



# Liveability Index

The Best Cities in India

# Liveability Index 2013

## Authors

### **Dr. Amit Kapoor**

Institute for Competitiveness, India

E-Mail: [amit.kapoor@competitiveness.in](mailto:amit.kapoor@competitiveness.in)

### **Ankita Garg**

*Senior Researcher*

Institute for Competitiveness, India

E-Mail: [ankita.garg@competitiveness.in](mailto:ankita.garg@competitiveness.in)

## Editorial Support

### **Neera Vohra**

Program Coordinator

Institute for Competitiveness, India

E-Mail: [neera.vohra@competitiveness.in](mailto:neera.vohra@competitiveness.in)

For Further information, visit [www.competitiveness.in](http://www.competitiveness.in)

# **Liveability Index 2013**

**The Best Cities in India**



# Preface

The Liveability Index has been published since 2010 and we are pleased to release the 4<sup>th</sup> edition of the report. The search for the most liveable Indian city comes to a halt with our rigorous assessment of 50 Indian cities. The index is an annual study that maps key factors of living, including quality of life and determine the degree of liveability of cities in India. The central idea is to present a powerful model that via pillars and constituent sub-pillars of liveability show the truth of Indian cities, which is unmasked and measurable.

The index is a composite measure of the social, environmental, economic and civic factors that directly provides insight into the quality of life available to people and evidence on the future state of the city in terms of its liveability. It is a tool that gauges the potential of the city to attract human resource and subsequently industry.

The index can guide cities through their strengths and weaknesses and can help the policy makers as well the city authorities to act accordingly in order to enhance the overall quality of living of the region.



# Table of contents

Executive Summary.....	4
<b>1. Liveability and its connected factors.....</b>	<b>5</b>
1.1 Components of Liveability.....	5
<i>Diagram 1: Framework of Liveability Index</i>	
1.2 What is Liveability Index?.....	6
1.3 Quality of life is merely a subset of Liveability index.....	7
1.4 The phenomena of urbanization in India.....	7
<i>Table 1: Total population of India with its urbanization rate (from 1901-2011)</i>	
1.5 Understanding the dots between Liveability and Competitiveness.....	9
<b>2. Mapping the concept of liveability.....</b>	<b>10</b>
2.1 Some international comparisons.....	10
2.2 Liveability in India vis-à-vis the growth.....	11
<b>3. Methodology.....</b>	<b>13</b>
<i>Diagram 2: Stages involved in shaping the liveability index</i>	
3.1 Identification of parameters.....	13
3.2 Data collection.....	14
3.3 Measuring the index.....	14
3.4 Analyzing the index.....	15
3.2 List of 50 Indian cities covered (with map).....	16
<b>4. Results &amp; Ranking.....</b>	<b>17</b>
<b>5. Understanding Liveability in-depth.....</b>	<b>27</b>
5.1 A closer look at the top 3 liveable cities of India.....	27
- Mumbai: Most livable city in India	
- Chennai: The second most livable city in India	
- Hyderabad: The third most livable city in India	
5.2 Looking upon the liveability scenario in Indian cities from different lenses.....	31
5.2a) Demographics & Liveability in cities.....	31
5.2b) Education situation in Indian cities.....	34
5.2c) Health and medical standards in cities.....	38
5.2d) Safety and Indian cities.....	41
5.2e) Housing options in Indian cities.....	45
5.2f) Socio-cultural-natural environment prevalent in the cities.....	47
5.2g) Economic environment.....	50
5.2h) Connectivity built-in system of cities.....	53

<b>6. Liveability and the ways to enhance.....</b>	<b>56</b>
6.1 Need of strong governance and structured planning.....	56
6.2 Proper urban land use planning.....	57
6.3 Active engagement of civil society/NGOs.....	58
6.4 Contribution made by private players & technology.....	58
6.5 Expectations from the public.....	59
<b>List of Sources.....</b>	<b>60</b>
<b>List of Graphs.....</b>	<b>62</b>



# Executive Summary

Liveability index 2013 connotes to the methodical assessment of the significant drivers of livability in Indian cities. The index is a closely-knit integrated measure of the social, environmental, economic and civic factors crucial from a citizenry perspective. The index is based on a framework, which is an evolved adaptation of the world-renowned diamond model of Professor Michael Porter of Harvard University. The model is based on eight core pillars that are demographic, education, health and medical standards, safety, housing option, socio-cultural-natural environment, economic environment, and planned environment. These pillars are further divided into 20 constituent sub-pillars. They are a function of nearly 300 indicators that gauge the changing magnitude of living conditions offered by a city.

