

# Surat – An Industrial Urban Cluster for Textile Business :

## (From Past to the Present)

**Neha C. Singapuri**

M Phil (Law) Research Scholar at Parul Institute of Law, Parul University, Waghodia, Vadodara, Gujarat

**Dr. J. T. Desai**

Resource Person, Parul Institute of Law and ex. Dean of Faculty of Law,  
Veer Narmad South Gujarat University, Surat, Gujarat

### Abstract

The name Surat one can find even in a holy book Mahabharat. It is one of the most important trading centers from Moghul era and was known for its Jari work. Due to the port status, last 500 years are the witness of its global presence and because of the same it had attracted people of various nations. After the arrival of British people in India, it emerged as a center of textile and specific community of textile weaving, dyeing and tying migrated from villages of near by regions and also from Sindh and Rajasthan. After the independence, it emerged as an art silk capital of India and after the globalization and technology development, today; it is one of the important urban cluster for textile business.

**Keywords :** Surat, Art Silk Manchester of India, Traditional Community, Moghul era and Textile Hub

### About the Corresponding Author:

**Neha C. Singapuri:** She is a practicing advocate in Surat City of Gujarat State. She has done her Graduation in Commerce (B Com) and Graduation in Law (LL B) from VNSGU, Surat, Post Graduate in Business Management (MBA-International Business) and Post Graduation in Law (LL M – International Trade Law and WTO) from National Law University (NLU), Jodhpur, Rajasthan. At present she is a research scholar (M Phil – Law) at Parul Institute of Law, Parul University, Waghodia, Vadodara.

## 1. SURAT AND ITS DEVELOPMENT

Surat is one of the fastest developing metropolitan area of the world and is 9<sup>th</sup> largest metropolitan city of India [1]. Surat is located at the delta region of Tapti river, Latitude 21°15' N and 72°52'E [2], which is one among the important rivers of South Gujarat [3].

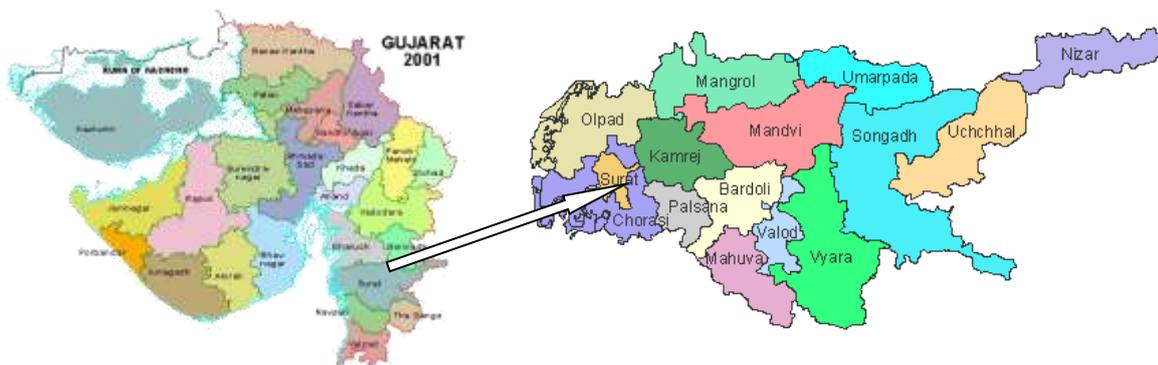


Figure :1 Location map of Surat

Surat city is having a coast line of around 6 kms [4] is now the 8<sup>th</sup> largest city of India as per population [5-6]. The population of city has grown from less than a quarter million in 1950 to around 5.5 million today [5,7]. Also the area of Surat city expands from 8 km<sup>2</sup> to 326 km<sup>2</sup>[8].

Surat city is known for its economic base on unorganized industrial development [4,9,10]. The industrial development in Surat city is promoted by state government and has multiple effects on its metropolitan area in terms of pollution, land rates and population growth [11]. It has been observed that in metropolitan area of Surat, the level of pollution is increasing due to the industrialization, urbanization and vehicular traffic [11,12]. Due to the expansion of the industries across the metropolitan boundaries of Surat, the population density also increasing in the outskirts of the city [1,11]. The industrial policies of state government have played a major role in the development of metropolitan area of the Surat; and because of the same there is a change in its land use pattern and spatial development [11].

## 2. GEOGRAPHY AND DEMOGRAPHY OF SURAT

The city of Surat is situated on the bank of river Tapi, Latitude 21°15' N and 72°52'E [2]. The Surat district has ten revenue tehsils namely Choryasi, Palsana, Kamrej, Bardoli, Olpad, Mangrol, Mandvi and Surat city. The climate of the city from March to May is warm and moist. The rainy season extends from mid of June to beginning of October, and then October remains mostly dry. The winter season extends from November to February. The average rainfall is 100 centimeter (or 39.5 inch) but in last ten years the figure is varying between 48~65 inch. Surat is having a strategic position on Ahmedabad-Mumbai corridor and is connected by railway at a distance of 230 kms from Ahmedabad, 256 kms from Mumbai and 129 km from Vadodara. Arabian Sea is only 18~20 kms from the city and a famous port of Magdalla is very near to city boundaries. The city is situated on a left bank of Tapi River, 14 miles from its mouth [13].

In last 500 years or so, Surat developed from small town to a metropolitan hub (SUDA, 1980). Details of the same is as follows :

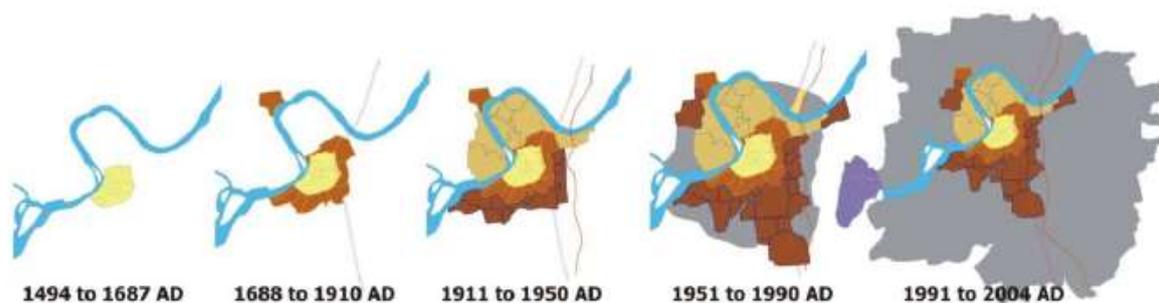


Figure.2 Development of Surat as a metropolitan hub [1]

Surat is located at the delta region of Tapi river, which is one among the important rivers of South Gujarat [2,11]. Surat is one among the oldest and prominent business center of India before the British people came in 17<sup>th</sup> century due to its location near to the sea and is in a delta region of Tapi river [11]. Surat city is having a coast line of around 6 kms (Mahadevia and Shah, 2010) and is now the 9<sup>th</sup> largest city of India as per population [5,6]. The population of city has grown from less than a quarter million in 1950 to around 5.5 million today [5,7]. Also the area of Surat city expand from 8 km<sup>2</sup> to 326 km<sup>2</sup>[8].

### Demographic Details of Surat Urban Agglomeration

Surat as a metropolitan region having two governing bodies Surat Municipal Corporation, SMC – ULB and (ii) Surat Urban Development Authority – SUDA. SMC, who is responsible for management and development of infrastructure facilities in the central part of the city, where as SUDA is responsible for the outer periphery [1]. Due to the higher rate of migration of labor from various parts of India, Surat is having a highest decadal growth in India since last 30 years [1,14]. Details of the same is as follows :

Table (1) :Demographic Details of Surat Urban Agglomeration

Major Institutions	Area (Sq. Km ) in 2011	Population 1991 (in Millions)	Population 2001 (in Millions)	Population 2011 (in Millions)
SMC (OldCity Limit)	112.28	1.49	2.72	-
SMC(New City Limit)	326.515	1.63	2.88	4.46
SuratCityWith Urban Agglomeration	-	1.52	2.90	4.59

(Source: Compiled from SuratCDP , [www.suratmunicipal.org](http://www.suratmunicipal.org) and [www.censusindia.gov.in](http://www.censusindia.gov.in))

Over a period of time, the city has experienced the growth and the expansion of the physical boundaries of the city took place. From 1.78 km<sup>2</sup> in 1664 the city has expanded to 111.16 km<sup>2</sup> in 1986. Today, development in outer periphery took place along the roads and railway lines connecting Amroli, Kosad and Sayan in the north; Kamrej road and Bardoli road in the east, Udhna, Bhestan and Sachin road in the south, UdhnaMagdalla road, Vesu and new city light and Dumas road in the south-west and Pal, Jahangirpura and Rander road in the west [15-16].

### **Government Capacity in this City**

It has been observed that, municipal corporation of Surat had taken serious efforts for the upliftment of the city and initiated various steps, such as SCADA based water quality monitoring, system for fundamental rights of the citizen (e-governance), development of tertiary treatment plant to supply the treated water to industries of Pandesara and there by reduced the load on fresh water plant, door-to-door waste collection system, and improving health and hygiene of its citizens, etc. to strengthen their presence among the citizens of Surat [17]. Due to the implementation of e-governance scheme and financial help under JnNURM, SMC has made its presence on global level and begged many awards [17]. One of the remarkable work done under this was a removal of slum from the flood prone and vulnerable area of tapti river and relocate them with EWS (economically weaker section) and LIG (low income group) housing at the Kosad and Bhestan area under PradhanmantriAwasYojna and MukhyamantriAwasYojna. At present under an initiative of Smart City movement, ULB is insisting to install photovoltaic (PV) cells based roof solar panels on houses to generate electricity through renewable source [17,18].

Rockefeller foundation of the leading NGO who is working for the development of 100 resilient cities; has selected Surat as one of the resilient city and developed a resilience plan for addressing the future needs, population growth, climate change and various environmental issues due to the industries of MSME and Cottage type [17]. They have proposed integrated planning approach for the Surat city to develop it as a resilient city [17]. Under a leadership of ex. Police Commissioner, Shri Rakesh Asthana, the local industrialist came forward and developed Surat city as a smart city and install CCTV cameras at major roads of the city under public-private-partnership (PPP) mode [17,19,20]

Surat is India's 12<sup>th</sup> and Gujarat's 2<sup>nd</sup> most populous city and is one among the 11 cities in the country, which has acquired a metropolitan status in 1991 census by crossing the one million mark. The 1961 census classifies the Surat City as a "manufacturing town" [21]. Due to the agglomeration of unorganized industrial clusters, around 88.4% of the total urban population of the district is living in the Surat metropolitan area [5]. This can be considered as a sturdy pointer of specific economic and social activities took places in the industries of the city [21].

