

Chapter 6

Re-imagining Post-industrial Cities: Exploring Newer Identities in Faridabad, Haryana

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Since it has taken more than 5000 years to arrive at even a partial understanding of the city's nature and drama, it may require an even longer period to exhaust the city's still unrealized potentialities

(Mumford 1961).

Abstract Smart growth is a new urbanism which promotes transit-oriented development to enhance the overall economic efficiency. Due to unruly urbanization, this approach emerges as a solution to build and maintain our towns and cities in a better way. The present paper tries to interrogate the intemperate urbanization and related issues as well as re-imagining Faridabad city towards smart growth approach and reconstruct newer fangled identities. This industrial city was once upon a time recognised as ‘Manchester of India’, being part of the National Capital Region, this metropolitan city experienced 13-fold increase in its level of urbanization since 1951. It faces challenges like accumulation of garbage, traffic congestion, deteriorating roads, pollution, and a strain on civic supplies like water, drainage and electricity. Globalization acts as a catalyst in reconstructing the city. In the post-industrial era, a decline in work-force participation rate over the decades is observed, due to the change in the economic character, from being predominantly primary and secondary, to tertiary and quaternary now. In real estate sector, it has launched its dream project ‘Greater Faridabad’; it is now trying to attract IT as well as Biotech sectors so that international flow will support this city to revive again. Through various infrastructural projects and proposed Metrorail project between Gurgaon and Faridabad, this city will have world class infrastructure. This city is on a drive of smart growth.

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Acronyms

APA	American Planning Organisation
CCTV	Closed circuit television
CEPI	Comprehensive environmental pollution index
CPCB	Central Pollution Control Board
DHBVN	Dakshin Haryana Bijli Vitran Nigam
DIC	District Industrial Centre
DMA	Delhi metropolitan town
EPA	Environmental Protection Agency
GDP	Gross domestic product
HDI	Human development index
HBSC	Health biotech science cluster
HSIIDC	Haryana State Industrial and Infrastructure Development Corporation
ICT	Information and communication technology
IMT	Industrial model township
IOE	Internet of everything
IT	Information technology
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
KGP	Kundali-Ghaziabad-Palwal
KMP	Kundali-Manesar-Palwal
LEB	Life expectancy at birth
MNC	Multinational Company
NCR	National capital region
NH-2	National highway no. 2
NIT	National industrial township
PRRP	Pakistan refugee resettlement project
R&D	Research and development
SEZ	Special economic zone
THSTI	Translational Health Science Technology Institute
UNESCO	The United Nations Educational, Scientific and Cultural Organization
URCB	UNESCO Regional Centre for Biotech

6.1 Introduction

Cities are “a geographic plexus, an economic organization, an institutional process, a theatre of social action, and an aesthetic symbol of collective unity” (Mumford 1937). Cities have been the world’s economic dynamos for centuries. Integrated

urban development that coalesce social and economic development, results in a sustainable quality of life for all citizens.

During mid 80s most of the industrial cities in world collapsed whether it is Pittsburgh or Detroit but they came back with a bang with the creation of more jobs and more wealth. Rome fell because the Romans went to the Circus, and stopped competing. “A pool of skilled workers and a diverse economy are among the best predictors of long-run success. Such characteristics offer cities the best hope of stumbling on new sources of increasing returns to scale” (Duranton and Puga 2013). A city is a dynamic entity sometimes at boom sometimes at gloom just like a business cycle in an economy which is always fluctuating.

Faridabad the satellite town growing near Delhi was strategically established to relieve the pressure of population growth in Delhi and also to decentralize the location of industries. This city has a very glorified story of its origin. Early foundation of this city was laid down by the refugees. Due to their hard work and dedication it came alive from the challenge of the dark hour, and attained success and fairly widespread national and international recognition. Faridabad which was speculated as “city of hope” by Pandit Jawaharlal Nehru was at the epitome of power. But due to negligence and slow pace of development, this city has seen a collapse in its economy. Many of its industries like Eicher has moved out while on the other side cities like Gurgaon and Noida have gained momentum and their accelerated growth has overshadowed the growth of this city.

Today it has emerged as the most urbanized district of Haryana where 79.44% of the total district population has been classified as urban. This industrialized city of Haryana is generating nearly 60% of the State revenue. Quantum of migration that has happened within and outside NCR has put an enormous pressure on its resources, is a matter of worrisome. This city faces common challenges like accumulation of garbage, traffic congestion, deteriorating roads, pollution, and a strain on civic supplies like water, drainage, and electricity. It was once the industrial centre of Haryana and the sixth largest industrial centre of Asia. It has now moved down to the ninth position. It accentuates the planners to think for the smart solutions to make this city ubiquitous, liveable and sustainable. Here comes the exigency to think about the strategies for smart growth development. Recently this concept became the most razzle-dazzle.

It is still a debatable one, as such there is no absolute utopian model of a smart growth, no end point, but rather a process, or series of steps, by which cities become more “liveable” and sustainable and enables itself to newer challenges. Thus, “Instead of striving for physical growth, a city’s success today should be measured by how wisely it uses energy, water, and other resources, how well it maintains a high quality of life for its people, and how smart it is in building prosperity on a sustainable foundation. In short, cities have to become much smarter about how they use the existing capacities and resources” (Dixon 2012). Globalization boosts up the growth and development of cities. It is giving cities a roadmap for development.

Myriad redevelopment efforts were launched recently to make Faridabad rise and shine again. Rapid transit system is strengthened by building up of transport

corridors such as Metro Rail Projects and expressways which tries to rejuvenate this city. This city is experiencing post-industrial transformations; it is also experiencing diversification in its economy from predominantly secondary to tertiary and quaternary activities now. The focus of this city is shifted towards other sectors of economy instead of manufacturing only, it is still trying to revive again and attain its lost glory. These transport corridors are the laying foundation of inclusive city development and this city is progressing towards a smart growth instead of urban sprawling. Concept of smart growth gives a better way to build and maintain our towns and cities. With a combination of infrastructural projects as well as economic diversification and a planning in a right direction will give this city a new path of progress and development. The present paper tries to interrogate the future aspects of this city towards smart growth. Every city has its unique set of problems based on that smart vision for a city is required.