The most liveable city of India in 2013 is Mumbai which was spotted on 3<sup>rd</sup> place last year. The next two cities, Chennai and Hyderabad have moved down one-one position and are sited at 2<sup>nd</sup> and 3<sup>rd</sup> rank respectively. Bengaluru has taken a jump of 6 places and is at 4<sup>th</sup> rank on the liveability index 2013. Likewise, Delhi has grabbed the 5<sup>th</sup> rank on the index and has proved that it indeed should be included in the list of top ten liveable cities. Kolkata occupies the 6<sup>th</sup> rank. The other two entrants in the list of top ten liveable cities are Noida and Gurgaon which can be spotted at 7<sup>th</sup> and 8<sup>th</sup> rank respectively. Both of them have done commendably well on pillars of housing options and business environment. Contrarily, Pune and Nagpur that were in the list of top ten have reached the 12<sup>th</sup> and 13<sup>th</sup> rank respectively in the liveability index 2013.

Some major ups and downs are visible in the ranks of few cities. The cities that have witnessed an upward motion are Shimla (15<sup>th</sup>), Mysore (17<sup>th</sup>), Surat (20<sup>th</sup>), Dehradun (22<sup>nd</sup>), Guwahati (32<sup>nd</sup>) and Srinagar (35<sup>th</sup>). On the other hand, cities that have fallen from their previous positions are Vijayawada (25<sup>th</sup>), Vadodara (23<sup>rd</sup>) and Asansol (19<sup>th</sup>). In addition, Puducherry has been replaced by Kota in the list of 50 Indian cities of liveability index 2013.

The index presents a powerful model that comprehensively maps a city's quality of living condition from various perspectives and puts forth the real picture of an individual city in 2013. Thus implicitly determining the willingness of a citizen to reside in a city and the potential of a city to attract human resource and consequently industry.



# 1. Liveability and its connected factors

In the 20th century, urbanization has been quoted as the most significant revolution of the social environment. The urbanization wave is clearly visible across the globe. Cities are growing swiftly and becoming the centers of growth and productivity. More than half of the world's population is believed to be living in urban areas, either large or small. Though the footprints of urbanization are uneven and not evenly spread in developed as well developing countries. It is anticipated that by 2015 half of the population in developing countries will also be living in urban areas. The World Bank also quotes similar statistics, "two-thirds of the world's population will live in cities by 2030." In short, this sudden increase in the landscape would have a multiplier effect. It demands economical planning, increase in the physical infrastructure, pollution free environmental setup, business opportunities and a society that helps to maintain peace and prosperity.

Today, every community wants to settle in the area, which has best living conditions, but the rapid growth seems to be creating urban challenges. Thus, threatening their basic needs of survival in terms of affordable housing, edible foodstuff, infrastructure and essential services. The influx of the population in urban areas are resulting into urban poverty, environmental degradation, traffic congestion, increase in shantytown houses, and other factors related socio-economic concerns. This leads to deterioration of the living conditions of a region. Many Indian cities have fallen prey to this unstructured development. The rampant exploitation of the cities is not hidden from everybody. Therefore, it becomes important to monitor the Indian cities and measure their living conditions.

The liveability index thus methodically comments on the quality of living conditions of 50 selected Indian cities. The index maps a city on multiple dimensions of liveability. The index is a tool to first gauge the liveability of its cities and then to guide the authorities so as to help them in taking informed decisions w.r.t the future of the city.

## 1.1 Components of Liveability

The liveability index determines the degree of liveability of cities in India. The mission of the index is to measure significant drivers of health and wealth of the community beyond just the monetary value. The construct helps in understanding and then identifying the necessary components of liveability, even if it is favorable or unfavorable. In addition, the index studies the urban as well as rural factors that define the living potential of cities across the country. It portrays the true reflection of Indian cities in terms of their living conditions.

The factors range from social, natural, economic to the physical environment. These are selected vigilantly keeping in mind the essential requirements of the inhabitants. Their willingness to continue residing in the city is mapped via these factors. The index thus



provides realistic and relevant information about the selected Indian cities and helps to take required decisions by the citizenry and the authorities.

The liveability index is based on a framework, which is an evolved adaptation of the world-renowned diamond model of Michael E Porter, a Bishop William Lawrence Professor at Harvard University. The model is based on eight core pillars that are demographic, education, health and medical standards, safety, housing option, socio-cultural-natural environment, economic environment, and planned environment. These pillars are further divided into 20 constituent sub-pillars.



Diagram 1: Framework of Liveability Index

### 1.2 What is Liveability Index?

As the name suggests, liveability is a concept that deals with the different components of living conditions essential as well as desired by every inhabitant of a region. This construct not only covers the factor of urban areas but also include the rural belts of a city. The

liveability index, thus, is an array of different functions that are directly or indirectly related to livelihood of an individual.

Liveability index refers to a technique that deals with the economic, physical, social, environmental setup and scope of future opportunities anticipated by an inhabitant of a region. It is about delightful and desirable spaces that attract people as well as reflect cultural and sacred enrichment. Key principles that back this theme are equity, dignity, accessibility, conviviality, participation and empowerment.

Altogether, the index focuses on qualitative as well as quantitative factors of *modus vivendi* (lifestyle). It provides a broad model to accurately understand the dynamics of human development and their ways of living. The index defines a city liveable when it directly offers favorable living conditions to its citizenry and indirectly benefits (or attracts) the visitors. Here, the favorable conditions includes several measurable factors such as, strong infrastructure setup, presence of quality education and health institutions, safety of its citizenry, planned environment, proficient governance, job opportunities etc. It should ease the functionalities of stakeholder by providing them friendly environment to live and work.