### **3. SURAT AND REGIONAL CONTEXT**

The Surat district has ten revenue tehsils namely Choryasi, Palsana, Kamrej, Bardoli, Olpad, Mangrol, Mandvi and Surat city. The climate of the city from March to May is warm and moist. The rainy season extends from mid of June to beginning of October, and then October remains mostly dry. The winter season extends from November to February. The average rainfall is 100 centimeter (or 39.5 inch) but in last ten years the figure is varying between 48~65 inch. Surat is having a strategic position on Ahmedabad-Mumbai corridor and is connected by railway at a distance of 230 kms from Ahmedabad, 256 kms from Mumbai and 129 km from Vadodara. Arabian Sea is only 18~20 kms from the city and a famous port of Magdalla is very near to city boundaries. The city is situated on a left bank of Tapti River, 14 miles from its mouth [3,13].

Surat is one among the most vibrant city of India having a fastest growth rate due to immigration from various part of Gujarat and other states of India [22,23]; also recently it is included among the 100 smart cities development as per the plan of prime minister of our nation [15,24]. Rockefeller foundation of USA is declared it as a most resilient city of India [25]. As of now, Surat and its metropolitan area had a population of more than 5 million [5,26]. Till today, Surat continues the same tradition as people flocking from all around the country for job, business and trade and is one of the most dynamic city of India [18,22]. Surat has practically zeroed percent unemployment rate and jobs are easier to get here due to very fast development of various industries in and around Surat City [18,27].

The city of Surat is being considered as a commercial and financial capital of the Gujarat state and due to its location on DMIC corridor, and two major industries of textile and diamond, it is having a crucial role in the GDP of our nation [16,28]. Surat is having a strategic place between Ahmedabad and Mumbai regional corridor and has a direct rail, road connectivity with major industrial pockets and urban centers of Gujarat state [28]. The city is having a regional importance due to its presence on "Golden Corridor" of industrial belt of western India [16].

In present time as well, Surat is one the biggest small-scale industrial center of South Gujarat with a valuable contribution in FOREX earning for our nation (Brief Industrial Profile, Surat district, 2011). The development of various industries in Surat has been disorganized due to the lack of governmental control and entrepreneurship approach for home based cottage type units [4,29]. India exported 16 billion USD of textiles in the year 2016 which is 5.7% of total world exports, the second largest individual country to do so [28]. The total exports increased to USD 37.74 billion in the financial year 2017-18 [28]. The industry registered an export growth of 7.5% in the country's 12<sup>th</sup> fifth year plan [30] and contributes to 15% of country's export earnings – one of the largest in the country [28], 2% of GDP and 7% to the industry output in terms of value [28].

#### 4. IMPORTANCE OF SURAT FOR THE INDUSTRIAL DEVELOPMENT

Surat is one of the fastest developing metropolitan areas of the world and is 9<sup>th</sup> largest metropolitan city of India [1]. Surat as a city inherits its locational advantage from British period and is located on one of the busiest national highway (NH # 8) of India located across the industrial belt stretches from Vapi to Mehsana. Also it is located on the proposed Delhi-Mumbai Industrial Corridor (DMIC) and because of the same it is having strategic importance in industrial and urban planning area [4,31,32]. The city of Surat is being considered as a commercial and financial capital of the Gujarat state and due to its location on DMIC corridor, and two major industries of textile and diamond, it is playing a crucial role in the GDP of our nation [16,28]. Surat is having a strategic place between Ahmedabad and Mumbai regional corridor and have a direct rail and road connectivity with major industrial pockets and urban centers of Gujarat state [28]. The city acquires a regional importance due to its presence on “Golden Corridor” of industrial belt of western India [16]. Surat city is known for its economic base of three basic industries, such as textile, diamond and Jari and most of the population of the Surat city is involved in these industries [1,4,9,10,11]. These three industries are a backbone of the major economic growth of the city [1,11,15,17]. Due to the industrial nature of the city, majority of the labor force of textile and diamond industry comprises of migrant labor where as local people are employed in Jari industry [1,14].

##### 4.1 National Contribution by Surat [57]

Business statistics of Surat revealed its national and global importance from following :

- 42 % of the world's total rough diamond cutting and polishing,
- 70 % of the nation's total rough diamond cutting and polishing,
- 40 % of the nation's total diamond exports,
- 40 % of the nation's total man made fabric production,
- 28 % of the nation's total man made fiber production
- 18 % of the nation's total man made fiber export, and
- 12 % of the nation's total fabric production.

#### 5. INDUSTRIAL DEVELOPMENT AND ECONOMIC GROWTH

Along with an urban sprawl, the recent industrial and economic growth has become a subject of considerable interest among sociologists, linguists, urban planner, advocates, foreign trade experts and the economists [33]. Its industries were largely planted and boomed in the man-made fiber industry during the year of 1970-1996 and in diamond industry after 1980, especially after 1991 and till continues [4]. Surat a city of historical importance, caught up with momentum of moving towards industrial growth unprecedented in its history [10]. As the industry expanded, approach and strategy of its local entrepreneurs changed. They focused upon technological innovation and they opened indentations for their products towards exports in the international markets with their personal qualities of openness, trust and business working culture [4,10,35].

From the data, it has been found that the periphery area of SMC boundary has experienced a rapid growth in past few decades [1,15,36], where as central city or CBD has low growth rate indicates the migration of people from Central area of the city to the outer periphery and the area of old city is converting from residential to industrial and commercial centers.

Due to the location advantage of near vicinity to Mumbai, Surat has a sufficient potential to develop as a “satellite industrial town” acting as a feeder to the industries in the commercial capital of the country [37]. Since then the industrial face of the city, earlier known for Jari, art silk and diamonds business, has made rotated towards corporate industries [37,38]. Nowadays, Surat is emerging as a potential hub for information technology and telecommunication sector in Gujarat. Hazira and Magdalla Ports located in a district extends its logistic support to the industrial operations for meeting the global demand [2].

It has been observed that before the 1970s, the SuratCity's economy was influenced by the jari and art-silk industries. The world famous Kancheevaram sarees of the south India used to get the real Jari made from gold

and silver threads / linings from Surat [37]. Today, another variety of Jari, named as imitation jari, is used for the fabrics made of cotton, art-silk and polyester [4,37].

After 1960s, the diamond industry has witnessed the real thunder current in the business [27,39] and has seen rapid growth in post globalization period [27,37]. Uncut diamonds were imported from the mines of Africa, Australia, Russia and Canada [27,39,40,41] and the SurtiPatels' - the original artisans - used their expertise in cutting and polishing the diamonds [27,39]. The growth of the diamond, gem and jewellery industries continued due to the boom in the export sector [39]. Nine out of ten diamonds produced in the world and eight out of ten sarees are from this city [27,39]. Around 50% of the migrant people from within and outside Gujarat state has spread to 326.5 sq. km geographically on the bank of perpetual river Tapi[3,6,24]. Due to the sacred importance, the Tapi river is having an affecting creature for the public of Surat city as the water of the river is considered an instrumental tool for their prosperity [24].

The plain and fertile land of this area and that of its proximity to Arabian Sea with long coast, connectivity to Ahmedabad and Mumbai through rail and road, and as well as their inborn creative working trait have been responsible for its glory as a world known commercial city. It became a busy commercial center by the end of 19<sup>th</sup> century [27]. In present time as well, it is one the biggest small-scale industrial center of South Gujarat with a valuable contribution in FOREX earning for our nation [2].

Though, relatively recent industrial growth process has been a very important factor in determining the international business pattern, but together with it, the artistic and creative nature of 'Surti' and Palanpuri people, hard working nature of Kathiyawadi and Orissawasi people and business nature of Punjabi and Marwadi people, its past economic history, and the present time commercialization have contributed a great deal in placing Surat on the commercial map of India and world[7,27,35,42]. In matters of industrialization and economic development, Surat has relatively high position in the State and as well as in national economy[7,27,35,42]. In fact, Surat was known for its Jari work on fabrics/brocades/laces, weaving, handloom and the cutting and polishing of diamonds. Surat was also famous for Kinkhab cloth and polishing of gemstones since Moghul period, which had a good export market[10]. Thus, the art of cloth weaving and skill of gemstone polishing are inborn among the local people and the task is inherited by the generations. In the same way the art of hardworking and to combat against severe conditions is inborn among the Kathiyawadi due to their exposure in agriculture profession as a farmer and the same is inherited by the generations made them successful entrepreneur. A large section of the weaver and polisher community takes it a way of life rather than a purely commercial proposition [7,27,35,42].

The specific characteristics of Surat's decentralized household industry are highlighted and also as how it has survived and sustained large-scale production, adopting various technical changes, as well as innovative designing at various stages [43]. Local and migrant entrepreneurs played the role of catalyst between the big capitalists and unorganized sector and further made full use of official policies and utilize their financial acumen. They managed to control the production process through their manipulations and swayed the income distribution for their personal gains[4,27,35,44].Owing to man-made fiber and diamond industry in Surat, its specific and typical characteristics and the nature of growth of this small-scale sector, its geographic location, hardworking and enterprising trait of the people, Surat city has come up as one of the most developing industrial centers in the country [4,27,35,44]. It's attaining as the character of an upcoming profit zone, the city has become the Asia's fastest developing city and at the same time [6,24] it is opening up to complex health social problems [43]. Informal economic relations, availability of finance from both formal and informal channels, excellent business opportunities for both local and global markets and employments have attracted entrepreneurs and large numbers of workers from various parts of the country [24,27]. As a result of that, the population has risen from 4,71,656 in 1971 to 24,50,000 in 2001 and 44,61,000 in 2011 [1,2,44]. The figure of floating population of Surat city has crossed 65,00,000 mark in 2019.

