rounding or bruting.

Faceting: The cutting and polishing of each facet is accomplished by attaching the stone to a dop stick and pressing it against a revolving lap. During this faceting stage the angles of each facet must be cut in order to maintain symmetry and produce maximum brilliance.

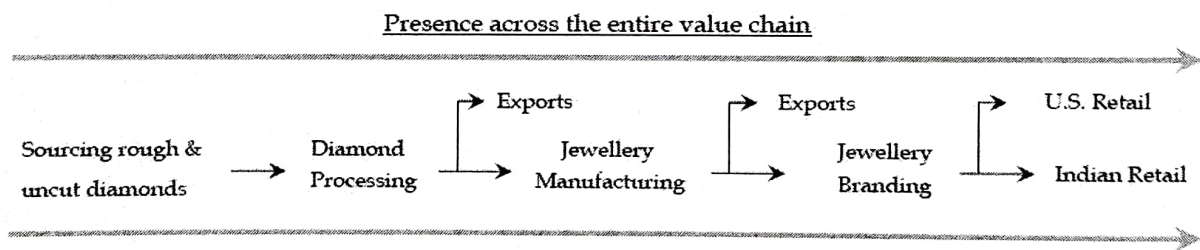
Brilliantteering: In diamond cutting, if the primary faceting or "cross-working" is done by a separate craftsman, the final 40 facets of a round brilliant cut diamond's 58 facets will be cut by a Brillianteer.

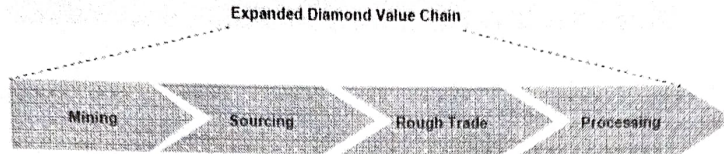
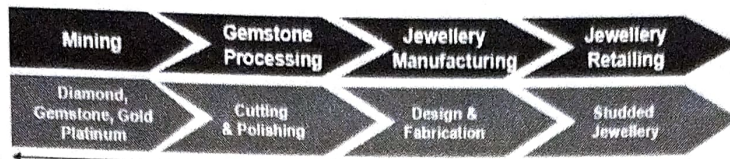
With consumer consciousness increasing, the future of organized retail in India is very bright. India has a large and growing domestic jewellery market of US\$ 8.9 billion. Jewellery retailing in India is undergoing a slow transformation from a largely unorganised sector to a more organised one. While the family owned jewellery store remains the predominant retail format, new

formats such as boutiques, supermarkets and gold souks are emerging for jewellery retail. Indian customers are displaying growing preference for quality, designs and branding. The jewellery retailing sector can offer long term benefits to organised players investing in this area.

There are a few major players in the G&J segment, with Rajesh Exports being the most dominant name. Other key players in the field include Gitanjali Gems, Suhashish Diamonds, Su-Raj Diamonds, Viabhav Diamonds and Tanishq. Many of these players are focused on developing strong brands, large retail operations, strengthening their core manufacturing operations and building a strong international presence. India's large population and rapid economic growth offer significant opportunities for growth of the industry. The emergence of jewelry retail chains provide customers with convenience and assurance of quality. The entry of foreign players is also likely to increase competition and provide consumers with greater choice. A pictorial presentation of value-chain started off with mining followed by Gemstone processing, and through to manufacturing and retailing of jewellery with focus on 'expanded value-chain for Diamond and Gujarat's predominant presence in the value-chain is depicted in Fig.2 below:

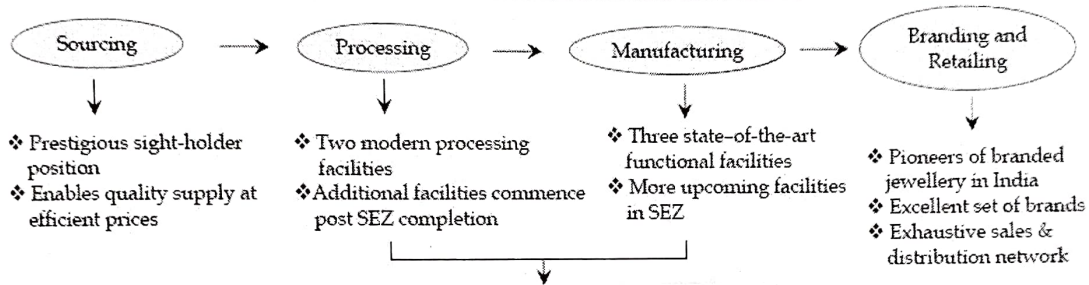
Fig.2: Gems & Jewellery Value-chain





Gujarat's Presence in the Gems & Jewellery Value Chain

	Mining	Processing	Fabrication	Consumption
Diamond				
Gold				
Platinum				
Silver & Others				



(Source: Report on “The Global Gems & Jewellery Industry, Vision 2015: Transforming for Growth”)

Following the World Diamond Council’s statement on adopting credible and effective measures against the trade in conflict gems, the Indian government has tightened its certification process for international trade. The Gems & Jewellery Promotion Council is India’s certification authority. The government’s Central Board of Excise and Customs has banned the import or export of rough diamond shipments, which are not accompanied by a ‘*Kimberley Process Certificate*’ launched in Switzerland. Certification for quality diamonds and jewellery has given a fillip to exports and resulted in greater acceptance of Indian products in the world market. India’s significance in the global gems and jewellery industry can be largely attributed to its strength in diamond processing. Value enhancement by the Indian diamond processing industry is the highest among other countries. The value addition in diamonds by Indian industry was worth US\$ 1.48 billion in 2004 compared to US\$ 840 million in 2003.

India has a comparative advantage in terms of cost as well. It has one of the lowest costs in diamond cutting - the cost per carat for cutting diamond was US\$ 10 in India in 2004 as

compared to US\$ 17 in China and US\$ 150 in USA. This makes diamonds sourced from India much more profitable. For example, diamond jewellery, which costs between US\$ 60 and US\$ 90, can be sold in the overseas market for US\$ 180. Low cost skilled labour coupled with advanced technical capabilities provides the right platform for the Indian gems and jewellery sector to grow and become globally competitive. India was the first country to introduce diamonds to the world - the country was the first to mine diamonds, cut and polish them and also trade them. Cutting and polishing of diamonds and other precious stones is one of the oldest traditions in India and the country has earned a considerable reputation both in the domestic and international markets for its skills and creativity. In the global diamond market today, diamonds processed in India account for 55 per cent share in value terms, 80 per cent share in caratage (weight) terms and 90 per cent share in volume terms. Today there is a ready availability of an entire range of diamonds in nearly every size, quality and cut. India offers the twin advantages of skilled labour and low cost, in the area of gemstone processing, as compared to other gems processing.

5.0. INDUSTRIAL CLUSTERS AND JEWELLERY MANUFACTURING

Jewellery crafting by traditional goldsmiths is confined to a few regions in India. These pockets are widely separated and involve craftsmen whose skills have been handed down over generations. Surat is an important diamond processing centre, which exports around 80% of the production and has more than 3,500 diamond processing units. Jaipur is a key centre for polishing precious and semi-precious gemstones. Delhi and its neighbouring states are famous for manufacturing silver jewellery and articles. Calcutta is popular for its lightweight plain gold jewelry. This category of jewellery finds a large market in Tamil Nadu. Hyderabad is the centre for precious and semi-precious studded jewellery. Nellore is a source for hand made jewellery that has been supplying the Chennai market for quite a few decades. Belgaum in Karnataka and Nellore together specialise in studded jewellery using synthetic or imitation stones. Coimbatore in Tamil Nadu specialises in casting jewellery. Trichur in Kerala is another source for lightweight gold jewellery and diamond cutting. Mumbai is the centre for machine made jewellery. The city is also India's largest wholesale market in terms of volume. While these clusters have evolved over time based on the availability of raw materials, skilled labour and market potential, these have been developed and made competitive through support from the government of India through its special economic zones and cluster development programmes. The clusters help in building a globally competitive environment for the Indian gems and jewellery industry.