6.2 Objectives

The objectives of present paper are as follows:

- To trace the legacy of growth and development as well as economic dynamism of Faridabad city.
- To forecast the future of Faridabad city towards smart growth approach.

6.3 Database and Methodology

The present paper studies the transformation of the city, its diversifying economy and explores the future prospects of development. Apart from participant observation technique; questionnaire surveys and in-depth interviews of selected people have been used to fulfil the existing gaps in research. The sampling procedure for questionnaire survey is random, with structured and directed interviews. All the respondents are organized into what is known about the Faridabad historical growth and how it is approaching towards smart growth. Data has been collected from various secondary sources like census data, survey reports, District gazetteers, Economic survey reports are very rich sources. City development reports prepared under **Jawaharlal Nehru National Urban Renewal Mission (JNNURM)**, official website of Faridabad district (www.faridabad.nic.in), articles, newspaper headlines, books are all important sources for information.

6.4 Study Area

Faridabad, the southeastern district in the state of Haryana, lies between latitudes 27° 51' 15" and 28° 30' 52"N, and longitudes 77° 04' 39" and 77° 32' 50"E (Fig. 6.1). It is bounded by Delhi on its north, Gurgaon towards west, Noida on the east and Mathura near south. It has an area of 2151 km². The Delhi–Mathura NH-2, i.e. Sher Shah Suri Marg passes through the centre of the district from north to south direction. The city of Faridabad was founded in 1607 AD by Sheikh Baba Farid, a Sufi saint and treasurer of Mughal Emperor Jahangir, with the object of protecting the Grand Trunk Road (today NH-2). He built a fort and a mosque, and

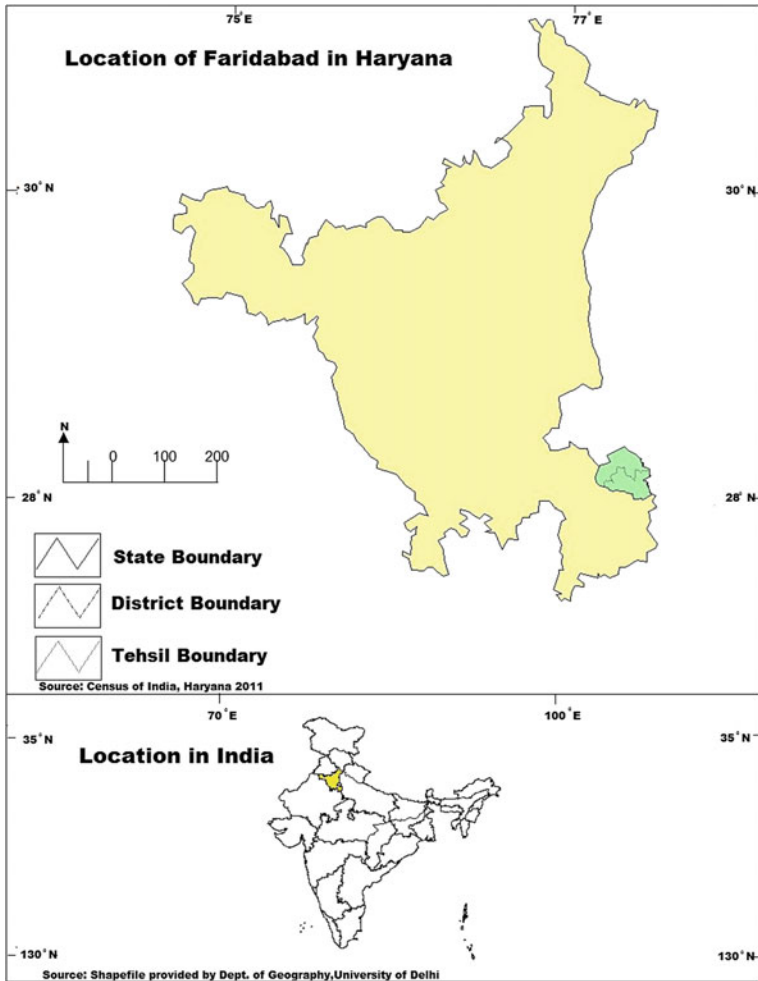


Fig. 6.1 Location of Faridabad. Source Primary Survey, 2014

slowly the town grew in size. Later, it became the headquarters of a pargana, which was held in jagir by the ruler of Ballabgarh.

6.5 A Dynamic City

Faridabad city underwent several dramatic transformations, which is animated in Fig. 6.2. Journey of Faridabad is a very remarkable study. This city is in a continuous motion moving from pre-industrial to post-industrial stage of development and also exploring its economy, moving primarily from primary and secondary to tertiary and quaternary. As a result, Faridabad underwent dramatic transformations.

Stage 1: Before 1949—Pre-industrial Faridabad

Until 1950 Faridabad was intended to be a marketing centre for milk and vegetables. The relationship to the surrounding county was less important than the influence of Delhi as consumption and employment centre.

Stage 2: 1949–2000—Creative Phase of Faridabad as an Industrial Hub

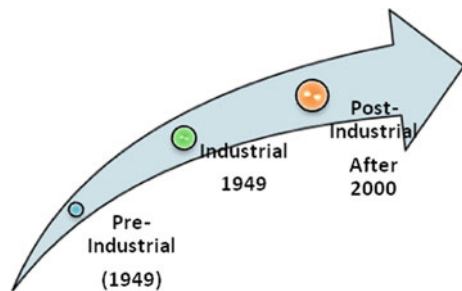
Resettlement of Refugee

After independence, the town became an important centre for the resettlement of refugees because of India–Pakistan partition. They were rehabilitated by Jawaharlal Nehru as part of the Pakistani Refugee Resettlement Project (PRRP) following partition in 1947. Also in an attempt to declog Delhi, many central government offices were consciously moved to this city. What was previously just a wasteland was converted into a thriving colony. This was also a big and unique human experiment, to resettle people (Jain 1998).