In the last two decades or so the industrial landscape of the city has attained a new dimension with the coming of heavy industries such as, Reliance Industries Ltd. (RIL), Essar Steel, KRIBHCO, ONGC, NTPC, L & T, GAIL, Shell, on the outskirts of the city in the Hazira industrial complex [2]. The total investment in the Hazira belt is to the tune of around Rs. 18,860 Crore [37]. Heavy plant equipment, LPG, sulphur, synthetic yarns, sponge iron, urea, ammonia are produced by these industries which have a major contribution in our national economy and GDP [27,42].The rapid industrial growth of Surat depends upon decentralized small-scale household based industries, which are deploying Lacs of migrant workers. The household industries include mainly three major industries, (i) Jari Manufacturing, (ii) Weaving, (iii) Cutting and polishing of diamonds [4,27,42] Productions of man-made fiber fabrics along with its ancillary units (such as dyeing and printing process house and texturizing) engage most of the people in the city [7,46]. In recent times, Jari industry has lost its prime position and it employs around 45,000~50,000 workers only [4]. Diamond industry has been maintaining a status quo and it deploys around 6,50,000~8,00,000 workers and majority of them hail from

Kathiyawad-Saurashtra and belongs to Patel community [27,40,41]. Apart from this, other communities like Koli, Patel, Vankar and Other Backward Castes (OBC), and workers from Maharashtra, Madhya Pradesh, Rajasthan, Bihar and Uttar Pradesh are also working in diamond industry of Surat. Surat is having more than 3,000 units of diamond processing [41].

The character of small-scale household based textile industries in Surat began to change after the availability of electricity in 1925 [37,41]. It led to the emergence of factories on a small-scale giving a thrust to overall expansion of textile weaving industry [37,41] and later on up gradation of these units with modern plant and machinery, such as Ravier Looms, Water Jet Looms, Air Jet Looms and Embroidery Machines. The new 'Export Policy' was introduced in 1954 has paved the way for prosperity of the city, and it led to the expansion of man-made fiber industry [27,42]. After the release of new economic policy in 1991, add further prosperity to the city and it led to the expansion of diamond cutting and polishing industry, which has resulted in an initiation of movement towards the development of corporate professional and practices in business to meet the global challenges mainly in the area of managing FOREX and brand [27].

Surat witnessed unprecedented growth during the decade of seventies and eighties in textiles and in nineties and millennium diamonds, constraints were felt due to the absence of local marketing facilities, finished products manufactured in Surat used to be sent to Mumbai for sale and exports as well as processing [4,27,42]. After the establishment of textile markets in Surat, the whole market of textile shifted to Surat [7,27,35,42,46] and industrialist and government has also realized to develop the specific infrastructure facilities (like specialized industrial park or zone) in Surat to have the direct trading (imports and exports) facilities from Surat [47,48,49].

In fact, more than 48% of the population of the city is involved in the textile industry [4,27,42]. Although the textile industry has brought about an influx of wealth into the city, this by no means exempts Surat from the welfare and infrastructure problems that trouble most of India. "The labor laws in Surat are far more relaxed than those in Mumbai [41,47]. The regional government is very co-operative in assisting the industry, land is cheaper and the flow of experienced labor is greater than that in Mumbai [27,41,47]]. This is why Surat has become the manufacturing center, with Mumbai more focused as a trading center [27,47,49].

The textile business sectors of Surat has played major role in the socio-economic development of the city [4,10,50 51] The textile and businesses are carried out in some specific areas of the city since their inception [7,35,46]. As far as diamond business is concerned, its manufacturing carried out in Varachha, Ved Road and Katargam area where as its selling is carried out on the streets of Mahidharpura and Mini Bazar [27,41]. Textile fabrics manufacturing are carried out in the outskirts of the city and its selling is done in the middle of the city, i.e. in textile markets situated at the ring road. Some of the dyeing and printing houses are still in operation at the middle of the city and poses the issues of pollution and health hazards to the citizen of the city. Also the GIDC of Pandesara where majority of the dyeing houses are in operation are being covered by the residence premises due to the urban sprawl [52,53].

City Resilience Study (2015) has emphasized that the textile cluster of Surat city needs attention for its relocation in view of the amount of the waste water generation and burning of fossils fuels for their thermal need. Compare to both these industries, Jari industry which is a part of textile industry is totally operated on a cottage level in the old wall city of Surat and is mainly managed by the specific communities of Surat [54,55]. This Jari (or Zari) industry is a kind of family-owned, community-center enterprises managed by skill-oriented people [54,55]. This Zari industry is operated through traditional machines and mindsets of entrepreneurs and because of the same; it is having the problems of quality, standardization and global marketing [55]. This Jari industry is using hazardous chemicals and materials for the extraction of gold and silver threads [54] and creating pollution issues in the central part of the city. To cope up with these issues, there is a need to develop a specific cluster of Zari industry and improve the trade and business practices.

The development of various industries in Surat has been disorganized due to the lack of governmental control and entrepreneurship approach for home based cottage type units [4,29]. Most of the units are either unlicensed or unregistered and operate from the home based cottage based clusters in central part of the Surat city [29]. Hence, it is very much difficult to derive a trustworthy figure of numbers of units operating in the city in different industries [29]. The municipality of Surat was established as long ago as 1852 and since then civic amenities such as, hospitals, public gardens, etc. have gradually been growing [44]. For the first time in India, a public body was incorporated for electricity business in 1883. (The Surat Electricity Co. Ltd., now Torrent SEC Ltd.). The migrant workers associated with textile and diamond industry are living in slums of Udhna, Pandesara, Varachha Road, Katargaam and other outskirts areas of the city [29]. Surat provides 1.7 million industrial employment with over 0.7 million employment in textile sector, around 0.05 million in 'Jari' sector and 0.8 million employment in diamond sector [29]. Surat today has nearly 0% unemployment [56] due to the unparallel growth of various industries in and around its periphery, as detailed below :

Table (2) : Details of major industries in Surat[57]

Sr. No.	Major Industries (City)	Nos.
1.	Dyeing and Printing Mills	: 326
2.	Power Looms (54% of The Nation)	: 0.45 millions
3.	Texturizing Units	: 500
4.	Dyes and Chemicals	: 80
5.	Diamond Units	: 0.10 millions
6.	Zari (Jari) Units	: 6610
7.	Export in Registered Industrial Units (Rs. in Million)	: 5596.62 (97-98) and 2574.71 (up to dec.98)

After the independence, several industrial units initiated by the entrepreneurs of Surat [7,9,27,29] which has attracted labors from backward regions of India where they were getting seasonal employment in farm related activities, came to Surat through a wave of migration from Andhra Pradesh, Saurashtra, Odisha and Uttar Pradesh and Bihar [16,21,29,58]. These labors have an attachment towards their regional identity which they passionately want to conserve by their sturdy regional cohesion and intra-public bonds. However through community based grouping, they succeeded to recreate their own state which is mimicking the characteristics of their city or town in an industrial cluster area of Surat where they live. Because of such community efforts and mindset of labors for urban development, their locality mimicking the urban structure of Saurashtra, Odisha, Maharashtra, Madras Province (Andhra Pradesh) and Uttar Pradesh [16,29,58]. Most of the migrant labors are employed in industries like art silk and power looms, dyeing mills and diamond industry [16,29,58], where as Zari industry employ only people of local Rana–Gola community [4,27,29]. The migrant labors of textile are mostly residing in slum pockets [16].

Because of the operation of diamond and textile markets in the middle of the city and cottage based units of textile, diamond and zari industries [4,7,9,27,29,46], there are serious issues of traffic, goods pilferages and other social nuisances. The Southern Gujarat Chambers of Commerce and Industries has made a proposal to government of Gujarat to shift the dyeing and printing houses from Surat city to the Pinjrat village of Olpad Taluka. Some of the leading builders came forward for the shifting of textile and diamond business markets to the Sachin area and Zari association has also come forward to shift their community based zari industries to Bhestan area.

The Surat city and its peri-urban area / metropolitan region are one of the leading city-regions in the country that has attracted massive investments of which substantial proportion is under implementation. Major investments made in Surat are in the imported plant and machinery (or capital goods) for the process of textile and diamonds. The business activities of machinery import and exports of finished goods are affected by the global forces, including fluctuations in FOREX and recession in EU, USA and other parts of the world. According to CMIE 2002, the SuratCity region has a proposed investment of about Rs. 11,817 Crores. In addition projects worth Rs. 2,022 Crores are under implementation. Hazira and SEZ are major focal points for growth. Given these, the prospects of rapid growth continuing are bright [57,59].

History of textile and jari industry has its roots from Mughal era [9,100]. Before 1759 when the British took over the administrative charge of the city it had already established contacts with merchants from other European countries like Portugal, Netherlands and France. The English began their trade with Surat in 1608. Even prior to that during Akbar's time this region was known as the Emporium of Trades. The port city of Surat was actually the creation of the Mughals. Till the rise of Bombay port in the seventeenth and eighteenth centuries Surat was at the height of prosperity. The Arab, Turk, Iranian and Jewish traders settled in the town of Surat and Khambat which enjoyed the status of international ports. These traders had brisk business with neighboring countries like Java, Sumatra, Malaya, Burma, Sri Lanka, the Persian Gulf Countries, Red SeaPorts and other far flung areas. Also it had trade links with prominent cities all over India like Golconda, Burhanpur, Lahore, Ahmedabad, Agra and Delhi. By the early decade of the seventeenth century itself, Surat had acquired the status of 'one of the most eminent cities for trade in all India' [21].

Throughout the second half of the seventeenth century it served as the emporium of trade, both inland and sea-borne, and was the chief port of the Mughal Empire. In 1759, The British rulers took its control from the Mughals till the beginning of 20<sup>th</sup> century. Surat was a great commercial centre in the seventeenth century and the European nations carried on a very profitable trade there. But there were a few factors, which caused considerable disturbance and injury to the trade of the city. They were – first the raids of the Marathas, second

the attitude of the Mughal Officials towards the merchants, third piracy in Indian Waters, fourth the policy of discrimination towards Hindus and fifth, the rivalry of the European merchants [21].

Past five years data indicates that the growth rate of Surat textile industry is around 10% [60]. Based on the available information from SMC, there are around 326 Dyeing and Printing units in and around Surat city. Out of which around 78 dyeing and printing units are in operation in city limits. The dyeing and printing houses mainly produces dyed and printed fabrics, which is being sold out in textile markets located on the ring road. The main feed stock for these dyeing and printing units is clothes / fabrics produced by the weaving units. As per the information provided by Federation of Surat Textile Traders Association (FOSTA), forward integration is started in the form of fashion studios in Surat to add more value addition on the fabrics. One of the forward integration of this is initiation computerized embroidery units in Surat. As per the data obtained from Synthetic and Rayon Textile Export Promotion Council (SRTEPC), Surat and District Industries Center (DIC), Surat, there are more than 5,000 units of embroidery machines in Surat who are producing around 30,000 million meters fabrics per day. Development of embroidery design on dyed fabrics is one of the forward integration for value addition. This particular movement is known as fibers to fabrics (entire chain of textile industry) in Surat (Fibre2Fashion, 2017). Surat is producing around 30 million meters of grey fabrics and 25 million meters of dyed and printed fabrics on a daily basis [60]. Two of the leading international brands, such as Garden Vareli and Vimal (Reliance) have their textile units in Surat [60]. Also in past 15 years, some of the local manufacturers of Surat have developed their brands at India level and now they are moving further in international market, such as Parag, Rivaa, Prafful, Sahiba, Sahlon and Vipul; but they fail to create specific brand identity in international market [60,61].