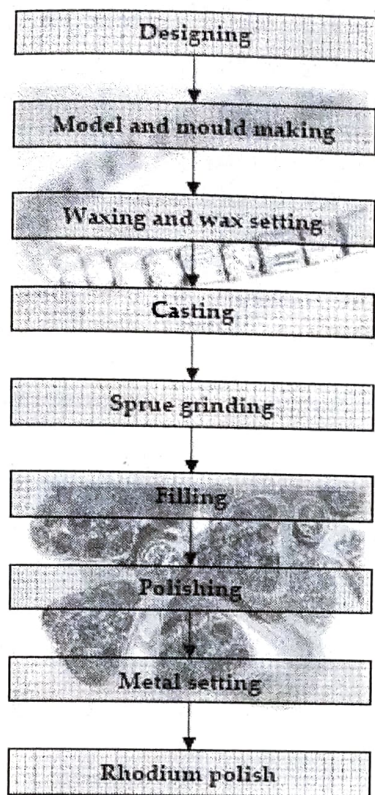
India has well-established capabilities in making hand-made jewellery in traditional as well as modern designs. Indian hand-made jewellery has always had a large ethnic demand in various countries with sizeable Indian immigrant population such as the Middle East, South-East Asian countries, USA and Canada. In recent times, India has also developed capabilities in machine-made jewellery. With imported or domestic processed studding, Indian machine made jewellery is expected to generate demand from non-ethnic jewellery markets as well. The share of gold jewellery in India's exports of gems and jewellery increased from 9 per cent in 1994 to 22 per cent in 2004, an indication of growing acceptance in the world market.

6.0. TECHNOLOGY, INNOVATIONS AND MODERNIZATION OF INSTITUTIONAL CAPABILITIES

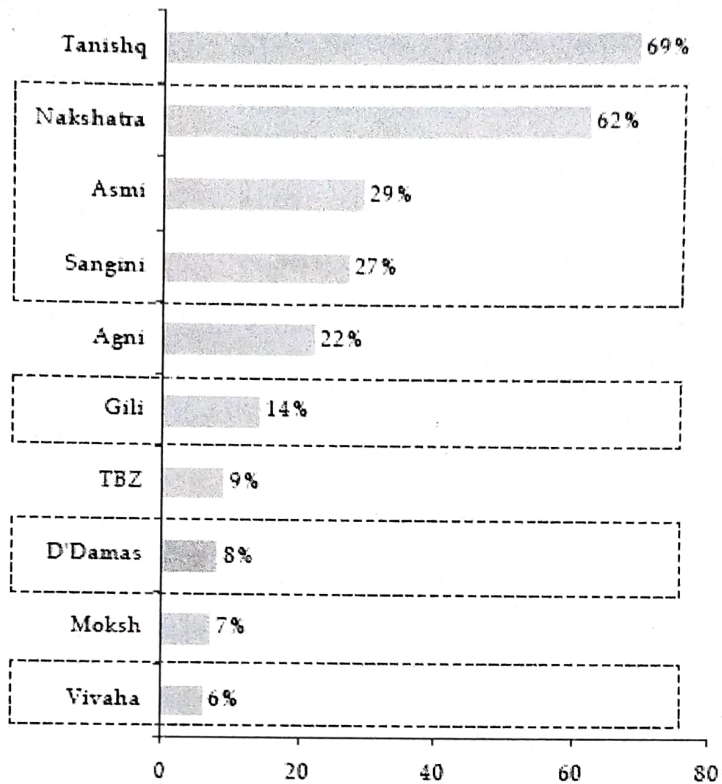
While India makes an indelible mark globally in the gems and jewelry market year after year, it is the technology that is going hand in hand to consolidate the success story. Emerging from relatively humble beginnings of a small and unorganized sector in the 1950s and 60s, the industry is well on its way to become a technology savvy corporate entity. With the domestic market peaking \$10 bn (4% of the total global market) in 2006-07 and the exports touching \$15 bn (which is 18% of India's total exports), the industry seems all set to roll.