Bustling City—Genesis of Faridabad as an Industrial Hub

In 1949, the Government of East Punjab visualized making Faridabad a centre of industrial activity consequently, New Industrial Township (NIT) was founded. It was planned to have engineering workshops, precision tools manufacturing units, oil mills, ice plants, leather goods, etc., so that it will absorb large number of unskilled labours (Jain 1998).

Fig. 6.2 Trajectory of growth in Faridabad



The main industries in Faridabad are light automotive components, engineering goods, and metal goods. Earlier textile industries were more in number, but now the major industrial production is of tractors, motorcycles, tyres, switch gears, steel rerolling, scientific instruments, agriculture implements, JCB cranes, consumer durables, footwear, etc. Haryana State Industrial Development Corporation (HSIIDC) is the nodal agency for industrial development of this city. As on 2006, there were 16 multi-national companies (MNCs), 809 ISO-based industries, 205 medium and large-scale industries and 399 small-scale units as per the records of the District Industrial Centre (DIC) of Faridabad. Besides, there are also a large number of smaller industrial units, functioning from various locations including residential areas in the city. Overall, there are about 15,000 small, medium and large industries in the Faridabad–Ballabhgarh Complex, making it the ninth largest industrial estate of Asia.

Recently there is rapid increase in the export oriented industries; products that are exported are electric equipment, tractor, machinery, industrial units, helmets, tyres, footwear, etc. This city is a hub of very well-known industries like Whirlpool Corporation, Goodyear Company, Castrol Ltd, Larsen & Toubro, GKN Invel Transmission Ltd, Asia Brown Boveri Group, Woodward Governor Company, Eicher Motors Ltd, Escorts group, Nuchem Ltd operate in this area. It is also known as Light Engineering Industrial Cluster.

Stage 3: 2000 Onwards—Present Scenario: Towards Post-Industrialism

Globalization acts as a catalyst in shaping the remaking of this city, and also leaves a remarkable impact on its inhabitants, this city is running with number of flyovers, expressways and metro line, with which, the city will have unrivalled connectivity in the National Capital Region (NCR). No wonder that several realty majors are making a beeline for this happening place. These rapid transit systems are creating boomlet in this city and also catalyze the commercial development.

According to City Mayors Foundation (2014) which involves a study of 300 cities by a global think tank on urban affairs, the fastest growing city in world is Beihai, China with 10.58% average annual growth rate of population during 2006–2020. While Faridabad ranked eighth with an average annual growth rate of population is 4.44%.

6.6 Unveiling Post-Industrial Cities

In 1974 Daniel Bell popularized this term through his monumental work “*The Coming of Post-Industrial Society*”. He asserts “secondary and tertiary (and quaternary) sectors will take precedence in the economy and also employment will grow faster in these sectors” (Bell 1973). Post-industrial cities are primarily the headquarters for corporations or governmental organizations, centres of research or educational institutes, and tourism or recreation resorts. With an increasing

Table 6.1 Worker force participation rate

Year	Rate (%)
1981	33.8
1991	30.4
2001	35.8
2011	32.0

Source Census of India, 1981–2011

employment in the tertiary and quaternary occupations, especially in fields such as finance, health, leisure, research, education, and telecommunications and in various levels of development (Dutt et al. 1994).

“A minimum definition of post-industrial society is that it is a socio-economic system in which, white-collar or service or service strata have displaced blue-collar workers as the dominant labour force” (Hancock 1972).

Faridabad is going through this transforming phase from industrial to post-industrial era, with its workforce shifting from ‘industrial’ to ‘service sector’, or a ‘blue collar’ job to a ‘white collar job’. A decline in work-force participation rate over the decades is observed (Table 6.1), due to the change in the economic character of Faridabad, from being predominantly primary and secondary, to tertiary and quaternary now. 90% of its population are engaged in non-agricultural activities according to 2011 census it also proves that agricultural lands are just wiped out and a large chunk of population is heading towards other sectors of economy. This city is now inclined towards tertiary and other sectors of economy.

6.6.1 Transforming Faridabad: Current Trajectory of Faridabad’s Economy

Recently many developments have been seen in this city. After 2006 this city again started to rise and shine. This economic hub of the North Indian state and has become the apple of many a realtor’s eyes due to its proximity to the national capital and its strategic location. It all started when Neharpar area is incorporated in the master plan 2004–2005.

If we collectively analyse Gross Domestic Product (GDP), Per capita income, Human Development Index (HDI) values as well as the Level of urbanization then we found that this city is on a right track of success.

6.6.1.1 Gross Domestic Product and Per Capita Income

Gross Domestic Product per capita has a close correlation with the trend in living standards over time, and the GDP growth rate is probably the single best indicator of economic growth. As Nobel laureate Paul A. Samuelson and economist William

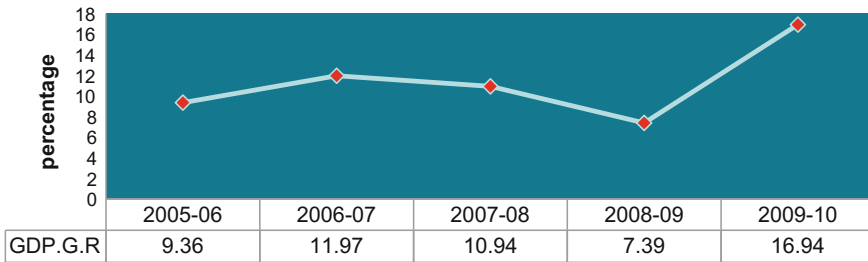


Fig. 6.3 Gross domestic product (GDP) growth rate of Faridabad in percentage. *Source* Author based on data from Department of Economic & Statistical Analysis, Haryana

Nordhaus put it, “While GDP and the rest of the national income accounts may seem to be arcane concepts, they are truly among the great inventions of the twentieth century” (Samuelson and Nordhaus 2004). They neatly sum up the importance of the national accounts and GDP in their seminal textbook “Economics”. They liken the ability of GDP to give an overall picture of the state of the economy to that of a satellite in space that can survey the weather across an entire continent. This city had shown a consistent increase in both its GDP and Per Capita Income from 2004–2005 to 2009–2010. Growth rate of GDP increased from 7.3 to 16.9% in the period of 2008–2009 to 2009–2010 with the fall in growth rate of GDP in 2008–2009. Earlier growth rate of GDP is rising at a diminishing rate. After Gurgaon; Faridabad has second highest GDP in 2009–2010 shown in Fig. 6.3.