### 1.3 Quality of life is merely a subset of liveability index

Liveability is a very different from the subjective notion of “Quality of life”. Quality of life is mostly a measure of satisfaction (or dissatisfaction) with the living environment of a person. It does not take into account the facets that equally map the socio-economic and environmental wellbeing of a citizen. It is a very limited terminology that widely focuses on measuring the happiness and desires of people such as, quality of education etc. However, desires may not be the same across the society and are mostly sensitive with respect to individual choices. It is, therefore, not a sufficient measure.

Undoubtedly, quality of life is helpful in measuring the living environment of an individual in a region, but it is a singular construct. It is a subset of the liveability concept and thus of the liveability index. As a result, the index to a great extent provides the answer to questions such as ‘can I live here happily with my family?’ ‘Does the city provide appropriate business opportunities?’ In other words, quality of life looks at just one dimension, whereas liveability is a broader term that captures the essence of the concept. It even provides useful information pertaining to the potential of the city to attract human resource and consequently the corporates.

### 1.4 The phenomena of urbanization in India

#### Definition of Urbanization according to the Census 2011, Government of India

Urbanization is the rapid growth of population in the urban areas and economic activities, which bring about more development of towns. Migration from rural to urban areas is an important factor for urbanization.



The urbanization pattern in India has been rampant and impromptu. It is observed that India is at the acceleration stage in the process of urbanization. This rapid pace is already creating a new set of challenges for the country and raising questions on the sustainability of its regions but it is also important to note that urbanization is facilitating the country to boost and garner opportunities. The census figures reveal that the urban population has doubled from 1901 to 1947. In other words, from independence to 2001 there has been at least six-fold increase in the urban population. Even in 2011, the overall population of the country increased by 0.3%. There has been an increase of 91.1 million persons in urban population during 2001-2011, which is so far the highest registered. Thus resulting into the concentration of population and economic activities in or near-to cities.

Census years	Total Population	Urbanization rate
1901	238,396,327	10.84
1911	252,093,390	10.29
1921	251,321,213	11.18
1931	278,977,238	11.99
1941	318,660,580	13.86
1951	361,088,090	17.29
1961	439,234,771	17.97
1971	598,159,652	19.91
1981	683,329,097	23.34
1991	844,324,222	25.72
2001	1,027,015,247	27.78
2011	1,210,193,422	31.12

**Table 1: Total population of India with its urbanization rate (from 1901-2011)**

The expansion of existing regions and formation of new regions is influencing the overall growth of the country. According to the 2011 census, the metropolitan cities, the cities with more than a million population have increased substantially. Today there are 53 metropolitan cities as compared to 35 in 2001. Similarly, nearly 70.2% of the country's urban population is living in class 1 cities, cities that hold a population base of more than a lakh. However, the pattern of urbanization is not uniform across the country. The old metro cities of India are under tremendous pressure due to overpopulation and dearth of resources whereas some of the new cities are not well planned, they instantly demand basic services in place. In short, there is a gap between the urbanization rate and the implementation of infrastructure services (or governance). Very few Indian cities have a planned strategy to move forward and are providing a healthy living environment to its inhabitants. Hence, looking at the scenario of the Indian cities it thus can be suggested that the development in the cities should be tracked, and city should be built in a planned manner. The metro cities

should not be overburdened, and the small growing cities should complement them. The focus should be laid on making cities more liveable, stronger and sustainable.

### **1.5 Understanding the dots between Liveability and Competitiveness**

Liveability is a construct that essentially deals with the living conditions. It helps to measure the social, economic and environmental conditions of a region through the lens of a citizen so as to have a bigger and a better picture of the entire region. This overall assessment thus becomes crucial for policy makers, and regional authorities to study and build their solutions around it. Thus, they are in a position to take better and relevant decisions. Subsequently, if a region is prosperous then certainly it will have well qualified people. This gives an opportunity to the industries to move in the region and explore options for it, which eventually benefits even the citizenry of the region. It can thus be stated that liveability is a driver of the prosperity of a region and hence an important parameter of competitiveness. The linkage between the two can be defined as; liveability is the subset of competitiveness. It helps to understand the regions and identify their drawbacks, which if worked upon can help to make the region more prosperous. The trend obtained from the study is also a helpful tool to predict about the status of a region in future.



## 2. Mapping the concept of liveability

The economic growth trajectory of India seems more promising in comparison to its social and environmental status. The country, which is labeled as one of the fastest developing country (not just on the basis of the population), has compromised on many fronts. The living environment of the country is not impressive, apart from a few cities. In India, still 33.5% households use hand pumps as their main source for drinking water. Likewise, 31.4% households are dependent on kerosene for lighting as reported by the Census 2011. In other words, the economic growth of the country is not in sync with the social, physical and environmental development. This mismatch is surely a sign of threat. If the development activities in the country are done at the cost of its community then its future cannot be bright as envisaged by the economists. At this stage, it is thus necessary that the economy take inclusive measures. The growth agenda of India should include the welfare of its people accompanied by the development of its urban as well as rural regions on a priority basis.