Not to mention the rising growth charts of the industry that are pushing up the IT spends, too. With the IT spend only growing by leaps and bounds, the gem and jewelry sector is poised to become the hot sparkling destination for the technology vendors.

Nagaraj Bhargava, SAP's Vice President, Marketing and Sales Operation, associates the huge boom in the retail as one of the primary drivers for use of technology by the industry. "With world-class retail players entering jewelry retail in India, customers are changing their buying habits, and so gem and jewel retailers are placing an emphasis on producing a consistent and high-quality customer service experience." Technology is not just restricted to designing anymore-managing processes, controlling supply chain, quality assurance, export documentation, inventory management, production control; managing accounts are key areas where technology is core to driving business for many players in the vertical. For instance, Sgahajanand Laser Technology Limited - a well known entity committed to provide the best of laser solution through a broad array of Diamond Planning & Marking System, Laser Diamond Sawing System, Laser Diamond Bruiting System, Laser Marking Series, Laser Cutting Series, Plasma Cutting Machines. Company's range of products includes laser diamond processing system, diamond planning system, laser diamond sawing machine, laser diamond bruiting machine, laser diamond blocking machine, diamond cutting and polishing machine, diamond marking machine, laser welding system, solar cell cutting system, fiber laser system for cutting, marking, etc. Indian Jewellery manufacturing industries (with strong Brand Recall presence in the Indian retail Market) in essence follow the following steps:



Strong Brand Recall



Source: The Solitaire - TNS Survey 2005

For evaluating the color of a gemstone, it is crucial that the identical light source, intensity, and color temperature is used every time. A "Gem Light Box" gives off a stable 4800 to 5200 Kelvin degrees (natural, indirect sunlight). Some light boxes have a UV component to the light for grading pearls or colored stones. Diamond manufacturing factories use sophisticated electronic equipment for cutting and evaluating cut diamonds. Using the latest hardware and software to create highly accurate 3D models, these scanners measure the angle of inclination of a facet and its azimuth, allowing the operator to pre-visualize a 3D model of the cut stone. HeliumPolish Scanners are used for Round Brilliant Cuts as well as Fancy cuts. A device called a Pacor Oxygen Scanner can be used for optimizing rough stones based on purity to evaluate inclusion removal or reorientation.

The Indian gems and jewellery industry has made rapid strides in design, powered by a new generation of young, professionally trained, technology driven designers. Many of India's jewellery manufacturing facilities are equipped with the latest CAD / CAM and other advanced design systems. Technology solutions are also

available for production control, supply chain and inventory management in the jewellery industry. The 'Special Economic Zones' and 'Gems and Jewellery Parks' developed in different states offer technology-enabled environments that are conducive to growth and quality production. The gems and jewellery industry in India is a good blend of modern manufacturing and design techniques with traditional skills of the Indian artisan. The Indian industry is also compliant with international norms such as the *Kimberly Process and the Patriot Act*, etc. With well-established capabilities across the value chain, India is an attractive potential market in the gems and jewellery sector.

Technology and the information age have affected the diamond industry. Similarly, the colored stone and jewelry industry has been influenced. Optimum yield via computer for rough emerald, ruby and sapphire, as well as jewelry design via computer, showing literally thousands of different variations of a particular style are all commonplace today. Gemology, the study of gemstones is usually divided into two major categories, that of diamonds and that of all other gemstones, including colored stones and pearls.

Today, almost every diamond of a carat or more sold by manufacturers, at the diamond bourses around the world to retailers and ultimately to consumers is accompanied by an independent grading certificate adhering to the internationally accepted system for diamond grading. The maturation of the gemstone cutting industry and the jewelry manufacturing business both have led to become necessary trade components. Another industry, which has recently evolved alongside the gem and jewelry industry, is professional appraising. This industry has developed over the last 20 years; where appraisers were once considered generalist tradesmen, today they are specialized professionals. The International Gemological Institute, Mumbai - the largest independent grading and appraisal organization in the world, is dedicated to serving the diamond, colored stone and jewelry industry in all its facets. Our standards of excellence have earned us a global reputation for integrity, accuracy and reliability.