As per the information obtained from Surat Jari Goods Producer Co. Op. Society, the jari industry is having its major market in South India. Earlier the weaving industry of Surat was a major buyer but due to the emergence of imitation jari (made from polyester film), the synthetic and art-silk fabrics manufacturers have started using it, which is one of the major reason for decline of the industry [54,55]. Today the entire jari industry of Surat is heavily relied on the orders from textile centers of South India, such as Kanchipuram, Madurai, Bangalore and Hubli. Based on the discussions with the members of Surat Jari Goods Producer Co. Op. Society and Surat Jari Merchant Association, it was found that they are seeking support from the government for modernization of the jari making units. Also they are instating to have a direct consumption of their products in textile industry of Surat and for that there is a need to provide support by the government to promote real silk and cotton weaving in Surat units.

Now this shifting of these markets cluster, textile and jari (zari) industrial clusters to the outskirts area of Surat city limit will pose certain issues in regional and urban planning and they are to be needed to study. Economist and foreign trade experts are now equivalently considering, Surat as a Mega City or Metropolitan area of India [6]. The decadal population growth of Surat city is 44.64% [6]. Also as per the data of census, Surat is the second most growing City of India with a rate of 58.04% [2,6].

Due to the economic recession and reduction of business activities, entrepreneurs of Surat had focused on modernization of textile industry through technical automation and because of the same, a cottage level home-based manufacturing cluster diverted to textile mill [4,46].

Surat is one among the most vibrant city of India having a fastest growth rate due to immigration from various part of Gujarat and other states of India [22,23]; also recently it is included among the 100 smart cities development as per the plan of prime minister of our nation [15,18]. As of now, Surat and its metropolitan area had a population of more than 5 million [5,26]. Till today, Surat continues the same tradition as people flocking from all around the country for job, business and trade and is one of the most dynamic city of India [18,22]. Surat has practically zero percent unemployment rate and jobs are easier to get here due to very fast development of various industries in and around Surat City [18,22,27].

After a globalization wave, Surat is a witness of rapid industrialization with the development of Hazira belt where large industries such as KRIBHCO, L&T, ESSAR, NTPC, Reliance Industries etc. are in operations [6]. Due to the liberalization of government policies, traditional industries of diamond, textile and jari also flourished and provided employment opportunities to public at large [6]. Due to the economic development of traditional industries, people from Saurashtra, Maharashtra, Bihar, Odisha, Uttar Pradesh and West Bengal also started migration in search of easy employment, resulted into a demand for housing and emergent of construction activities and need of urban planning started [6]. Today, Surat is one of the important growth magnets for the migrant public [1]. *"almost every second family of Surat is a migrant"*[1,6].

## 6. HISTORY OF SURAT AND ITS DEVELOPMENT

It is difficult to trace the history of Surat city regarding when and who built the city of Surat. Surat is one of the ancient port cities of Asia having a history dating back to the 11<sup>th</sup> century BC but today, it is difficult to find the visible signs of its maritime history [38]. Instead, the city is having industrial chimneys, huge textile market complexes, big diamond factories of state of the art (five star) levels, plenty of industrial units in a city marking their presence and the landscape are the new signposts in this city of textiles, diamonds and jari industries [27].

History indicates that Surat city is having its existence from an era of Mahabharat i.e. about year 2,500 B.C. Based on the mythological story, people of the city used to discuss about the character of Lord Krishna who stopped with his cows on his transition from Mathura to Dwarka and the images of the cow's footprints are still visible to the devotees at a place in Kamrej district, popularly called "Gai Pagla" or Foot Steps of Cows [27].

Various views have been expressed regarding the identity of Surat in mediaeval times [10]. Surat as a port town is known for its export – import business trade from 16<sup>th</sup> century onwards and had trade relations with foreign countries [4,10]. Surat as a town having its history from a period of 300 BC [38]. Surat was ruled for a longer time by the *Sauvira* kings from an era of Mahabharata, and other Hindu rulers till 1194 AD. Thereafter, up to a period of 18<sup>th</sup> century, Sultan's of Ahmedabad and rulers from Tughlaq dynasties and Mughals and others ruled the city [63].

Surat as a city inherits its locational advantage from British period and is located on one of the busiest national highway (NH # 8) of India located across the industrial belt stretches from Vapi to Mehsana. Also it is located on the proposed Delhi-Mumbai Industrial Corridor (DMIC) and because of the same it is having strategic importance in industrial map of India and have a higher potential for development of foreign trade [4,31,32].

Monier Williams in his 'Modern India and The Indians' noted that, the old name of the city was Suraj (Sanskrit Surya), city of the Sun. A Mohammedan ruler had modified its Hindi name Suraj into Surat, as mentioned in two local histories by Bakshi Walad Shah Ahmed and Munshi Gulam Moho-ud-din. The authors, however, do not refer either to the name or to the date of the Muslim King who made this change [63].

Vasco da Gama – a Portuguese explorer and first European who had invented a business trade route with India and subsequently, Portuguese had establish their business centers in India, after the same the British first came to Surat in 1608 AD and then the Dutch and the French also made this place as a foundation for their trading business with India [10,63]. Apart from this, travelers from Europe (such as from Germany and Italy) and Iran (then Persia) have made their steps in Surat for the collection of information on business trade and opportunities [10]. Based on the establishment of European colonies for trade and business, Surat was developed as an important business trading port on the western coast of India. The remnants of Mughals, Portugese, Armanian and Dutch constructions are still conserved in the modern day Surat [63]. Flags of 84 nations were seen flying on the ships of Surat demonstrating the vast range of trading partners' city had. Based on this, the province surrounding Surat is known as "Choryasi Taluka" (84 talukas or tehsils) accordingly [4,63].

Because of the trading activities with Europe, Africa and middle-east [9], Surat port had a good facilities, which had provided an opportunity for Mughals to develop it as a place for Mecca pilgrimage of Haj and the area was identified as Mecca-e-pool (bridge), known as Makkai Bridge [4]. For the purpose of Mecca pilgrimage, Mughal Sarai was constructed during the period of Emperor Shah Jahan [63], now a days, which is being used by Surat Municipal Corporation as their administrative building. In Farsi / Persian terminology, this place was addressed as "Bunder-e-Khubsurat", meaning a beautiful port. So some of the people arguing that the word "Surat" came from this popular phraseology [64]. Because of the international trade activities, Surat city has various foreign settlers comprises of Europeans, Turks, Jews, Arabians, Mughals, Persians and Armenians [10] and accordingly the areas of Surat where these foreign settlers were residing are today known as Turkiwad, Parsiwad, Mughlisara, and Sodagarwad.

There were plenty of battles between English and Portuguese sailors during a period of 1608 to 1615, for the control over Surat waters. In 1624, first trade with Holland was executed from Surat for a shipment of a cargo of Indigo. During first half of 17<sup>th</sup> century (1608 to 1658), major exports from Surat were cloth of silk and cotton variety. Majority of the public from Cape of Good Hope to China, man and women used the cloth and other commodities from China and Europe came to Surat [10].

The port of Surat acquired its commercial importance during the days of European rivalry on western coast of India, and became the administrative headquarters of the East-India Company during the early phase, which gave a stimulus to its famous indigenous industries of Gold and Silver Thread or Zari Work [9]. The Surat city was known for its fine Silks, exquisite Brocades, and vast Textile Markets. It was the textiles of Surat and its

spice trade, which brought the Europeans to India [4,9,10]. The textile weaving and dyeing of fabrics were dominated by the people of khatri community, who basically migrated from Sindh and Balochistan to Surat during the late 18<sup>th</sup> century and worship to a goddess called Maa Hinglaj of Balochistan[9].

Since centuries, Surat has been popular for gold and silver-based “Jari” (i.e. one type of metallic yarn) business and weaving activities [4,10]. Based on the mythological stories, people of the city revealed that Maharaja Shivaji during 17<sup>th</sup> century attacked Surat about seven times for valuable booty [10]. Europe had started textile production on machines in 19<sup>th</sup> century and marginalized the clothes import from India [46]. Also during this time, Surat had witnessed natural calamities of flood in Tapti river in the year of 1883, 1884 and 1894 [3] and fire incidences and insolvency of Arab Traders [4].Due to such impact of natural calamities and economic turmoil situations, Traders, artists, businessmen and citizens also moved to Mumbai; later on Mumbai was developed as a port by British people [4,9].

After the development of Mumbai (Bombay) as a business hub by the British government, importance of Surat as a port city declined [4,7,9] but has acquired the economic importance as a manufacturing hub in past 50~60 years and is one of India’s fastest developing industrial cluster zone [4,7,35]. People across the globe are also addressing Surat city as a Silk city, Diamond city, Jari City, Green City and after an event of pneumonic plague in September 1994 as Plague City [18,43,46]. After an incident of plague, government has deputed Mr. S. R. Rao as a commissioner of Surat Municipal Corporation – Urban Local Body (ULB), under his leadership and vision, Surat has been transformed from a dirtiest city to cleanest city of India [4,43].

**7. SOCIAL DYNAMICS**

Surat is one of the cosmopolitan cities of India [21]. Here in this city, people residing are having a vast diversity in terms of communities, culture, language, ethnicity and religion [17]. Even though there is a vast diversity among the people of Surat, they have united together and support each other to combat against the natural and man-made disasters [17]. The well known examples are plague epidemic, natural floods in Tapti river and floods due to the mis-management of water resources system at Ukai Dam of Tapti river [17]. Today, due to the efforts of its ex. Commissioner, Shri S. R. Rao, after an epidemic of plague, people of Surat became self resilient and developed Surat as one of the Cleanest city of India and had grab various awards for the same [17].