Per capita income of this city is rising continuously and it is second highest in the state of Haryana. Between 2008–2009 and 2009–2010, there is a sudden rise in per capita income from 61,000 to above 1 lakh which is a drastic bounce. As GDP as well as per capita Income are rising consistently, indicating towards the promising glorious future of this city (Fig. 6.4).

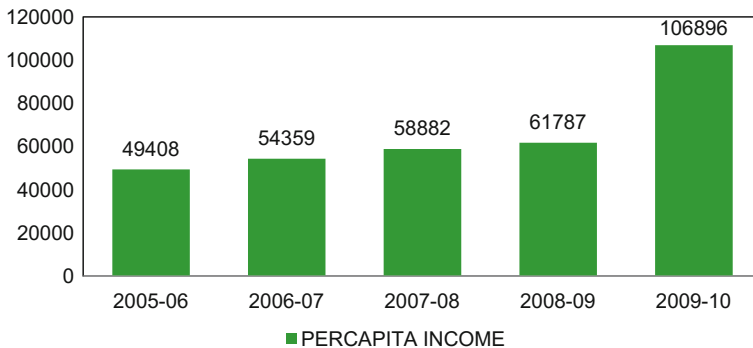


Fig. 6.4 Per capita income of Faridabad. *Source* Author based on data from Department of Economic & Statistical Analysis, Haryana

6.6.1.2 Human Development Index (HDI) of Faridabad

HDI is a summary measure of human development that measures the average achievement in a country or a geographic entity in three basic dimensions of human development:

- A long and healthy life, as measured by life expectancy at birth (LEB).
- Knowledge, as measured by the adult literacy rate (with two-thirds weight) and combined primary, secondary and tertiary gross enrolment rate.
- A decent standard of living as measured by GDP per capita Purchasing Power Parity (PPP) US Dollar (US\$) (wilson 2010 subregional plan).

In this Fig. 6.5 light green (triangle), blue (diamond) as well as red colour (square shaped) are showing Faridabad, India and Haryana’s trend line respectively. As according to subregional plan for Haryana subregion 2021, Faridabad’s education index is 0.576 as compared to India’s index of 0.215, very much higher than the nation’s index as shown in Fig. 6.5. Faridabad is lagging behind in the health index where its performance is worst as compared to state’s performance as well nation is concerned. Performance of Faridabad is inimitable in economic index it is much above than the nation and state index values that is more than 0.5. Overall value of HDI is 0.39 of Faridabad which is above the state as well as nation’s values.

6.6.1.3 Level of Urbanization

Kingsley (1962) has explained “urbanization as process of switch from spread out pattern of human settlements to one of concentration in urban centres”. It is a finite process—“a cycle through which a nation pass as they evolve from agrarian to industrial society” (Davies and Golden 1954). According to Mckinsey, Global Institute cities at 2030 will produce more than 70% of Indian GDP. India’s population grew from 290 million reported in 2001 census to an estimated 341 million in 2008, and it could project it to 590 million by 2030. It indicates the paramourncy

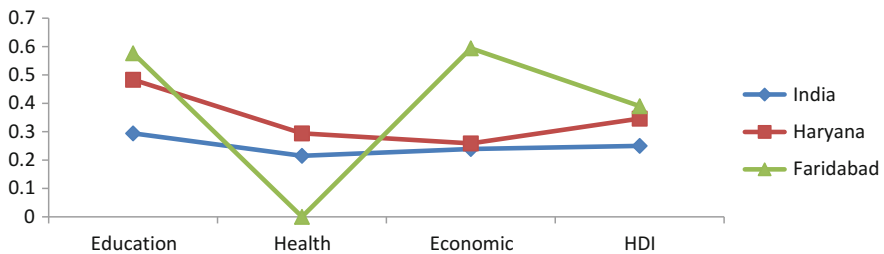


Fig. 6.5 Comparative analysis of HDI. *Source* Author based on data from Department of Economic & Statistical Analysis, Haryana

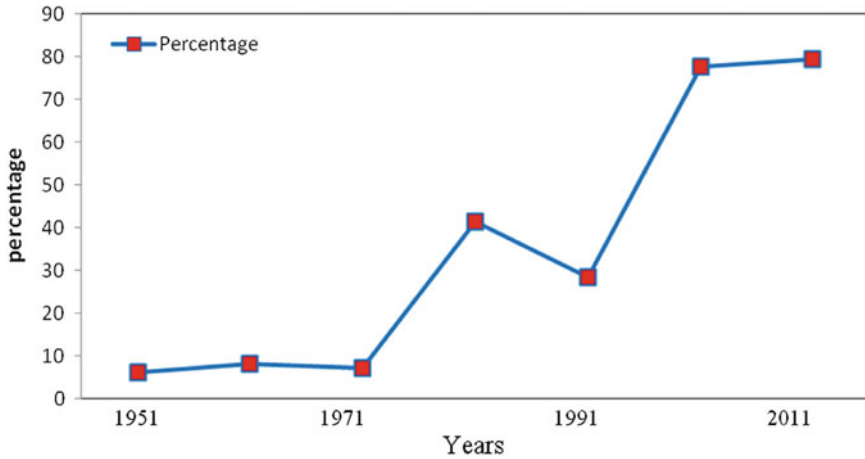


Fig. 6.6 Population as percentage of total population. *Source* Author based on data from Census of India

of cities. Faridabad has experienced 13-fold increases in the level of urbanization as it is shown in the Fig. 6.6. It has emerged as the most urbanized district of Haryana where 79.44% of the total district population has been classified as urban. This trend line shows the rising urban population in 1951 that is 6.9% which escalated up to 79% in 2011. The district alone accommodated about one-fifth (19.97%) of the state's total urban population. Its location in the vicinity of National Capital of New Delhi, in-migration of people from various parts of the country and establishment of large number of industries are the plausible causes for highest level of urbanization amongst all districts of the state. These all indicators are pointing towards the promising progressive city Faridabad. It is a positive sign for this city's growth and development.