The country should strive hard to at least match up the expectations in terms of physical infrastructure. When the people of the country will have favorable living conditions only then one can think of bigger concepts of innovation and competition. The growth figures of the country and its cities look very interesting, but the absolute figures on those parameters turn the realities other way round. If we look at India cities in a deeper way we realize that there are areas which have not been touched upon in terms of liveability. So, it becomes essential to cover some of those areas of the country so as to portray a real picture of India.

### 2.1 Some international comparisons

It is also important to look at the liveability parameters of some other developed as well developing countries before revealing the liveability status in India. The table below compares India with its international counterparts on few liveability parameters.

Countries	CO2 emissions (metric tons per capita)	Improved sanitation facilities (% of population with access)	Inflation, consumer process (annual %)	Employment to population ratio, 15+, total (%)	Out-of-pocket health expenditure (% of private expenditure on health)
Brazil	2.2	81	5.4	65	57.8
China	6.2	65	2.7	68	78.8
India	1.7	35	9.3	54	86
Russian Federation	12.2	70	5.1	60	87.9
South Africa	9.2	74	5.4	39	13.8
United Kingdom	7.9	100	2.8	57	53.1
United States	17.6	100	2.1	57	20.9

Source: World Bank

Interestingly, India has the lowest CO2 emission (metric tons per capita) in comparison to its peers, which is definitely a good sign. It thus can be clearly anticipated that India is taking precautionary and necessary steps towards global warming and climate change. However, the parameters of health, employment and inflation are slightly disappointing. Only 35% of the Indian population has access to improved sanitation facilities, which is alarming because this is a basic requirement of an individual. Similarly, the employment to the total population ratio is not very impressive as we are losing a lot of productive man-hours by not utilizing the potential of our skilled workforce. Brazil and China are far ahead on this parameter. India is also a country, which spends a huge amount of money on private healthcare. 86% of the expenditure was made by households to fight back from the disease with which they were suffering. In addition, the inhabitants of the country that are already struggling to survive in the poor living conditions have to deal with endless issues of inflation. The annual inflation recorded in the country was 9.1%. It is double or triple than the rest of the countries present in the table. So, making the overall condition of even a middle class individual complex. In such a scenario, natives of the country who even earn well do not desire to live in the country longer. It is a hard reality for the country to face. The people of the country demand favorable living conditions, which evidently is also their basic necessity.

## 2.2 Liveability in India vis-à-vis its growth graph

Liveability is conceived as a subjective concept and is given less preference than the predominant notion of single or double-digit growth figures. Growth figures are considered as the basis of productivity as well as prosperity in the country. As a result, liveability holds minimum scope on the national agenda. It is very much evident from the way new cities have randomly developed in the last few decades. There has been a lack of structured and strategic planning, and the effects are quite visible to all in the form of traffic jams, shortage of drinking water, increase in the crime rate, unavailability of affordable housing etc. The metro cities like Delhi, Mumbai and Kolkata share a similar scenario, also their situation is even more complex because they have to take care of their citizenry and also cater to the needs of some lakhs of migrant population every year. In other words, since the smaller cities are not well equipped so a large influx of population move to the metro cities in search of better opportunities.

The overall concept of liveability in India is very different. People often debate about the issues pertaining to liveability among peers, colleagues and on various national platforms, but seldom anyone takes a lead to bring a positive change. People are so busy in their daily lives, and they feel paying taxes is the only responsibility from their side. The rest of the developmental work has to be done by the government, and the government is struggling with the politics of the country. In this entire process, Indian cities are getting neglected and are losing their charm.

Moreover, there is a vast difference of opinion between the people living in big and small metro cities of India. People living in big metro cities want their city to have good restaurants, shopping malls, good residential apartments etc. apart from the basic



infrastructure in place. They have luxurious needs, yet under their affordability bracket. On the other hand, people living in small metro cities just want the basic amenities and infrastructure in a workable situation. They prefer a hassle free life. Unlike, people living in big cities, they avoid travelling to far locations on a daily basis. Thus, the liveability parameters in these two parts of the country are very dissimilar and should be understood before measuring liveability.

The Indian cities need to gear up to solve their side of challenges. Sudden expansion of population and dearth of adequate infrastructure are just few of them and neglecting them now can lead to a new set of issues. Already, such issues are making the environment of Indian cities unfavorable and if the situation persists then worse it yet to come. Therefore, growth and liveability should go hand in hand. The developmental policies should not only be based on the budget allocation but also map their progress on a timely basis.



## 3. Methodology

There has been an emergence of new cities in India in the last few years. It thus becomes important to track these new cities and already existing cities. The key element of the cities is its inhabitants. A city evolves around them, so it is fundamental to study the cities from the outlook of its citizens. Every citizen of a region wants to live in an environment that is socially inclusive, economically sound, environmentally green and packed with good governance structure. Liveability therefore becomes an interesting study to look at where the progress and living scenario of Indian cities are assessed. This comparative study helps to track the cities with respect to their peers and their previous year environment.