India has a large number of institutions to support the designing and development of gems and jewellery in India. Various institutes across the country offer diploma courses in jewellery designing. Some of the institutes offering these courses are NIFT (Mumbai), Indian Diamond Institute (Surat), Jewellery Design & Training Institute (Noida), The Gemological Institute of India (Mumbai) etc. These courses provide inputs and training on the different kinds of stones, colour schemes in jewellery, design themes, presentation and framing, designing individual jewellery pieces, men's jewellery, costume jewellery, jewellery costing among other information. These institutes provide a regular supply of trained manpower with the required skills and knowledge and thus help the industry to grow and become competitive.

7.0. EXPORT SCENARIO AND FUTURE PERSPECTIVES

Exports of gems and jewellery from India primarily happen out of units based in the Special Economic Zones (SEZs) and Export Promotion Zones (EPZs). Examples include Santacruz Electronics Export Processing Zone (SEEPZ, Mumbai), Madras Export Processing Zone (MEPZ, Chennai) and Noida Export Processing Zone (NEPZ, Noida). These supply primarily diamond-studded jewellery, while a few units in the domestic tariff area (DTA) cater to the ethnic population overseas, supplying plain gold jewellery. The main markets of USA, Middle East

and Europe account for more than 80 per cent of total jewellery exports.

The future of the industry is quite promising. More and more buyers across the world are turning to India as their preferred source for quality jewelry. The *Gems and Jewellery Export Promotion Council (GJEPC)* is looking at exploring new markets, such as Africa and Latin American countries. The industry also plans to make India a trading destination for cut and polished diamonds, and is closely working with the Government of India in this regard. The long-term prospects looks good with jewelry exports expected to touch US \$ 20 billion in 2010 according to industry estimates.

The jewellery industry in India contributes over 15% of the country's total exports and provides employment to 1.3 million people directly and indirectly. In 2006-07 India's gem and jewellery industry recorded exports of US\$ 17.1 billion and exports of diamond merchandise alone touched US\$ 9.77 billion. In 2007-08, exports recorded a 22.27 per cent growth touching US\$ 20.88 billion with diamonds accounting for 70.59 per cent of the total exports, gold jewellery accounting for 26.91 per cent, coloured gem stones and others accounting for 1.32 per cent and 1.16 per cent respectively.

The gem and jewelry sector accounted for 13.41 percent of India's total merchandise exports in 2007-08. In comparison, total imports of gem and jewelry provisionally rose to \$18.5 billion in 2007-08, growing 32.5 percent from 2006-07. The 2008-09 fiscal also started on a positive note, with the gems and jewellery exports rising by nearly 17 per cent to US\$ 9.05 billion during April-August 2008, compared to US\$ 7.74 billion in the corresponding period last year. Significantly, rough diamond exports stood at US\$ 386 million while cut and polished diamond exports increased by 22 per cent to US\$ 6.5 billion.

India's gem and jewellery exporters rely a lot on clients of the US, China, Russia, Commonwealth of Independent States (CIS) and the UAE for a major portion of their revenue. While the US and Hong Kong account for 26 percent of total gem and jewelry exports, the UAE account for 21 percent, Singapore 9 per cent and Belgium 8 Per cent.

7.1. Composition of Exports:

- **Gold Jewellery Exports:** This segment registered a growth of 8.07 per cent with the exports of US\$ 5622.41 million during

April 2007-March 2008 as against US\$ 5202.48 million during April 2006-March 2007.

- **Cut and Polished Diamonds:** The share of this segment in the exports stood at US\$ 14180.28 million (provisional) for the period April 2007-March 2008.
- **Coloured Gemstones:** This segment accounted for exports worth US\$ 276.42

million (provisional) for the period of April 2007-March 2008. This segment grew by 12.15 per cent in April 2007-March 2008. The major destinations for Indian jewellery exports have been the United States, UAE, Hong Kong, Singapore, Belgium and Israel.

The overall scenario of Import & Export of Indian Gems & Jewellery during 1973- 2006 is depicted in the Table (4) below.