6.7 Bottlenecks for Slow Growth

- Crawling Traffic on NH-2:** The Delhi–Mathura NH-2 (Sher Shah Suri Marg) is the spine of all the road networks in the city and it passes through the centre of the Faridabad district. The traffic load on this stretch was more than 60,000 vehicles per day and the existing infrastructure was incapable to cater to such a huge volume of traffic. As a result, the stretch faced frequent traffic jams delaying commuters by over 45 min.
- Delay in Infrastructural Projects:** Plenty of infrastructural projects were under pipeline 15–20 years back like Kalindi-kunj Bypass, Faridabad-Noida-Ghaziabad (FNG) Expressway, and Metro link. On 6 September 2015 where Badarpur-Escorts Mujesar metro line was inaugurated while on the other hand

its neighbouring city Gurgaon has metro connectivity since 2010 and in 2013 it was blessed with the rapid metro facility. If all these projects had hit this city on time then the scenario would have been different today.

- **Shortage of Power Supply:** Industrial sector consumes about 52% of total electricity supply followed by residential sector, which consumes 28% and so on. In case of Faridabad, as per Dakshin Haryana Bijli Vitran Nigam (DHBVN), per capita electricity consumption has been reported as 1162 kW in 2006–2007. On the basis of time series based data of past 7 years, it is estimated that the per capita electricity consumption will increase to 1148 kW in 2011 (short term), about 1532 kW by 2015 (medium term) and by 2018 (long term) it could be 1996 kW. Taking into account the exponentially increasing energy demand in Faridabad, it is obvious that this trend is not sustainable in the long run. It is felt that the measures such as reducing energy demand and switching from fossil fuel to renewable energy technology would go a long way in addressing these concerns. Ministry of New and Renewable Energy (MNRE), Government of India took initiative to develop Faridabad as a solar city (TERI 2012).
- **Higher Level of Pollution:** The Central Pollution Control Board (CPCB) had conducted a study to evaluate the current status of environment in 2009. The study reviewed 88 industrial clusters including Faridabad and ranking was done based on an index known as “Comprehensive Environmental Pollution Index (CEPI)”. Faridabad Industrial cluster was ranked as the 18th most polluting cluster among the 88 clusters in India. Faridabad has been declared as one of the Critically Polluted Industrial Cluster under the study.

6.8 Economy in Transformation: (Service-Quaternary Sectors)

Faridabad is exploring its economy, progressing towards tertiary and quaternary sectors of economy. It makes this city a heterogeneous entity. In the past five years this city has seen a tremendous growth in the health sector. It was possible by upgrading hospitals to deliver swift service. This has prevented people from relying on Delhi-NCR hospitals. “Over 10,000 health care workers including doctors and para-medical staff are employed in the city based hospitals”, said Baldev Raj, country head of RG Stone Urology and Laparoscopy Hospital (Mishra 2013). 83% of respondents in questionnaire survey also believe that Faridabad has Adequate health amenities. With the advent of Metro and plenty of expressways, Neharpar Area will see a tremendous boom. Faridabad has been on high demand for fast paced growth where real estate activity has picked up considerably during the past five years. There are also institutional and recreation related developments in the area. Major commercial developments in the form of shopping malls, multiplexes, etc., are observed along NH-2 and either side of the national highway.

Neharpar/Greater Faridabad is emerging as a dreamland project for this city where multiple housing, commercial projects have been launched.

According to statistical abstract (2011–2012) of Haryana, Faridabad has highest number of higher and senior secondary schools that is 606. In 2001, 76.29% of literates are in Faridabad which now rose up to 81.70% and it shows the remarkable growth in education sector. This city has in total 58 colleges according to statistical abstract 2012–2013. While many new private universities like Manav Rachna, Lingaya's, YMCA are inaugurated very recently for improving higher education in Faridabad. It shows there is remarkable contribution of education sector in economy. 91% of respondents were fully satisfied with school education. But many of the respondents are not satisfied with higher education. There is rising trend of incorporation of R&D's in industries of Faridabad. There are in total 22 industries which have in-house Research and Development units (Directory of In-house R&D 2009). Some of them are very well-known industries like Escorts Ltd, Alchem International Ltd., Bata India Ltd and HPL Additives Ltd.

6.9 Concept of Smart and Inclusive Growth

One of the earliest efforts to establish smart growth concept forward were put forth by the APA (American Planning Association) in 1997, introduced a project called Growing Smart and published 'Growing Smart Legislative Guidebook: Model Statutes for Planning and the Management of Change'. "Smart and Inclusive Growth is an opportunity towards achieving desirable development outcomes" (Chapin 2012).

Smart and Inclusive Growth principles are still relatively new and even the term "Smart and Inclusive Growth" still is a highly visible concept in public policy debates. It is touted as a framework for helping communities achieve a better, more equitable and more affordable built environment. Edwards and Haines (2007) evaluate the use of design principles in a local comprehensive plan. The authors conclude that Smart and Inclusive Growth is most often narrowly described in terms of encouraging communities to support compact, mixed use, pedestrian-friendly and ecologically sound development directed to existing built areas.

According to United States Environmental Protection Agency (EPA), "Smart growth development practices support national environmental goals by preserving open spaces and parkland and protecting critical habitat; improving transportation choices, including walking, bicycling and transit, which reduces emissions from automobiles; promoting brown field redevelopment and reducing Impervious cover, which improves water quality".