The liveability index is created keeping in mind the Indian urban context and the parameters that help to balance the overall society. Broadly, the three crucial pillars of society, sustainable environment, progressive economy and a prosperous community are included in the index. The index is a means to obtain a bigger and clear picture of selected 50 Indian cities with logical interpretation. It can then act as a helpful tool for the residents and the government authorities to make use of it in the best possible manner.

The liveability index takes into consideration all the relevant urban as well as rural factors of a city necessary to assess its living conditions. The index simplifies the complex and quantitative data indicators into plain numbers to make their evolution chart more understandable.

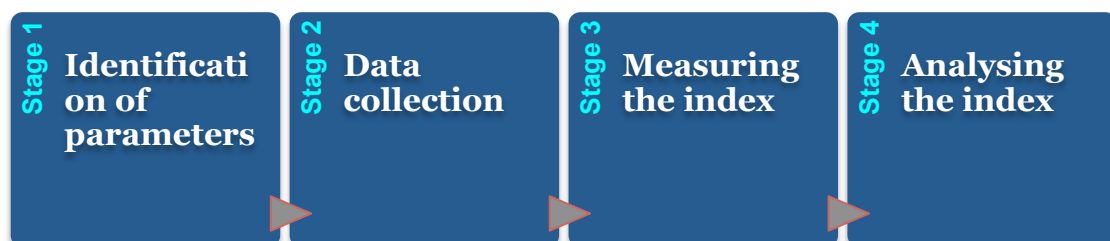


Diagram 2: Stages involved in shaping the liveability index

### 3.1 Identification of parameters

Liveability is a wide concept but when we look at it from a citizens view point then few its parameters cannot be ignored as they are vital for living. So keeping in mind this fact, liveability index assesses the living conditions of nearly 50 Indian cities on a same platform with the same set of guidelines. Here, factors that directly as well indirectly impact the livelihoods of people across the country are taken into consideration. More than 300 meaningful and quantifiable indicators are mined from credible sources to fit into the pillars and their sub-pillars. The pillars and sub-pillars of the index are constant and cannot be changed but to make it robust, few indicators can be changed depending upon its relative impact.

The eight pillars of the liveability index are demographics, education, health and medical standards, safety, housing, socio-cultural-natural environment, economic environment and planned environment. These further get divided into sub-pillars and under each sub-pillar, measurable and relevant indicators are taken. The indicators largely focus on one definite component of the society and capture its true essence. Thus creating a relative and clear picture about the needs of the citizenry and the living conditions they always expect from their region.

### 3.2 Data collection

Unlike the other cities of the world, Indian cities have not been able to develop sufficient and updated data banks till date. The dearth of data with respect to Indian cities is a major drawback of the Indian system creating problems in estimating the factual image of the region. However, the reliable data figures produced by Government of India eases the overall process and to a great extent provide the relevant (and required) data. The data is selected on the basis of relevance and consistency. The hard data is collected from reliable sources such as various ministries and departments that fall under the purview of the Government of India. This helps in eliminating the personal bias or a sampling error that can complicate the reality and result into a biased image because of the faulty human perception.

The liveability index takes into consideration the data that is collected at city level. However, some cities are not mapped properly and even if they are, then the visibility status of their data records is extremely low. As a result, no data is recorded for them. Therefore, the gaps in the data set of those cities were filled with similar size or character entity's data. This helps in preventing undue biasness, which can get created due to either favorable or negatively correlated data being introduced in the conclusion. In addition, accessibility of data indicators in the area of demographics, education, environment and safety etc. helps in making the overall study more strong. Hard data has given robustness and standardization of data across the selected 50 Indian cities. It is also backed by the normalization of data points thus strengthening the entire procedure. It should be noted that all the parameters were arranged into comprehensive indices so as to prevent multicollinearity, which could have influenced the results negatively. In order words, the complete data set is a summation of valid quantitative data figures that via mathematical calculations helps to portray the living scenario of each city.

### 3.3 Measuring the index

Steps that are required to shape and then eventually evaluate the liveability index can be described as follows:

#### Step 1: Selection and collection of relevant data points

Broadly, the framework includes eight major pillars, twenty sub-pillars and the data indicators. The number of data indicators varies under each sub-pillar depending upon its relevance. Here, the pillar is a function of a sub-pillar which is further again a sub-pillar of

related and significant data indicators. The data indicators are thus the crucial element of the entire framework. It is therefore necessary to collect them from credible government sources which will then help to assess the growth patterns of the cities and come up with meaningful analysis.

### **Step 2: Grouping into respective category**

Once the data is collected successfully, the next step is to group the data indicators into respective heads of pillars/sub-pillars. This is just a second check on the status of the indicators because basically the grouping is largely done in the first step itself.