Table 4: Indian Gems and Jewellery Exports & Imports

FY	Exports-billion		% of total exports	Imports-billion		% of total imports	Trade Balance-billion	
	Rs.	US\$		Rs.	US\$		Rs.	US\$
1973	0.79	0.10	4.0%	0.42	0.05	2.2%	0.38	0.05
1995	141.31	4.50	17.1%	51.17	1.63	5.7%	90.14	2.87
1996	176.44	5.27	16.6%	70.45	2.11	5.7%	106.00	3.17
1997	168.72	4.75	14.2%	103.84	2.93	7.5%	64.88	1.83
1998	198.67	5.35	15.3%	124.21	3.34	8.1%	74.46	2.00
1999	249.45	5.93	17.8%	158.20	3.76	8.9%	91.25	2.17
2000	325.09	7.50	20.4%	235.56	5.44	10.9%	89.54	2.07
2001	337.33	7.38	16.6%	219.63	4.81	9.5%	117.70	2.58
2002	348.45	7.31	16.7%	220.45	4.62	9.0%	128.00	2.68
2003	437.01	9.03	17.1%	293.41	6.06	9.9%	143.68	2.97
2004	485.86	10.57	16.6%	327.57	7.13	9.1%	158.29	3.44
2005	618.34	13.76	16.5%	423.38	9.42	8.4%	194.96	4.34
2006	688.30	15.55	15.1%	404.69	9.14	6.4%	283.61	6.41

Compiled by ICRA

The bulk of the Indian GJ exports comprise import of rough diamonds, cutting and polishing in India, and re-export. As per data released by the Gems & Jewellery Export Promotion Council (GJEPC), cut & polished diamonds (CPDs) accounted for 71.1% of India's GJ exports of Rs. 733 billion during FY2006, followed by gold jewellery (23.2%), rough diamonds (3.4%), and others (2.3%). Thus, two items viz. CPDs and gold jewellery account for around 95% of India's GJ exports.

With negligible production of gold and diamonds, the Indian GJ industry is almost entirely dependent on imported raw materials. During FY2006, imports of pearls, precious & semi-precious stones aggregated Rs. 404.69 billion (US\$9.42 billion), accounting for 11.2% of India's non-bulk imports, and 6.4% of total imports. The Indian GJ industry is also a major earner of foreign exchange, with a trade surplus of Rs. 283.61 billion (US\$6.41 billion) during FY2006, as compared with an overall trade deficit of Rs. 1,757.27 billion (US\$39.69 billion). The GJ industry has contributed significantly to the shift in India's exports. They, along with chemicals and allied products, engineering goods, ready-

made garments, textile yarn, fabrics, made-ups have been the main drivers within the manufactured product exports during the last decade. With the increase in exports in recent years, the GJ industry has also accounted for an increased share of gross bank credit (GBC) of scheduled commercial banks (SCBs). With GBC of Rs. 198.66 billion in March 2006, the industry accounted for 3.61% of industry GBC of SCBs in March 2006, as compared with 2.7% in March 2000 (ICRA, 2006).

8.0. EXIM POLICY OF GEMS & JEWELLERY SECTOR

Export Import Policy or better known as Exim Policy is a set of guidelines and instructions related to the import and export of goods. The Government of India notifies the Exim Policy for a period of five years (1997-2002) under Section 5 of the Foreign Trade (Development and Regulation Act), 1992. The current policy covers the period 2002-2007. The Export Import Policy is updated every year on the 31st of March and the modifications, improvements and new

schemes became effective from 1st April of every year. All types of changes or modifications related to the Exim Policy is normally announced by the Union Minister of Commerce and Industry who coordinates with the Ministry of Finance, the Directorate General of Foreign Trade and its network of regional offices. The Exim Policy of Gems & Jewellery Sector is spelt out as follows:

1. Diamonds & Jewellery Dollar Account for exporters dealing in purchase /sale of diamonds and diamond studded jewellery.
2. Nominated agencies to accept payment in dollar for cost of import of precious metals from EEFC account of exporter.
3. Gem & Jewellery units in SEZ and EOUs can receive precious metal Gold/silver/platinum prior to export or post export equivalent to value of jewellery exported. This means that they can bring export proceeds in kind against the present provision of bringing in cash only.