There is no one single definition of Smart and Inclusive Growth that satisfies everyone and many people have their own (Miller and Hoel 2002). For example, Smart Growth is so many different things. It's not just transportation; it's a mind-set

towards creating a more holistic community—*Barbara McCann, Executive Director, Smart Growth America* (Geller 2003). Smart growth incorporates sustainable, liveable, compact cities with perfect planning. Urban sprawl makes cities crawling, what we need today is smart growth. In general perceive the smart growth of the city depends on good connectivity, residential area and sustainable cultural practices mix land use, accessibility and pedestrian walkability. It relies on inclusive city development and it promotes transit-oriented development. Additionally, real estate located in smart growth communities tends to retain its value better than in sprawled communities due to greater access to services.

It is more inclusive of people who are not able or cannot afford to drive. It offers easier access to schools, public services, and jobs, and encourages mixed-income communities, which have a powerful impact on economic mobility. According to New Climate Economy research, the adoption of compact, transit-oriented cities could reduce annual greenhouse gas emissions (Godfrey 2015). Greater Faridabad can be an example of smart growth as it has mixed land uses, it is transit oriented developed as it is very well connected with metro, bus, train. This city has infrastructure development strategies which employed in hopes of creating more sustainable and successful communities. Contrary to urban sprawl, smart growth is the perfect solution for this tremendously rising population. Smart growth is a smart, sustainable, inclusive and eco-friendly model of development.

6.10 Transport Corridors in Faridabad

The 12th Five Year Plan for Haryana has accorded the second highest priority to the development and improvement of infrastructure of irrigation, power, and roads and transport, by earmarking an outlay of Rs. 249.6 billion. Development of a city lies on its transportation lines, they are the lifeline of a city. Integrated transport and mobility is a vital component of economic infrastructure investment. It contributes to a denser and more efficient urban form, supports economic and social development. Faridabad is on an expressway of development, which tries to recover and to match the pace of development of its neighbouring cities like Noida and Gurgaon.

It is also the only Delhi Metropolitan Area Town (D.M.A) of Haryana which has the proposed eastern and western peripheral Express ways encircling Delhi for faster movement of inter-state traffic connecting all the Delhi Metropolitan Area towns and all National Highways around Delhi NH-2, railway Line as well as metro line all lies parallel to one another and all passes through the central area of city making it an axial region. Smart growth helps in management of city. It is a process which defines the growth and progress of the city from their historical time period to contemporary time period in a smarter way.

6.10.1 Badarpur Flyover

It was operationalized in 2010. The construction project was awarded by National Highway Authority of India to the ‘Concessionaire Badarpur Faridabad Tollway Limited’, a subsidiary of Hindustan Construction Company Limited. It was built to decongest Mathura Road. It has successfully proven its significance by making this city free from the hustle and bustle of traffic jams.

6.10.2 Six Laning of NH-2

The National Highway NH-2, (Delhi–Mathura Road) passes through the length of the city and is the central axis of the city of Faridabad. Slow moving traffic over NH-2 adversely affected the economy of this city. Six laning of NH-2 will also provide a smooth traffic and catalyze the economic development of this city.

6.10.3 Proposed Western and Eastern Expressways

- **The Western Peripheral Expressways (Kundli-Manesar-Palwal “KMP”):** Haryana State Industrial Development Corporation (HSIDC) has proposed to develop an express highway to provide a high-speed link to the Northern Haryana with its southern districts like Sonipat, Jhajjar, Rewari Gurgaon and Faridabad. The length of proposed Expressway is around 135.65 km that also envisaged the development of selected nodes at the inter-section of the proposed Kundli-Manesar-Palwal Express (KMP) and the radial highways.
- **The Eastern Peripheral Expressway (Kundli-Ghaziabad-Palwal “KGP”):** It covers Haryana, Delhi and Uttar Pradesh on build operate and transfer (BOT) basis. It is divided into two sections: 56 km **Faridabad-Noida-Ghaziabad (FNG)**, 49 km **Ghaziabad-Kundli section** it involves construction of green field six-lane expressway with access control highway connecting Faridabad, Noida, Ghaziabad and Sonipat, which will also act as bypass to Delhi with a concession period of 20 years. These expressways will facilitate faster movement of inter-state traffic besides connecting Delhi with all the Delhi Metropolitan Area towns and all National Highways around Delhi.

6.10.4 Eco-Friendly Metro Projects in Faridabad

The Delhi Metro’s Badarpur–Faridabad corridor, which hit the tracks on 6 September 2015, 14-km-long elevated corridor, consists of nine stations between

Badarpur and Escorts Mujesar. It will be powered by green technology and incorporate a host of eco-friendly features such as solar panels, water harvesting and sewage treatment plants. Solar power panels with a capacity of 50 kW-peaks have been installed. The power generated will cater to the requirements of the Receiving Substation building and the remaining power will be used for stations.

6.11 Evolving Growth Directions of Faridabad

The following can be noted from the study area growth which is shown in Fig. 6.7.

- **Before 1980:** All the pull factor was observed between Delhi-Faridabad-Ballabgarh areas of Faridabad especially on right hand side of this city. This area is denoted as Old Faridabad because early foundation of this city was laid down in this particular area.
- **Development Moved Towards NIT During 1980–2008:** Development of NIT is associated with refugees resettlement in this area. They laid the foundation of this township. During 1980–2008 it became the foci of development as shown in Fig. 6.7 which is represented by rectangular shape denoted by C.