Table (3) : Zone wise slum pockets in Surat

Sr. No.	Name of Zone	Total Nos. of Slums	Total Nos. of Households
1.	Central	36	8673
2.	East	59	10053
3.	West	55	9586
4.	North	61	9626
5.	South	98	27935
6.	South East	60	23760
7.	South West	30	4961
	<b>Total</b>	<b>399</b>	<b>94594</b>

(Source :Surat Slum Upgradation Cell, SMC)

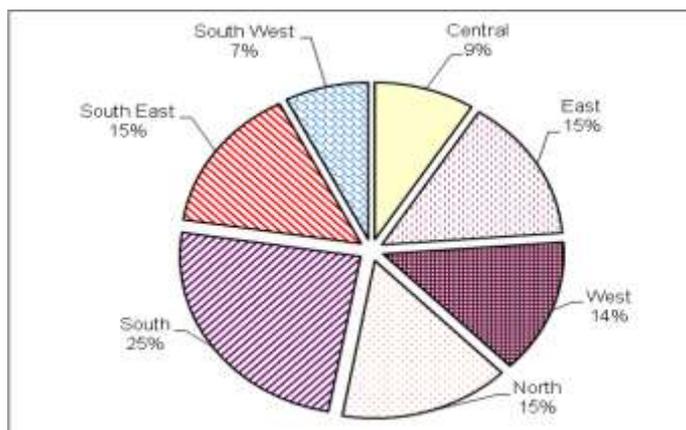


Figure.3 Zone wise slum pockets

As explained in above paragraphs, due to the fastest development of Surat metropolitan area, heavy arrival of migrant labor from rural areas of India had been observed in past few decades, resulted into the development slums in outer periphery of the city. From the secondary data, it can be said that there are around 399 slums in the city of Surat having a population of around 19.25%; out of these 399 slum pockets, 124 slum pockets are within and around the city where as 85 slum pockets are along the transportation routes. Around 51 slum pockets are in different wards of SMC [1].

Around 25% of the city's population resides in the Central Zone, which is also known as old city. The south-western zone is the most thinly populated. Surat city is having an average density of around 13,483 persons / km<sup>2</sup>. Out of all the zones, central zone is having highly dense population of around 52,000 persons / km<sup>2</sup> but this density is reducing due to the conversion of central zone as CBD [65].

The living conditions in slums of Surat are pathetic; majority of the slums are not yet been covered with basic infrastructure facilities of water and sanitation [58], and the slums where these basic infrastructure facilities of water and sanitation are provided having a poor quality [1,58]. The slums which are located within the city wall are having a facility of piped water supply where as rest other slums are not being covered by such type of network. Majority of the slums are the areas where textile industries workers are residing.

### 8. POLYCENTRIC NATURE OF SURAT

It has been found that urban spatial structure of a city can have a structure / model of monocentric and polycentric; which is mainly based on the patterns of spatial organization and employment layout across the city [66,67]. Alonso was the first, who had conceptualized the Monocentric city and being considered as the first formal model of urban spatial structure [15]. According to this concept, the monocentric city has a unique centre which is termed as Central Business District (CBD) and most of the employment opportunities are concentrated at the single place, i.e. CBD.

It has been found that over a period of time, the cities have experienced the growth which resulted into the development of dispersed employment patterns. Such cities have multiple CBDs and they differ from each other and are according to the type of employment and economic nature of the business / industry [15]. Surat as a metropolitan area bearing this particular nature and can be termed as polycentric city.

Surat as a polycentric city comprises of various clusters of industries, such as cluster of hazardous industries in Hazira belt, clusters of diamond, textile and jari industry. The cluster of diamond industry is mainly inside the city boundary of ULB in the areas of Varacchha Road, Matawadi, Lambe Hanuman (LH) Road, Ashwani Kumar (AK) Road, Katargam, and Mahidharpura. Another new cluster of diamond industry started outside the city limits of ULB at Ichchhapore. The cluster of textile (dyeing and printing houses) is mainly at A. K. Road, Katargam, Ring Road Udhna, Pandesara and Bhestan [36]. The cluster of jari industry is mainly located at Gopipura, Navapura, Mahidharpura, Saiyedpura, Salabatpura, Sagrampura and Bhatena. All these clusters are very well bounded by the residential colonies of people who are working in these clusters [15]. From this particular pattern of settlement, it can be said that Surat is a polycentric city. The residential colonies in near by area of the industrial clusters of diamond industry is mainly comprises of people migrated [14] from Saurashtra region (mainly Bhavnagar, Amreli and Junagadh) and majority belongs to a specific community of Leuva Patel and Prajapati. The cluster of textile industry is having a migrant labor from Odisha, Chhatisgarh, Uttar Pradesh (UP) and Bihar. However the Jari industry is having the labor force of local Surati people belongs to specific community of Gola, Khatri and Ghanchi and Kanbi (Patel) [14].

The major industries, which are located in and around Surat, are Textile, Chemicals, Diamond, Jari, Fertilizers, Steel Plant, Pulp and Paper etc. But mainly the business economy of Surat relies on its traditional businesses like, Textile and Diamond. Both these industries are having a typical nature and mainly run by the entrepreneurs on a Small Scale Industries (SSIs) / micro, small and medium enterprises (MSMEs) level, some are operating on cottage level too. However, traditional in nature but they provide employment to more than 16-18 Lacs people of the city directly or indirectly and generating valuable FOREX for our nations through exports of diamonds and textile materials. Most of the industries in and around Surat have been of unorganized type, such as, handlooms, Jari, Diamond, Chemical units, Plastic Units, Powerlooms and Art Silk Industries etc.

Majority of the population of Surat city comprises of labor class who are basically migrated from various parts of India. The major labor supply in textile industry is from Uttar Pradesh, Bihar and Orissa, in diamond industry it is from Saurashtra-Kathiyawad and North Gujarat where as in industry like Jari, local workers of 'Gola-Rana' community are working. As far as industrial zone of these three industries is concerned, it is divided. Units of textile industry are located at Kim-Pipodara, Palsana, Sachin, Aanjana, Udhna, Pandesara, Bhestan, Ved Road, Vasta-Devdi Road, Katargam, Ashwani Kumar (A K) Road and Kapodara, apart from this small

cottage type units are operated in areas like Khatodara and in residential areas of old city (i.e. central zone as per the SMC classification). Units of diamond industry are located at Kapodara, Varachha Road, Lambe Hanuman (L H) Road, Sumul Dairy Road, A K Road, Gotalawadi–Katargam, Ved Road, Vasta-Devdi Road and in residential areas of old city where as the Jari industry operates in old city area like, Salabatpura, Gopipura, InderpuraSaiyedpura, Mahidharpura, Khatodara and Anjana.

It has been observed that, in the areas like, A K Road, Vasta-Devdi Road, Katargam, and Ved Road both diamond and textile units are operating. It has been observed that, the associated labors of these industries are residing in nearby areas of their workplace. The textile labors are mainly residing in slum area of Pandesara, Udhna, Bhestan, Limbayat, Dindoli, Kharwasa and Sachinwhere as diamond industry labors are residing in ‘Pakka’ houses at Varachha Road, Katargam and Puna town. There is a vast difference as far as residence is concerned, compare to textile workers, the diamond workers are enjoying better residential facilities. However, it has been observed that, certain part of labors in chemical, textile, jari and diamond industry, resides in their manufacturing unit only.

Even though these industries are traditional in nature, mainly cottage type, lacking in professional business / management practices but are major contributor to economy development of our nation in terms of both providing employment and generation of FOREX for nation. It may be noted that, diamond industry has been developed without any support of State or Central government; it mainly relies on the entrepreneurial skills of KathiyawadiPatels and Palanpuri Jains.

## 9. TEXTILE INDUSTRY OF SURAT, GUJARAT

SuratCity is well known from its ancient time in India. Surat is better known as the ‘Silk City’ or ‘Diamond City’ or Jari City or Green city and is one of the rapidly developing city, bustling activities of all kinds [4,10]. Surat is also known as an Antwerp of India, ‘art silk Manchester’ of India and because of Reliance it is known as Plastic City. In Surat around 35 Lacs people are getting revenue from the textile and diamond industry [4,7,9,27,35,45,46,68]. During the Mughal period, Surat was famous for various types of cloths and fabrics, such as Kinkhab, Silk, Satin, and Brocades etc [10]. Craftsman and artisans of Surat possessed a very high level of skill and they could produce goods with intricate designs and textures [10,27].

Based on the data collected from The Southern Gujarat Chambers of Commerce and Industries (SGCCI), it has been found that the textile industry is playing a major role in the development of industrial base of Surat. Most of the units of the textile industry are of MSME (micro, small and medium enterprises), SSI (small Scale Industries) and Cottage level and operate in an unorganized sector. They are providing valuable employment to unskilled, semi-skilled and skilled artisan and have a prominent role in the economic development of the city [27,39,40]

Due to the unorganized sector of these two industries, the city is having a unique social and economic character which differentiates it from other cities of India [58]. The city has experienced niche over others due to its dissimilar economic base, favorable environment for industrial growth, availability of water, supporting nature of ULB (for gumastadhara license), and DIC (for SSI license) for cottage level units of diamond, textile and jari industry, social cohesiveness, community bonding, entrepreneurial skill of people and availability of cheap labor [16,58].

In past two and half years, the textile industry of Surat city have been affected due to the unplanned and haphazard implementation of local laws, such as GST, and laws related to subsidies to industry [69,70,71,72]. Also after the financial scams of Vijay Mallya, Nirav Modi and Mehul Choksi, financial institutions (banks) have tighten the norms for business loans and paper work have been increased to a great extent; which they are intended to relax as per the directives from Ministry of Finance of GoI in the context of recession [73].The demonetization and laps of credit under GST for textile units have affected to the financial liquidity of the entire trade [74,75,76].

Even though the textile industry is traditional in nature, mainly cottage type, lacking in professional business / management practices but are major contributor to the economic development of our nation in terms of both providing employment and generation of FOREX for nation.

### 9.1 National Contribution of Surat as a Textile Industrial Cluster Zone to our nation

The textile industry has received a support from the various semi-government bodies and NGO type organizations, such as The Southern Gujarat Chambers of Commerce & Industry (SGCCI), Surat Vankar Sangh,

SASMIRA, MANTRA etc. The share of exports revenue (FOREX) generated from Surat (by textile and diamond industries) is around 59.8% in total exports of India [68,77].

Jari units are in operation from Mughal period, which are a part of textile industries for consumption of end products in fabrics developments, where as textile units were in operation from British period and flourished after the independence after Britishers arrived in Surat, it emerged as an unorganized clothes capital of county. Before 1759 when the British took over the administrative charge of the city it had already established contacts with merchants from other European countries like Portugal, Netherlands and France. The English began their trade with Surat in 1608. Even prior to that during Akbar's time this region was known as the Emporium of Trades. The port city of Surat was actually the creation of the Mughals. Till the rise of Bombay port in the seventeenth and eighteenth centuries Surat was at the height of prosperity. The Arab, Turk, Iranian and Jewish traders settled in the town of Surat and Khambat which enjoyed the status of international ports. These traders had brisk business with neighboring countries like Java, Sumatra, Malaya, Burma, Sri Lanka, the Persian Gulf Countries, Red Sea Ports and other far flung areas. Also it had trade links with prominent cities all over India like Golconda, Burhanpur, Lahore, Ahmedabad, Agra and Delhi. By the early decade of the seventeenth century itself, Surat had acquired the status of 'one of the most eminent cities for trade in all India'.