### **Step 3: Assessing the data set**

The data should now be evaluated on each pillar to understand the patterns and performance of each city on the liveability index. At this stage, it is important to cautiously assign the direction of influence (negative or positive) of each indicator on the city. Like, number of hospitals in a region has a positive influence as it an indicator of growth. On the other hand, the number of molestation cases registered in a region questions the safety of a region and thus has a negative influence. In short, the influence of each indicator should be vigilantly observed and then only direction should be assigned to it so as to make the evaluation flawless.

### **Step 4: Mathematical computation of the index**

The last and the most vital task of the entire process is the final calculation. The process starts with assigning weights to the indicators, sub-pillars and the pillars. The weights assigned to these parameters (or indicators) are not constant and differ based on the category of the parameter and its intensity. Followed by a series of other mathematical calculations, the score of each city is obtained on sub-pillars, pillars and on the overall index. Thus, the liveability index is created and ready to be interpreted.

As per the guidelines, the economic strength and weakness of each city along with their respective threats and opportunities was looked upon to obtain the accurate and real liveability status.

## **3.4 Analyzing the index**

As mentioned above, liveability index is an integration of all crucial parameters from a citizenry point of view that are essential for living. Therefore, every indicator is important but their influences vary depending upon their significance in shaping the living environment. Indicators are taken on per capita scale so as to equalize all the parameters. It will correct the biasness of large cities due to their large values. Now the impact on per capita will be taken into consideration, which is definitely the correct method of evaluation. Thus, keeping in mind all these factors the liveability index was created to bring forth the picture of liveability in selected 50 Indian cities.



### 3.5 List of 50 Indian cities covered

The selection of cities is an iterative process which require quantitative and qualitative techniques. It requires a close mapping of their factors pertaining to society, physical infrastructure, cultural setup, economic activity, environment sustainability and business opportunities. Thus, 50 Indian cities were selected which have been tracked now for the past two years and will be used even in the liveability index 2013. Though it should be noted that in the liveability index 2013, Kota has replaced Puducherry. In short, Kota is the new entrant that has been evaluated on the liveability index 2013.

The cities that are a part of the liveability index 2013 are present on the Indian map below.



## 4. Results and Rankings



## Overall Score

Rank	Cities	Scores
1	Mumbai	65.429
2	Chennai	64.194
3	Hyderabad	63.379
4	Bengaluru	61.850
5	Delhi	61.846
6	Kolkata	60.754
7	Noida	60.594
8	Gurgaon	60.347
9	Chandigarh	59.671
10	Madurai	59.451
11	Ahmedabad	59.344
12	Pune	59.246
13	Nagpur	59.238
14	Coimbatore	58.742
15	Shimla	58.307
16	Indore	58.085
17	Mysore	57.806
18	Nashik	57.798
19	Thiruvananthapuram	57.771
20	Surat	57.641
21	Kozhikode	57.634
22	Dehradun	57.618
23	Vishakhapatnam	57.323
24	Kochi	57.086
25	Vijayawada	56.956
26	Jaipur	56.929
27	Bhubaneswar	56.924
28	Lucknow	56.804
29	Allahabad	56.713
30	Jammu	56.496
31	Amritsar	56.496
32	Guwahati	56.387
33	Varanasi	56.248
34	Ludhiana	56.201
35	Srinagar	56.158
36	Bhopal	56.051
37	Rajkot	55.910
38	Meerut	55.740
39	Dhanbad	55.609
40	Jamshedpur	55.606
41	Kota	55.592
42	Ranchi	55.367
43	Jabalpur	55.271
44	Vadodara	55.235
45	Faridabad	55.211
46	Agra	55.035
47	Raipur	54.871
48	Asansol	54.172
49	Kanpur	53.918
50	Patna	53.624