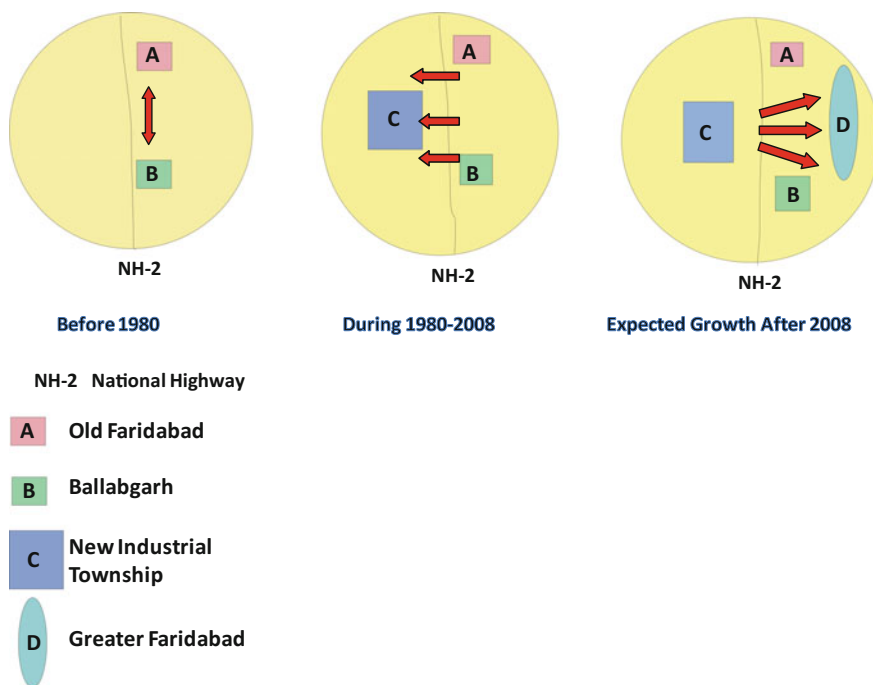


Fig. 6.7 Schematic presentation of future growth directions of Faridabad city. *Source* Primary Survey, 2016

- **Growth Expected Towards East Faridabad and South West of Faridabad After 2008:** Now the inner area of this city is fully developed, Neharpar Faridabad is the potential site for development shown by oval shape denoted by D. As red arrows are pointing towards the direction of development of this city that is towards eastern side.

6.12 Potential Growth Areas

Due to plenty of infrastructural projects, advancement in information and communication technology, it had a volatile impact on this city. Faridabad is an emerging hub of real estate, education, health, sports and tourism. It is a on a drive from mono-functional to multi-functional city, from manufacturing to service sector.

6.12.1 Greater Faridabad: Hub of Real Estate

Neharpar Area, also known as Greater Faridabad, was incorporated in 2004–2005 under the city’s master plan. The newly developed residential and industrial part of Faridabad (Sec. 66–89) between Agra Canal and Yamuna river. The prospects of these upcoming residential sectors are subject to the pace of infrastructure development which would enhance its connectivity with other micro markets. The area is being developed as a self-sustained sub-city with wide roads, tall buildings, malls, educational institutions, and health and commercial centers as shown in Fig. 6.8. This area is approaching towards smart growth.

The location shares its boundaries with eastern periphery expressway, which connects with Ghaziabad, Noida, Faridabad and Palwal, making it an industrial corridor. With improving infrastructural development and availability of land this place will be a paradise. Bypass road is the lifeline of this area. Metro corridor is only 2–3 km far from this place. This area will set an example of smart growth as its development is transit oriented. More than 80 projects have been launched in this area till now. It has become the top priority of all builders and developers who look towards in investing in Greater Faridabad due to its huge potential. There are reputed 34 Builders and Developers currently active with their residential and commercial projects in Greater Faridabad SRS, bptp, Omaxe are very famous builders. The township will see development of residential and commercial realty, including plotted development, group housing projects, independent villas, shopping malls, hotels, offices complex; Special Economic Zones (SEZs), IT parks, hotels, schools, hospitals, mall and retail complexes will also be developed here. In 2031 District Development plan 55 villages has been transformed into new 72



Fig. 6.8 Greater Faridabad. *Source* Primary Survey, 2015

sectors. In Fig. 6.9 the area marked with the yellow color is Greater Faridabad, while area marked with blue color is Industrial Model Township (IMT).

6.12.2 *IMT: Industrial Model Township*

Industrial Model Township (IMT) comprises four sectors (66, 67, 68 and 69) shown with the color blue in Fig. 6.9. These townships will include campuses for large industries, Information and Communications Technology (ICT) parks, industrial plots, flatted factories, residential colonies; labour housing, commercial and institutional areas, entertainment zones, educational and healthcare facilities, etc., and it will promote ‘Walk to Work’ Culture (Tripathy 2012). Haryana State Industrial and Infrastructure Development Corporation LTD (HSIIDC) is the nodal agency for

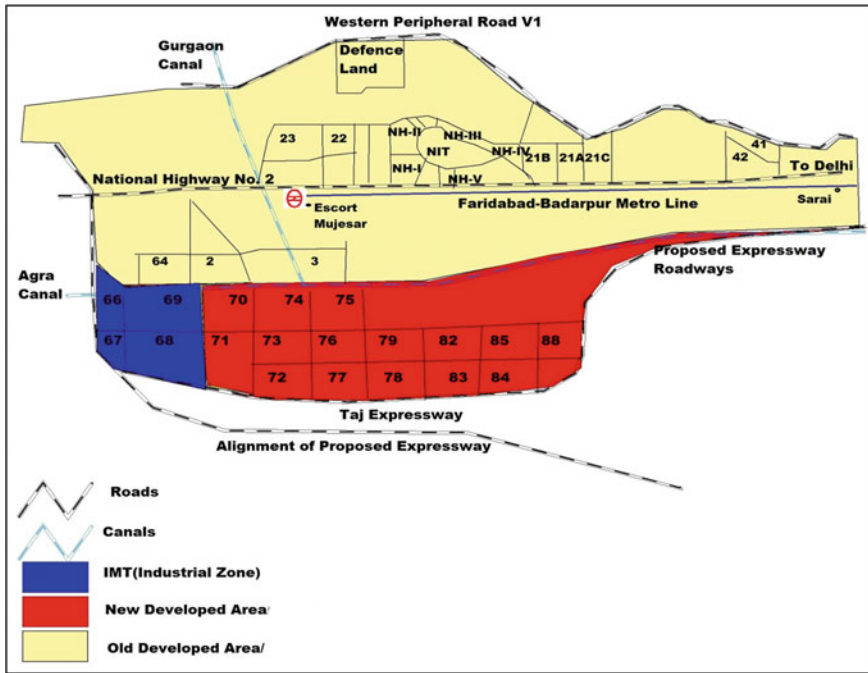


Fig. 6.9 Location of Neharpar/Greater Faridabad in Faridabad city. Source Primary Survey

providing infrastructural facilities in IMT for which 310.56 crore has been sanctioned. Site of IMT shown in Fig. 6.10.