Surat was a great commercial centre in the seventeenth century and the European nations carried on a very profitable trade there. But there were a few factors, which caused considerable disturbance and injury to the trade of the city. They were – first the raids of the Marathas, second the attitude of the Mughal Officials towards the merchants, third piracy in Indian Waters, fourth the policy of discrimination towards Hindus and fifth, the rivalry of the European merchants [21]. After the independence, the Manchester of India (Ahmedabad) and financial capital of India (Mumbai) had experienced a downfall due to the multiple factors; resulted into the emergence of unorganized cluster of textile industry in Surat in contracts to the famous economic theory of 'Flying Gheese' [7,9,35].

From past data of exports from India, it can be said that, textile industry have a share of around 35% and MMF yarn have a share of around 3.5 ~ 4.0 % [2]. Past five years data indicates that the growth rate of Surat textile industry is around 10% [60]. The SSI level, MSME and cottage type industries of textiles – yarn making, weaving, dyeing and printing, and embroidery (jari and cotton thread) are having a dominated role in the economic development of Surat.

## 9.2 The textile manufacturing chain of Surat comprises of the following activities :

1. Yarn processing (texturizing, twisting, warping and yarn dyeing)
2. Fabrics Development (on Weaving Looms, Knitting M/C and Needle Looms)
3. Fabrics Dyeing and Printing (including inkjet / digital print & sublimation print)
4. Embroidery & Stone work on Fabrics
5. Garment & apparel development

The traditional textile industry of Surat comprises of :

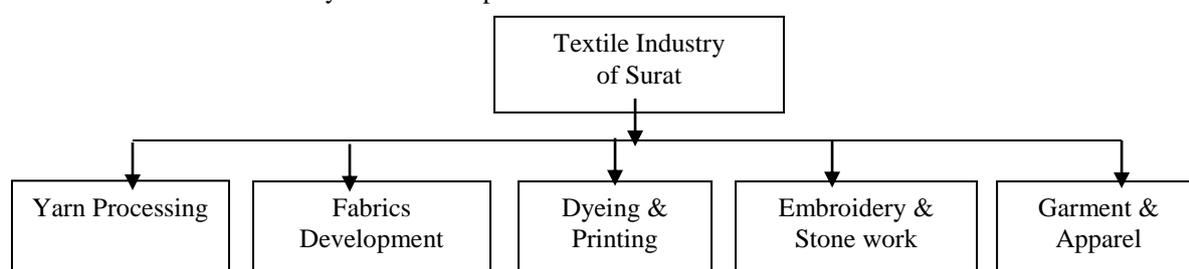


Figure.4 Textile Industry of Surat

### 9.2.1 Yarn processing (texturizing, twisting, warping and yarn dyeing)

Main raw-materials for this stage is raw yarn comprises of man-made fibers (MMF) / synthetic yarn (i.e. POY, FDY, PSF, viscose or art silk) and natural yarn (cotton and silk). The synthetic yarn mainly supplied by corporate players, such as Reliance, Garware and Bombay Dyeing and by non corporate players such as Shubhalakshmi, Devika and many more.

Synthetic yarns are the product derived from petrochemicals, such as polyester is derived from monoethylene glycol (MEG) and paraterephthalic acid (PTA) and nylon is made from caproectum. Major yarns used in Surat

market is polyester and viscose for development of sarees, dress materials and made ups, where as nylon is mainly used for the development of technical textiles.

Spinning is an operation in which liquid material pass through Spinnerets (it comprises of micron size holes and manufactured from either platinum or gold or high alloy), which comprises of micron size holes; the liquid divides into no. of streams according to the no. of micron size holes. The main function of the spinnerate is to convert the molten polymer into multi filament yarn through phase change. After spinning, the yarn wind on the cylinders made from card box, known as POY, PSF, BCF etc. and send to the market for further processing, known as texturizing. The process of Texturizing (i.e. to strengthen the yarn) of man-made fibers such as Polyester, Nylon and Cellulose based products carried out to make them suitable for fabrics production. . However, mainly Polyester is widely used in Texturizing process. These machines will be mainly used in the Texturizing process of yarn and in down stream the yarn will be later process for fabrics and other technical textile development.

After texturizing process, on yarn twisting process carried out to make yarn suitable for weaving process. Warping is a process to develop beams comprises of warp yarn for supplying the same to weaving looms and warp knitting machines.

Yarn processing provides valuable employment to people and also exports of yarn from Surat is done to Latin America, Europe and Africa.

### 9.2.2 Fabrics Development (on Weaving Looms, Knitting M/C and Needle Looms)

Fabrics development is mainly through weaving and knitting process. Weaving process comprises of two types of process, i.e. shuttle based weaving looms and shuttleless weaving looms (such as Rapier, Waterjet and Airjet). Both these looms use two types of yarn, i.e. warp yarn and weft yarn for the development of fabrics. Knitting Machines are also of two types, i.e. warp knitting machines and circular knitting machines. Warp knitting machine uses warp and weft yarn for the development of warp knitted fabrics and circular knitting machines mainly used for the development of apparels related fabrics. Needle looms mainly used for the development of narrow fabrics, such as brocades, ribbon and laces.

Surat is producing around 30 million meters of grey fabrics and 25 million meters of dyed and printed fabrics on a daily basis [60].

### 9.2.3 Fabrics Dyeing and Printing (including inkjet / digital print & sublimation print)

The dyeing and printing house unit is mainly used for the production of dyed and printed fabrics, dress-materials and garments on job work and on direct exports basis with the specific quality criteria to cater the market demands of local and global level. The dyeing & printing work is done after the weaving process by using the following plant & machinery in the unit. The dyeing and printing houses mainly produces dyed and printed fabrics, which is being sold out in textile markets located on the ring road. The main feed stock for these dyeing and printing units is clothes / fabrics produced by the weaving units.

As per the information provided by Federation of Surat Textile Traders Association (FOSTA), forward integration is started in the form of fashion studios in Surat to add more value addition on the fabrics. One of the forward integration of this is initiation computerized embroidery units in Surat.

Two of the leading international brands, such as Garden Vareli and Vimal (Reliance) have their textile units in Surat[60]. Also in past 15 years, some of the local manufacturers of Surat have developed their brands at India level and now they are moving further in international market (explained in previous sections).

#### *Embroidery & Stone work on Fabrics*

As per the data obtained from Synthetic and Rayon Textile Export Promotion Council (SRTEPC), Surat and District Industries Center (DIC), Surat, there are more that 5,000 units of embroidery machines in Surat who are producing around 30,000 million meters fabrics per day. Development of embroidery design on dyed fabrics is one of the forward integration for value addition. This particular movement is known as fibers to fabrics (entire chain of textile industry) in Surat[60].

### 9.2.4 Garment & apparel development

The Apparel and Textile industry is one of the oldest and leading sectors of economic globalisation for several export-oriented developing nations [78]. It was the fourth largest traded manufactured good and accounted for

6% of the net trade in manufactured goods (WTO, 2018). The low entry barriers and the labour-intensive nature of the industry has led to economic development of nations by providing formal employment to unskilled labourers, especially women who previously had no organized source of income or wages [79]. Surat is slowly emerging as a hub for garmenting and apparel units due to the dedicated land allocated for the development of apparel park in Hojiwala estate at Sachin, Surat.

### 9.2.5 Forward – Backward Linkages of Textile Industry

#### *Backward Linkages*

The backbone of dyeing and printing units is different types of fabrics which are manufactured by weaving units located in South Gujarat, Bhiwandi and Navapur. The weaving industry of Surat was established by the Khatri community somewhere in 17<sup>th</sup> century. This community inherits the knowledge of fabrics weaving from more than ten generations. The required yarn for weaving is produced in near by industrial clusters of : Hazira, Palsana, Sachin, Kim, Mandvi, Daman, and Silvassa. Major yarn suppliers are Reliance, Prafful and Garden. As a part of green initiatives, some of the local industrialists have established waste to fibers units (PSF) in Kim, Palsana&Ankleshwar area to convert plastic bottle (PET) waste to PSF fibers and supplies the PSF at competitive rates. Dyes and Chemicals are supplied from Atul, Valsad, Colortex, Surat and other small manufacturers of Sachin, Palsana, Ankleshwar and Panoli. Water quality of Tapi river is very much suitable to finish fabrics with better quality. Uninterrupted supply (almost in line of 24 x 7) of electricity from Torrent Power Ltd and Gujarat Electricity Board in this zone. Coal required for stem production is easily available from coal mines of Mangrol, Surat and Kutchh. Also at Magdalla port facilities are developed for import of coal from Australia, Indonesia and Malaysia. The migrant labors from states like Odisha, UP, Bihar and AP are settled in colonies adjacent to the industrial clusters, which make them easy to commute for work. Packing materials are easily available from paper mills located in Surat, Vapi and other regions of South Gujarat. The role of Transporters and Couriers are very favorable in this region for the transfer of higher value goods (diamonds).

#### *Competitive Advantages*

Surat is known for its fabrics development since last 500+ years. There is a large pool of cheap labors available in the city. Surat is having at the strategic place on DMIC corridor and is at a middle of financial corridor of Mumbai-Ahmedabad. There is a large pool of tacit type artisan knowledge of Khatri community for fabrics weaving and dyeing and printing on fabrics. Required plant & machinery can be easily procured from local market as well as import from Korea, China and Japan under EPCG Scheme of GoI. The banks and other financial institutions are friendly with industry at large and easy finance is available. There are subsidies from state and central government for installation of new machinery for meeting the exports orders. Higher level of community bonding among the various groups (*punjabi, marwadi, sindhi, khatri, ghanchi and kathiyawadi*) of the society results into better business environment. The support from SGCCI is vital for the promotion of textile business; representation to state and central govt. for resolving the issues. Also SGCCI is inviting businessmen and traders from foreign countries in trade fair events. Climate of Surat is favorable for the production of synthetic clothes (i.e. polyester, art-silk and Nylon). Very good support of educational institutions like MANTRA, SASMA for the skill development and also for third party quality analysis, product testing and certification for exports orders. There are plenty of labor unions in textile but no such major conflicts observed between employee and employer. The conflicts are easily resolved across the table and concept of strike, lock out and lay off are very rare in this industry. The relations of labor and management are supported with harmony.