9.0. GEM AND JEWELLERY EXPORT PROMOTION COUNCIL (GJEPC)

Set-up in 1966, the GJEPC has over the years effectively moulded the scattered efforts of individual exporters to make the gem and jewellery sector a powerful engine driving India's export-led growth. This apex body of the gem & jewellery industry has played a significant role in the evolution of the Indian gem and jewellery industry to its present stature. GJEPC is continuously working towards creating a pool of artisans and designers trained to international standards so as to consolidate the Indian jewellery industry and establish it as a prominent global player in the jewellery segment. With strength of 6,500 members' spread all over the country, the Council is primarily involved in introducing the Indian gem & jewellery products to the international market and promotes their exports. To achieve this, the Council provides market information to its members regarding foreign trade inquiries, trade and tariff regulations, rates of import duties, and information about jewellery fairs and exhibitions.

The role of GJEPC can be broadly classified under the following categories:

- **Trade Facilitator:** The Council undertakes direct promotional activities

like organising joint participation in international jewellery shows, sending and hosting trade delegations, and sustained image building exercises through advertisements abroad, publications and audio-visuals. GJEPC also invites countries to explore areas of co-operation in supply of rough diamonds and rough colored stones as well as offers co-operation in jewellery manufacturing. The Council regularly communicates with Indian Embassies, trade bodies and associations in various countries. And finally, GJEPC also organizes seminars, buyer-seller meets, symposiums.

- **Advisory Role:** A crucial area of activity of the Council has also been aiding better interaction and understanding between the trade and the government. The Council takes up relevant issues with government and agencies connected with exports and submit documents for consideration and inclusion in the Exim Policy. The Council also grants membership, registration certificates and performs other roles as per the Exim Policy.
- **Nodal Agency for Kimberly Process Certification Scheme:** GJEPC works closely with the Government of India and the trade to implement and oversee the Kimberly Process Certification Scheme. To that effect, the Council has been appointed as the Nodal Agency in India under the Kimberly Process Certification Scheme.
- **Training and Research:** The Gems & Jewellery Export Promotion Council runs a number of institutes that provide training in all aspects of manufacture and design in Mumbai, Delhi, Surat and Jaipur. These training programs are being conducted to ensure that the Indian industry achieves the highest levels of technical excellence.
- **Varied Interests:** The Council also publishes a number of brochures, statistical booklets, trade directories and a bi-monthly magazine - Solitaire International, which is distributed internationally as well as to its members. Finally, the Council has also developed its own promotional audiovisual film - 'India - Your First Choice', which is dubbed in various international languages as well as screened at various trade shows.

10.0. GEM AND JEWELLERY TRADE COUNCIL OF INDIA (GJTCl)

This Council is established with the main aim of boosting the gem and jewellery trade of India. It plays an important role in showcasing the Indian gem and jewellery to the international market. It is a council formed to enhance & boost the jewellery trade of India by resolving various issues of the trade by escalating various to the relevant high authorities. It also indulges itself in disseminating latest information to its jeweler-members through a monthly newsletter, various educative & trade-motivational events such as seminars, workshops, exhibitions, festivals etc. The Bureau of Indian Standards: This National Standards Body of India is responsible for hall marking of gold jewellery and certification of its purity.

10.1. Government Regulations and Policy Support

Over the years the Indian Government has taken the following measures to boost the gems and jewellery sector:

- In 2004-05 the government lowered import duty on platinum from US\$ 13.82 per 10 gm to US\$ 5.03 and exempted rough coloured precious gems stones from customs duty at the first stage itself, instead of claiming reimbursements later.
- Rough, semi-precious stones are already exempt, a move aimed at further promoting the exports of studded jewellery and platinum jewellery.
- Import of gold of 8 carat and above allowed under the replenishment scheme subject to the import being accompanied by an Assay Certificate specifying the purity, weight and alloy content.
- Setting up of SEZs and gems and jewellery parks to promote investment in the sector.
- In May 2007, the government abolished import duty on polished diamonds.
- Cutting and polishing of gems and jewellery treated as manufacturing for the purposes of exemption under Section 10A of the Income Tax Act.