## Demographic Pillar

Rank	Cities	Overall score	Population	Migration	Labour Participation
1	Mumbai	91.17	92.50	113.50	74.05
2	Delhi	88.15	92.50	115.78	62.50
3	Bengaluru	77.53	84.30	68.50	72.26
4	Hyderabad	71.46	75.87	62.13	70.34
5	Chennai	69.91	69.49	72.95	68.57
6	Ahmedabad	68.99	71.01	68.57	65.88
7	Surat	66.66	66.46	60.14	71.33
8	Kolkata	65.91	62.90	94.68	51.75
9	Pune	63.42	61.27	62.15	67.86
10	Nagpur	62.19	58.74	55.41	72.47
11	Coimbatore	60.50	56.54	52.78	72.26
12	Madurai	60.44	54.19	51.72	76.69
13	Jaipur	58.94	59.21	59.42	58.15
14	Vishakhapatnam	58.33	53.60	50.51	71.43
15	Bhopal	58.26	59.18	54.39	59.30
16	Vadodara	57.65	52.92	54.15	67.88
17	Indore	57.62	59.33	54.66	56.72
18	Vijayawada	56.82	50.56	49.79	71.93
19	Rajkot	56.47	53.14	51.77	65.16
20	Nashik	56.15	51.76	51.50	66.58
21	Mysore	55.94	50.61	50.09	68.71
22	Chandigarh	55.73	57.68	50.84	55.74
23	Kota	55.62	52.77	55.67	60.32
24	Jabalpur	54.75	52.43	52.94	59.84
25	Guwahati	54.67	55.98	50.43	55.33
26	Dhanbad	54.26	52.09	53.02	58.71
27	Asansol	54.25	51.79	50.80	60.65
28	Lucknow	53.65	60.19	58.24	39.70
29	Jamshedpur	53.59	50.60	53.39	58.71
30	Ranchi	53.55	51.14	51.84	58.71
31	Ludhiana	53.00	52.96	51.68	53.94
32	Faridabad	52.93	57.62	52.21	45.58
33	Kanpur	52.82	56.88	60.76	40.74
34	Gurgaon	52.70	57.36	47.98	48.07
35	Varanasi	52.64	50.67	53.11	55.62
36	Kozhikode	52.40	54.24	48.03	52.26
37	Kochi	52.07	53.34	48.59	52.26
38	Amritsar	51.54	51.19	50.36	52.91
39	Thiruvananthapuram	51.43	52.32	47.95	52.26
40	Bhubaneswar	50.63	49.82	49.22	52.91
41	Noida	50.63	52.86	49.23	47.83
42	Dehradun	49.57	51.73	48.11	46.94
43	Srinagar	49.47	50.58	52.91	45.33
44	Meerut	48.27	52.18	52.86	38.69
45	Agra	48.14	51.80	53.69	38.32
46	Patna	47.96	52.58	57.86	33.65
47	Allahabad	47.86	47.12	52.27	46.13
48	Jammu	47.36	47.23	50.73	45.33
49	Shimla	46.87	42.46	47.45	53.84
50	Raipur	46.30	51.45	50.37	35.01

## Education Pillar

Rank	Cities	Overall score	Education level	Occupation level
1	Delhi	67.86	75.27	60.45
2	Chennai	65.79	65.03	66.55
3	Mumbai	64.72	68.38	61.07
4	Ahmedabad	60.46	59.75	61.18
5	Coimbatore	60.33	62.62	58.05
6	Madurai	60.23	62.41	58.05
7	Chandigarh	60.21	63.54	56.88
8	Hyderabad	60.15	61.37	58.94
9	Nagpur	59.92	61.19	58.64
10	Pune	59.53	60.70	58.36
11	Indore	59.47	58.48	60.46
12	Surat	59.38	58.36	60.40
13	Nashik	59.20	60.93	57.46
14	Guwahati	58.95	61.39	56.52
15	Gurgaon	58.53	54.77	62.30
16	Kozhikode	58.02	60.40	55.63
17	Bengaluru	57.78	55.34	60.21
18	Dehradun	57.71	59.72	55.71
19	Jabalpur	57.36	57.75	56.97
20	Rajkot	57.27	56.97	57.56
21	Shimla	57.13	56.83	57.42
22	Meerut	57.04	54.87	59.20
23	Lucknow	56.92	55.24	58.60
24	Allahabad	56.75	56.72	56.79
25	Ludhiana	56.73	56.32	57.15
26	Kolkata	56.56	52.91	60.22
27	Jaipur	56.56	53.39	59.73
28	Kochi	56.48	57.33	55.63
29	Bhubaneswar	56.44	56.00	56.89
30	Thiruvananthapuram	56.36	57.09	55.63
31	Varanasi	55.88	56.12	55.63
32	Agra	55.64	51.55	59.73
33	Noida	55.63	52.53	58.73
34	Faridabad	55.58	52.41	58.75
35	Amritsar	55.48	55.65	55.31
36	Dhanbad	55.44	55.90	54.98
37	Vijayawada	55.38	53.92	56.83
38	Vishakhapatnam	55.36	52.92	57.79
39	Bhopal	55.27	56.27	54.27
40	Kota	55.23	57.85	52.60
41	Mysore	55.08	52.88	57.27
42	Raipur	54.81	57.08	52.55
43	Jammu	54.54	52.16	56.92
44	Asansol	54.52	56.17	52.86
45	Kanpur	54.45	56.97	51.92
46	Jamshedpur	53.66	52.33	54.98
47	Ranchi	53.36	51.74	54.98
48	Vadodara	51.52	55.91	47.14
49	Srinagar	50.35	43.78	56.92
50	Patna	50.12	51.91	48.33