#### *Forward Linkages*

Past data indicates that there is a higher demand for Surat fabrics in national and international market. The textile markets (commercial) located on the ring road area provides a platform for single window shopping opportunities to outside buyers. There is a domination of Marwadi, Punjabi and Sindhi community people as traders of textile business. These three communities are spread across India which provides a large network for the distribution of these fabrics and textile materials. Shops for trading of fabrics and textile materials are easily available in market on rental basis, provides easy entry for the new entrepreneur to explore the business. The fabrics made in Surat are having a demand in both national and international markets. A new concept of “*fiber to finish*” launched by SGCCI with an aim to provide brand identity to the fabrics of Surat at global front. In past few years, various Fashion Studios started in textile market area and in outer periphery of Surat where value addition work on fabrics carried out in terms of design. Bollywood (Mumbai) is near to Surat which is a fashion hub of India and generates demands for fashionable fabrics. Certain local brands like Parag, Garden, Sahiba and Rivaa have endorsed actresses of bollywood as their model and these brands are promoted in movies of bollywood. The fabrics of Surat is exported to middle-east, middle-asia, Latin American countries and EU. The fabrics and textile materials are transported through rail and road for national market and through sea cargo for international market. The port of Magdalla and Hazira of Surat and Nahva Sheva of Maharashtra are used for the exports of materials from Surat.

## 10. CONCLUSION

From the above discussions, it can be said that Surat is a cosmopolitan city or mini India, where people of every state have their presence in the context of employment opportunities. In post independence era, it emerged as an art silk hub of India. The city has its national importance due to the economic contribution in GDP, providing employment to unskilled and semi-skilled people and generating valuable FOREX for our nation. Due to the efforts of the entrepreneurs of the city, in last 30 years, it has been developed as an industrial urban cluster of India.

## REFERENCES

1. Zanzmera H. (2012). Accessibility to work places using Public Transport for Urban Poor : The case of Surat City. MURP Thesis. Faculty of Planning, CEPT University, Ahmedabad, Gujarat.
2. Brief Industrial Profile, Surat district, (2011). Micro, Small and Medium Enterprises MSME - Development Institute Government of India. Retrieved November 08, 2016, from [http://dcmsme.gov.in/dips/BIP%20SURAT\\_guj.pdf](http://dcmsme.gov.in/dips/BIP%20SURAT_guj.pdf)
3. Agnihotri, P. G. & Patel, J. N. (2008). Preparation of flood reduction plan for Surat City and surrounding region (India). *WSEAS Transactions on Fluid Mechanics*, 2 (3), 116 – 125.
4. Mahadevia, D. and Shah, P. (2010). Welfare extension by local state and social protection : Surat. Centre for Urban Equity, (an NRC of Ministry of Housing and Urban Poverty Alleviation, GoI), CEPT University, Ahmedabad, Gujarat, working paper # 10.
5. Census of India Data, (2011). Office of the Registrar General & Census Commissioner, India, Ministry of Home Affairs, Government of India. Retrieved November 07, 2016, from <http://censusindia.gov.in/>
6. Chauhan, K.; Dalal, J.; Agrawal, P., (2013). Urban Design of Surat (Gujarat, india) using sustainable high rise development technique. *International conference on innovations in engineering and technology (ICIET 2013)*. December, 25 – 26, 2013, Bangkok.
7. Menning, G. (1997a). Trust, entrepreneurship and development in Surat City, India. *ETHNOS*, Scandinavian University Press, 62 (1-2), 59 – 90.
8. Gujaratmitra (2017). Metro train in old Surat city. Dt. 14.01.2017, page # 12.
9. Menning, G. (1998). India's other path : Disorganized capitalism in Surat. *Current History*, November 1998, 385 – 391.
10. Parveen, S. (2014). Surat : as a major port town of Gujarat and its trade history. *IOSR Journal of Humanities and SocielScineces (IOSR-JHSS)*, 19 (5), Ver. VI, 69 – 73.
11. Makvana, V. A. (2014). Urban growth, Spatial structure and Land market: A case study of Surat city. MURP Thesis. Faculty of Planning, CEPT University, Ahmedabad, Gujarat.
12. Divya Bhaskar, (2017d). Level of Hazardous Particulate Matters (PM) is high in Surat City. Dt. 05.03.2017, page # 4.
13. Swamy, H.M.S.; Vyas, A., Narang, S., *Urban Innovations : Transformation of Surat, from Plague to Second Cleanest City in India*, Urban Management Innovations, Published for the Urban Management Programme for Asia and the Pacific, All India Institute of Local Self Government, Case Study # 1.
14. Hitesh Shrishimal Ashok Kumar (2013). Financial reforms and their effects on urban development. *MURP Thesis*. Faculty of Planning and Public Policy, CEPT University, Ahmedabad, Gujarat.
15. Patel, A. (2016). Understanding the linkage of real estate market with diamond and textile industries of Surat. *MURP Thesis*. Faculty of Planning, CEPT University, Ahmedabad, Gujarat.
16. Shah, P. (2004). Nature of labour migration in Surat city : A case of Oriya migrants". MURP Thesis. Faculty of Planning, CEPT University, Ahmedabad, Gujarat.
17. Mehta, V. (2016). Climate Resilient Infrastructure: A Case Study Of Surat Municipal Solid Waste Management.. MURP Thesis. Faculty of Planning, CEPT University, Ahmedabad, Gujarat.
18. Roof Top Solar Online, (2016). Surat Smart City Retrieved November 07, 2016, <http://suratsolar.suratmunicipal.gov.in/Aboutus.aspx>
19. Internet & Society, (2014). Surat's Massive Surveillance Network Should Cause Concern, Not Celebration. Retrieved February, 20, 2016, from <http://cis-india.org/internet-governance/blog/surat-massive-surveillance-network-cause-of-concern-not-celebration>
20. Zee News, (2014). Surat CCTV model tough to apply in national capital : Delhi Police. Retrieved December 07, 2016, [http://zeenews.india.com/news/delhi/surat-cctv-model-tough-to-apply-in-national-capital-delhi-police\\_941604.html](http://zeenews.india.com/news/delhi/surat-cctv-model-tough-to-apply-in-national-capital-delhi-police_941604.html)
21. Shah, N. (2010). Housing Affordability and Mobility for migrants :A case of Surat city. MURP Thesis. Faculty of Planning, CEPT University, Ahmedabad, Gujarat.
22. Mehta, P. U. (2012). Profile and perception of investors towards mutual funds: a study of selected cities of Gujarat State. Ph. D. Thesis. Faculty of Commerce, Veer Narmad South Gujarat University, Surat, Gujarat.

23. Tandel, B. and Macwan, J. (2011). Urban Corridor Noise Pollution: A case study of Surat city, India. International Conference on Environment and Industrial Innovation (ICEII 2011), at Kuala Lumpur, Malaysia, 17 – 19 June, 144 – 148.
24. Basak, D. (2015). Surat: A Smart City Some Issues of Major Concern. *Town Planner & Exe Engg, Surat Municipal Corporation*. Retrieved November 08, 2016, from [https://static.mygov.in/rest/s3fs-public/mygov\\_144612653914646901.pdf](https://static.mygov.in/rest/s3fs-public/mygov_144612653914646901.pdf)
25. Gujaratmitra (2019). A help sought by local entrepreneurs from Mukesh Ambani for exclusion of local textile industry from RCEP. Surat edition, page # 10; date : 21.10.2019
26. Thakar, T. P.; Rao, K. S.; Rathod, G. W.; Gupta, K. K. (2011). Development of UHRS and SWW Models for Surat City and surroundings region of Gujarat, India. *5th International Conference Semarang, Indonesia, 18 – 20 May 2011*.
27. Gandhi, P. (2005). Human Resource Management (HRM) practices in diamond industry - a study with special reference to Surat City. Ph. D. Thesis. Department of Research Methodology and Inter-disciplinary Studies in Social Sciences (DRMISS), now Department of Human Resource Development (DHRD), Veer Narmad South Gujarat University, Surat, Gujarat.
28. Bhasin, S. (2006). Managing Municipal Assets, A case of Surat Municipal Corporation. MURP Thesis. Faculty of Planning, CEPT University, Ahmedabad, Gujarat.
29. Engineer, I. (1994). Backward Communities and Migrant Workers in Surat Riots. *Economics (addf, 1234) Political Weekly*, 29 (22), 1348 – 1360.
30. Ministry of Textiles (2018). Annual report. [online] Government of India. Available at: <http://texmin.nic.in/sites/default/files/AnnualReport2017-18%28English%29.pdf> retrieved on 20.10.2019.
31. Concept Paper, (2007), Delhi–Mumbai Industrial Corridor. Department of Industrial Policy & Promotion Ministry of Commerce & Industry Government of India. Retrieved November 07, 2016, [http://dipp.nic.in/English/hindi/Schemes/DMIC/DMIC-Concept%20Paper%20\(English\).pdf](http://dipp.nic.in/English/hindi/Schemes/DMIC/DMIC-Concept%20Paper%20(English).pdf)
32. DMICDC, Department of Industrial Policy & Promotion, Ministry of Commerce & Industries, Government of India, Delhi-Mumbai Industrial Corridor Development Corporation Limited. Retrieved November 07, 2016, from [http://www.ilsindia.com/downloads/bus\\_rep/dmic\\_brief.pdf](http://www.ilsindia.com/downloads/bus_rep/dmic_brief.pdf)
33. Savani, K. R. & Bhatt, B. V. (2016). Identification of Factors Responsible for Urban Expansion of Surat. *International Journal of Engineering Research*, 5 (6), 508–510.
34. Mahadevia, D., (2002), The Poverty and Vulnerability of Migrant Workers in India, A Post-earthquake Study in the State of Gujarat, IOM
35. Menning, G. (1997b). Ethnic enterprise in the decentralized textile industry of Surat, India. *The Journal of Entrepreneurship, Sage Publications*, 6 (2), 141 – 164.
36. Dholariya, M. (2012). Dynamics of hospitality industry : A case of Surat. *MURP Thesis*. Faculty of Planning, CEPT University, Ahmedabad, Gujarat.
37. Gujarat Plus, (2011). Industrial map of Surat heading for diversification. Retrieved on April 15, 2016, <http://www.gujaratplus.com/00-01archive/arc722.html>.
38. Kumar, J. (2014). Origin and regional setting of metropolises in India. *Current Urban Studies*, 2, 178 – 187
39. Miranda, E., (1999). Diamonds and Patels : A report on the diamond industry of Surat. *Contributions to Indian Sociology*. 33 (1–2), 353 – 377.
40. Goti, H. and Nayak, K. M. (2015). A case study on diamond industry of Gjarat state of India. *International Journal of Business and Administration Research Review (IJBARR)*. 2 (11), 344 – 351.
41. Hirway, I. (2009). Losing the sparkle impact of the global crisis on the diamond cutting and polishing industry, in India. United Nations Development Program (UNDP), India.
42. Chaudhry, J. (2002). Study of Foreign Trade and Management Capabilities of Textile units. Ph. D. Thesis. Department of Business and Industrial Management (DBIM), Veer Narmad South Gujarat University, Surat, Gujarat.
43. Jariwala, P.; Selvakumar, S.; Ghanekar, A.; Desai, V. (2015). Transformation of health systems and governance : Case of Surat City, Gujarat. *Proceedings of the Tenth International Conference on Public Policy and Management, IIM Bangalore, August, 3 – 5, 2015*.
44. Pathan, E. H., (2016). Best Practice of Waste Management – Surat. Surat Municipal Corporation. Retrieved November 08, 2016, from <http://wert.in/wp-content/uploads/2016/03/Er.-E.-H.-Pathan.pdf>
45. Purani, K. (2000), “Gujarat Model of Entrepreneurial Innovation : A Study of Surat Diamond Industry”, *A Research Report on Study conducted as a part of EU – India Cross Cultural Innovation Network Project. 1999-2000*. GLS Institute of Business Management (GLSIBM), Gujarat University, Ahmedabad, Gujarat.
46. Hynes, D. (1997). The artisanal origins of Surat’s contemporary industrialization. In G. Shah (eds), *Social transformation in India, Essay in Honour of Professor I. P. Desai*. pp. 199-235. Rawat Publications, Jaipur and New Delhi.
47. Lee, Y. M.; Pinto, S.; Simons, R. Stochniol, N.; Zverina, C., (2008). The Gujarat Diamond Cluster: Is It Forever? *Microeconomics of Competitiveness*, Spring 2008. Retrieved November 09, 2016, from [http://www.isc.hbs.edu/resources/courses/moc-course-at-harvard/Documents/pdf/student\\_projects/India\\_\(Gujarat\)\\_Diamonds\\_2008.pdf](http://www.isc.hbs.edu/resources/courses/moc-course-at-harvard/Documents/pdf/student_projects/India_(Gujarat)_Diamonds_2008.pdf)