In the New Annual Supplement to Foreign Trade Policy (2004-2009) announced on April 19, 2007, the Government has extended the following facilities to this sector:

- Service Tax on services (related to exports),

which are rendered abroad have been exempted.

- Re-import of Diamonds & Jewellery (either in complete or partial lot) exported on consignment basis have been allowed.
- In the light of increase in global prices of precious metal, duty free entitlement for consumables for export of rhodium plated silver jewellery has been increased to 3 per cent.
- To reduce the transaction cost for the diamond sector, testing facility at International Diamond Laboratory (IDL), Dubai, has been incorporated in the list of laboratory/certifying agencies.
- Duty free import entitlement of tools, machinery & equipment has been allowed. For metals other than gold, platinum, it will be 2 per cent and for gold and platinum, it will be 1 per cent of FOB value of exports during the previous financial year.
- Categorization of exporters as One to Five Star Export Houses has been changed to Export Houses and Trading Houses with rationalization and change in export performance parameters.
- In addition, the Government has decided to make gold hallmarking mandatory from January 1, 2008. It has also made the import of polished diamonds completely duty free. Also, special economic zones dedicated to gems and jewellery are to come up in Surat, Kolkata, Goregaon, Dhulia and Hyderabad.
- The Government is also set to unveil the new mining policy to make it easier for foreign and domestic firms to invest in the exploration and mining of diamonds, gold and other metals. Currently, India produces merely 0.4 per cent of its gold consumption despite having 9 per cent of global gold reserves.

The Government of India (GoI) has been working to develop the gems and jewellery industry in India through several initiatives.

- The Indian gems and jewellery export industry had its modern beginning in the 1960s, when the Government of India introduced the Replenishment (REP) licence, allowing an importer to import rough diamonds worth 80 per cent of the value of his exports. The REP licence thus provides the foreign currency needed to

purchase rough to manufacture the relevant type of polished diamonds. At the outset, a 45 per cent customs duty was levied on rough diamond imports, but this duty was reduced to NIL in the Union Budget of 2003-04.

- The EXIM Policy for 2002-07 contains a special focus on exports of gems and jewellery through market access initiative schemes, duty free imports and appropriate adjustments in value addition norms.
- The government has set up various special economic zones (SEZ) for gems and jewellery industry with specific incentives provided to units in SEZs. Gems & jewellery units in SEZs and Export Oriented Units (EOUs) can receive precious metal, viz, gold/silver/platinum prior to exports or post exports equivalent to value of jewellery exported. This means that they can bring export proceeds in kind against the present provision of bringing in cash only.

Besides, the Foreign Direct Investment Policy of the Government of India, *inter alia*, provides for the following to stimulate the future growth of Gems and jewellery industries in India:

- 100% FDI is allowed under automatic route for exploration and mining of minerals other than diamonds and precious stones.
- For exploration and mining of diamonds and precious stones FDI is allowed up to 74% under automatic route.
- For exploration and mining of gold and silver and minerals other than diamonds and precious stones, metallurgy and processing, FDI is allowed up to 100% under automatic route.

CONCLUSIONS

There exists a huge domestic as well as global market for the 'Gems and Jewellery (G&J)' sector – the backbone of the Indian economy, with a very high potential for future growth. While there is a clear need to diversify the sourcing of the precious metals and coloured gemstones for expanding the value chains of G&J Sector, there should be a sharper focus on setting up of '100% Export Oriented Units' as 'Industrial clusters' of 'G&J Parks' in the 'Special Economic Zones' with adequate back-up of financial, infrastructural and policy support by the Government for ensuring long-term sustainability with global competitiveness. Application of the State-of-The-Art technology in Diamond polishing and processing and innovations in designing of Gems and Jewellery (inclusive of Imitations and Artefacts) will go a long way to achieve future excellence by the manufacturers and exporters of Gems & Jewellery of Indian origin. Benchmarking of International quality standards for G&J Brands by conforming to the laid-down procedures of *Kimberly Process and the Patriot Act*, will allow the industry to be globally competitive.

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