It is promoting mix land use. People will work and live at the same place so that they can give equal value to their both the realm work and their families. It is a wonderful effort by the government which is not only responsible for higher economic returns as well as it will also foster liveable, sustainable environment. IMT is all set to start, 90% of its work is completed, and because of change in ruling government again applications are invited for plot allotments as that are the reason for its delay. IMT Faridabad is very well planned which consists of residential, commercial, industrial, as well as green area to foster inclusive economic development.

6.13 Recommendations

The success of the city will also depend on sustainability and its smart vision. It involves defying a new urban model to create more inclusive and sustainable communities. Through effective planning and regeneration, a city can be developed: helping to attract investment, improve social conditions, and, ultimately, transform



Fig. 6.10 Site of IMT. Source Primary Survey, 2015

the cities into modern, multi-functional smart areas. A city like Faridabad is on the path of development but there are some thrust arenas of development which this city need to work upon.

6.13.1 Tactical Urbanism. Making Cities Vivacity with a Bottom-Up Approach

It is an approach for citizens, city governments and as well as developers or non-profits to “hack the city”. For citizens it is a way to inspire their local governments to embrace change; to underline and call out for updating outdated policies that serve another era. Cities on the other hand can use Tactical Urbanism within their planning processes to reach out to and inspire their citizens. It promotes

involvement of people along with local government for betterment of their surroundings. The denizens of this city are very much concerned about the present conditions of their city and that is the reason actively participating in “One day go green campaign” organized on 25 July 2015, it is a largest plantation drive organized by Navchetna Trust, and nearly 2 lakh trees were planted. People are continuously putting effort for making their neighbourhood green, livable and trying to reconstruct this dying city by planting trees. If people remain so much active for city development then surely it will promote a smart growth of city.

6.13.2 Smart Mobility

Success of a city relies on multifaceted, efficient, safe and comfortable transport system. As far as physical infrastructures are concerned, it is envisaged that pedestrian bridges, cycle tracks, should be developed in order to improve accessibility because cities are not only for cars but for the people. Cities like Copenhagen where 40% of its residents regularly commute through bicycle are successful examples.

Adoption of Smart Card for library access, shopping, car parks, bus and metro facilities. Smart bus stops and Buses; people can find information on roads for the bus, etc., can be a wonderful idea. This city is very well connected with expressways, railways, and metro but lacks feeder bus system. For efficient mobility this city requires a well-integrated transportation system. Six laning of Mathura road will make this city traffic free and also speeds up the pace of development.

6.13.3 Revitalising Market Places

Those bustling rustling streets in markets of Old market, NH5, and NH1 are the centre point of marketing in Faridabad. There is an urgent need to make the streets more liveable, walkable by allocating the parking area outside the market area and no vehicles should be allowed inside the market premises just like Sarojini Nagar market in Delhi.

6.13.4 Smart Energy Choices

Faridabad has been power deficit city for several years to combat this problem installation of solar panels can be a wonderful solution. Countries like Germany set a new national record for renewable energy by meeting 78% of the day’s electricity demand with renewable sources, exceeding the previous record of 74% set in May of 2014. Faridabad is being developed as pilot solar city for which the Union

Ministry of New and Renewable Energy has conveyed its sanction in-principle for providing financial assistance amounting to Rs. 2.50 crore in 2012.

Solaroad The idea behind Solaroad is simple: sunlight on the road surface is absorbed by solar cells and converted into electricity, which is used for street lighting. It is quite popular in European cities. It is very easy to install solar panels on side-tracks as well as on bicycle tracks.

Biogas Plants Biodegradable organic wastes such as kitchen waste, paper, grass and dry plant leaves generated in residential complexes, institutions, hotels and public places like gardens etc. can be one of the source for developing the biogas plants in the societies and large individual institutional campuses.

These smart choices will make this city more pollution free as well as sustainable cities.

6.13.5 *Safe City*

Install Closed-Circuit Televisions (**CCTV**) cameras in abundance it will provide wide surveillance to make this city crime free, also sort out the problem of traffic jams as well as demarcate the congestion points in our city. '**Safe city project**' which was successfully implemented in Surat where crime rate was down by 27% in surveillance zones. A city wide network of sensors which provide city officials concrete information, they connect decision based on real time data-getting information about flow of citizens, noise, pollution, traffic, weather conditions.

6.13.6 *Wi-Fi Zones*

Make Faridabad a webbed city. Internet of everything (IOE) has arrived to change the world, which enable this city to become smart in every aspect.

6.13.7 *Other Smart Solutions*

- Biodegradable and non-biodegradable waste should be collected and treated separately.
- Building up of more water and sewage treatment Plants.
- Rain water harvesting should become mandatory for every household for recharging our ground water level.

“Smart city is not a world of fantasy but a world of reality”.

6.14 Conclusion

Cities have always epitomizes hopes, imaginations, aspirations and a destination where dreams comes true. Cities like, Rome, Athens, Florence, Byzantium, Detroit, Boston and Ephesus are all cities of the same progeny. Former capitals of politics, finance, industry, or empire that saw their power and influence fade as the world around them changed. For a city to sustain in this dynamic world has to keep on imagining, reconstructing. This city has a gloried history was once upon a time at the epitome of power, slowly it stagnates but now again it is trying to revive and tries to catch the rhythm of development. This city is moving towards post-industrial era where its economy is diversifying and tilted more towards service sector and quaternary activities. Smart growth is the future of cities. Its focus is on vibrant, competitive and liveable urban cores by reducing per capita land consumption and infrastructure and transportation costs. It has significant economic, social and environmental benefits. Faridabad is trying to strengthen its public transportation by introducing metro corridors it will help in reducing carbon emissions and trying to sort out the problem of traffic congestions, it will surely give this city a new realm of development. Faridabad is a city of hope and as advanced and model technology hub of Haryana.

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