48. Report of the task group, (2013). For Diamond sector to make India an “international trading hub for rough diamonds”. Government of India, Ministry of Commerce and Industry, Department of Commerce, New Delhi. Retrieved November 09, 2016 from [http://commerce.nic.in/doc/writereaddata/uploadedfile/MOC\\_635536545849060401\\_Report\\_Task\\_Group\\_Diamond\\_Sector\\_11thFeb2013.pdf](http://commerce.nic.in/doc/writereaddata/uploadedfile/MOC_635536545849060401_Report_Task_Group_Diamond_Sector_11thFeb2013.pdf)
49. Vibrant Gujarat (2017). Development of Gems & Jewellery vertical park at Surat. *Gems & Jewellery, Government of Gujarat. 8<sup>th</sup> Global Summit*, 10 – 13 January, 2017. Retrieved November 07, 2016, <https://vibrantgujarat.com/writereaddata/images/pdf/project-profiles/Development-of-Gems-Jewellery-vertical-park-at-Surat.pdf>
50. Vansadiya, J. V. and Padhya, H. J. (2014). A Study on Housing Growth Pattern in West Zone of Surat City. *International Journal of Engineering Development and Research (IJEDR)*, 2 (2), 2884 – 2890.
51. Surat City Development Plan (2006 – 2012). Retrieved November 07, 2016, file:///C:/Documents%20and%20Settings/Administrator/Desktop/MURP\_Sem%203/Semester%203\_MURP%20Subjects/Research%20Methods%202016/For%20Literature%20Review/Surat\_CDP.PDF
52. Surat City Workshop Summary, (2014). 100 Resilient Cities. *Pioneered by Rockefeller Foundation*. Taru Leading Edge. Retrieved November 07, 2016, [http://100rc-surat.in/Download/100%20RC%20Surat%20Workshop%20Summary\\_TARU\\_22Sep2014.pdf](http://100rc-surat.in/Download/100%20RC%20Surat%20Workshop%20Summary_TARU_22Sep2014.pdf).
53. City Resilience Study (2015). Challenges and Opportunities For Surat City. Retrieved November 07, 2016 from [http://www.shell.com/energy-and-innovation/the-energy-future/scenarios/new-lenses-on-future-cities/\\_jcr\\_content/par/tabbedcontent/tab\\_1508520576/textimage.stream/1467103397632/a5037f38201cdb2bc\\_0950463b81666a5692d6f70243371c7e28fdbac814ab873/city-resilience-study-surat-final.pdf](http://www.shell.com/energy-and-innovation/the-energy-future/scenarios/new-lenses-on-future-cities/_jcr_content/par/tabbedcontent/tab_1508520576/textimage.stream/1467103397632/a5037f38201cdb2bc_0950463b81666a5692d6f70243371c7e28fdbac814ab873/city-resilience-study-surat-final.pdf)
54. Rana, G. (2005). Managing Zari industries in South Gujarat. *Ph. D. Thesis*. Department of Commerce, Veer Narmad South Gujarat University, Surat, Gujarat.
55. Garg, R. and Sidhpura, M. (2015). Strategic interventions to enhance competitiveness: a case of Surat zari industry in India. *AI & Soc* (2015) 30: 235.
56. SGPC, Energy Expo'13 (2013). International exhibition for energy & power [Brochure]. Jointly organized by South Gujarat Productivity council, Surat & The Southern Gujarat Chamber of Commerce & Industry, Surat. Retrieved November 07, 2016, <http://www.sgpcsurat.com/expo2013.pdf>
57. Surat Municipal Corporation, 2016. Retrieved April 28, 2016. [www.suratmunicipal.org](http://www.suratmunicipal.org)
58. Vaidya, G. (2009). Impact of microfinance on housing : A case of Surat MURP Thesis. Faculty of Planning, CEPT University, Ahmedabad, Gujarat.
59. Gandhi, P. and Singh, G. (2016). Real estate development and construction in peri urban area of Surat. *Assignment in Master of Urban and Regional Planning (MURP)*, CEPT University, Ahmedabad, Gujarat
60. Fiber2Fashion, (2017). The textile industry of Surat. Retrieved on February, 20, 2017, <http://www.fibre2fashion.com/industry-article/2150/the-textile-industry-of-surat>
61. Textile Companies, (2017). List of Textile Companies in Surat. Retrieved January, 07, 2017, <http://topcompanieslist.com/Textile-industry/Surat-city/company.htm>
62. Baradi, M. and Malhotra, M. (2011). At the Core : Understanding the built heritage of Surat and Rander. *Urban Management Centre*, Surat Municipal Corporation.
63. Monier-Williams, M. (1878). *Modern India and the Indians: Being a Series of Impressions, Notes, and Essays*. Trübner and Company, London.
64. Gupta, U. (2018). An impact of GST on Textile Industry in India. *International Journal of Trend in Scientific Research and Development (IJTSRD)*, Vol. 2, Issue 5, 1634 – 1639.
65. Swamy, H.M.S.; Vyas, A., Narang, S., *Urban Innovations : Transformation of Surat, from Plague to Second Cleanest City in India*, Urban Management Innovations, Published for the Urban Management Programme for Asia and the Pacific, All India Institute of Local Self Government, Case Study # 1.
66. Bertaud, A. (2003). *The Spatial Organization of Cities: Deliberate Outcome or Unforeseen Consequence ?World Development Report : Dynamic Development in a Sustainable World*, World Bank.
67. Bertaud, A. (2009). *Urban Spatial Structures, Mobility and The Environment*, World Bank, Washington DC.
68. Singapuri, N. (2018). Impact of appreciation of dollar value against Indian rupees and economic recession in EU, USA and other part of the world on export-import business performance - a case study with reference to local industry (textile and diamond) of Surat city of Gujarat state. LL. M Thesis. Department of Law, National Law University, Jodhpur, Rajasthan
69. Gujarat Guardian (2019). Release of GST refund in 60 days said by Finance Minister of India. Gujarat Guardian news paper, Surat edition, dt. 24.08.2019, page # 12.
70. Rudalal, I. (2019). The notification to lapse GST credit is illegal. Gujaratmitranews paper, Surat edition, dt. 11.08.2019, page # 4.
71. Rajivkumar (2019). Critical condition of financial liquidity in past 70 years in nation. Gujaratmitranews paper, Surat edition, dt. 24.08.2019, page # 1.
72. Gujarat Samachar (2019a). Kindly release 18 % of IGST paid on machinery import. Gujarat Samachar news paper, Surat edition, dt. 18.08.2019, page # 5.

73. Gujarat Samachar (2019b). General managers of nationalized banks have visited Surat for solving the issues of bank loans to local industries. Gujarat Samachar news paper, Surat edition, dt. 19.08.2019, page # 2.
74. Singh, C. (2018). India since Demonetisation. Working Paper # 567. Indian Institute of Management (IIM), Bangalore.
75. Natraj, G. (2017). Demonetization and its impact. Theme paper, Indian Institute of Public Administration. New Delhi-110002. [http://www.iipa.org.in/upload/Theme %20Paper%20for%20Members'%20Annual %20Conference%202017.pdf](http://www.iipa.org.in/upload/Theme%20Paper%20for%20Members'%20Annual%20Conference%202017.pdf) retrieved on 24.08.2019.
76. Mishra, N. (2018). Impact of GST on Indian Economy. International journal of basic and applied research. Vol. 8, Issue 11, 385 – 389.
77. Chavan, R. B. (2001). Indian textile industry – Environmental issues. Indian Journal of Fibre & Textile Research, Vol. 26, 11 – 21
78. Sharma, M. and Dhiman, R., 2016. Determinants affecting Indian textile exports: a review. Biz and Bytes. A Journal of Management & Technology, 6(2), pp.193-199.
79. Bansal, K. (2018). Indian Textile Industries: The Impact of Government Policies on Economic Upgrading of SMEs. A Dissertation submitted to the University of Manchester for the MSc in International Business and Management in the Faculty of Humanities. Alliance Manchester Business School, Manchester, UK.