## Health &amp; Medical Standards Pillar

Rank	Cities	Overall score	Health Parameters	Health Support Infrastructure
1	Delhi	75.58	63.46	87.71
2	Mumbai	72.41	64.43	80.40
3	Kolkata	68.13	62.55	73.71
4	Chennai	66.50	69.68	63.32
5	Thiruvananthapuram	62.70	63.30	62.09
6	Pune	62.54	58.38	66.69
7	Kochi	62.29	62.14	62.44
8	Kozhikode	61.82	60.81	62.83
9	Madurai	61.77	64.97	58.56
10	Hyderabad	61.66	61.36	61.97
11	Nashik	61.30	56.11	66.49
12	Vijayawada	60.37	58.77	61.97
13	Coimbatore	59.70	61.37	58.02
14	Chandigarh	59.53	61.28	57.79
15	Gurgaon	59.39	59.52	59.26
16	Vishakhapatnam	58.81	58.02	59.60
17	Allahabad	58.77	54.41	63.12
18	Jaipur	57.74	55.53	59.94
19	Raipur	57.68	55.11	60.25
20	Nagpur	57.60	56.53	58.67
21	Vadodara	57.41	54.48	60.33
22	Surat	57.06	58.87	55.24
23	Rajkot	56.94	57.57	56.31
24	Indore	56.54	60.63	52.45
25	Mysore	56.46	57.35	55.57
26	Bengaluru	56.29	55.98	56.59
27	Asansol	56.08	54.44	57.73
28	Jammu	56.06	59.45	52.67
29	Lucknow	55.60	53.30	57.90
30	Amritsar	55.21	57.06	53.35
31	Kanpur	55.19	54.20	56.18
32	Shimla	54.97	57.18	52.76
33	Noida	54.54	56.30	52.79
34	Dehradun	54.45	58.22	50.67
35	Ahmedabad	53.60	56.45	50.75
36	Meerut	53.57	54.80	52.34
37	Agra	53.34	52.44	54.23
38	Srinagar	53.12	58.11	48.13
39	Kota	52.84	52.04	53.64
40	Faridabad	52.71	56.80	48.61
41	Jamshedpur	52.48	53.73	51.24
42	Bhubaneswar	52.33	52.55	52.11
43	Varanasi	52.09	50.26	53.92
44	Patna	51.74	51.98	51.49
45	Jabalpur	51.14	51.49	50.79
46	Ludhiana	50.84	56.61	45.06
47	Ranchi	50.66	56.03	45.29
48	Bhopal	50.50	51.17	49.83
49	Guwahati	48.86	48.12	49.61
50	Dhanbad	48.27	51.79	44.74

## Safety Pillar

Rank	Cities	Overall score	Crime	Road Accidents
1	Shimla	74.64	68.17	71.09
2	Jammu	72.93	65.93	68.44
3	Dehradun	72.39	65.67	67.84
4	Dhanbad	70.99	63.03	67.90
5	Surat	70.23	64.21	62.66
6	Noida	69.93	64.81	60.47
7	Madurai	69.70	63.02	63.60
8	Bhubaneswar	69.58	63.59	62.91
9	Gurgaon	69.56	63.08	64.31
10	Allahabad	69.37	61.21	66.95
11	Srinagar	68.69	59.24	70.09
12	Hyderabad	68.23	61.31	66.29
13	Ranchi	67.45	60.54	61.91
14	Amritsar	67.21	60.17	63.67
15	Varanasi	66.93	64.68	50.75
16	Mysore	66.69	63.06	64.01
17	Lucknow	66.37	57.71	66.91
18	Ahmedabad	65.83	58.96	63.58
19	Vadodara	65.10	57.74	61.31
20	Rajkot	64.91	60.98	52.89
21	Guwahati	64.88	62.75	61.91
22	Kolkata	64.48	57.05	66.14
23	Jamshedpur	64.40	58.27	57.05
24	Raipur	64.30	59.41	54.69
25	Ludhiana	63.93	56.46	60.67
26	Chennai	63.72	62.90	45.94
27	Thiruvananthapuram	63.20	61.93	47.88
28	Meerut	63.05	58.51	52.10
29	Coimbatore	62.77	56.03	58.68
30	Kanpur	62.13	57.85	50.46
31	Kozhikode	62.02	62.72	39.64
32	Nagpur	61.71	54.94	56.35
33	Agra	60.67	53.37	56.68
34	Jabalpur	60.46	54.96	53.55
35	Mumbai	59.66	53.86	54.88
36	Bengaluru	59.56	54.72	52.46
37	Patna	59.40	55.44	51.44
38	Vishakhapatnam	59.01	53.96	61.56
39	Nashik	58.51	52.86	50.87
40	Chandigarh	57.76	47.22	60.69
41	Indore	56.47	50.11	52.01
42	Faridabad	56.29	46.30	59.01
43	Vijayawada	56.26	47.38	55.64
44	Bhopal	55.84	44.11	62.00
45	Kota	55.36	53.69	59.26
46	Kochi	51.72	47.18	46.47
47	Delhi	50.77	43.34	51.77
48	Pune	50.14	46.86	38.00
49	Jaipur	49.13	41.37	52.81
50	Asansol	46.28	54.49	8.96

## Housing Options Pillar

Rank	Cities	Overall score	Housing Cost & Availability	Urban HH Crowding
1	Noida	66.96	69.38	64.54
2	Vijayawada	63.85	61.44	66.25
3	Nagpur	63.29	62.45	64.14
4	Ranchi	62.52	60.89	64.15
5	Jamshedpur	62.49	59.87	65.10
6	Vishakhapatnam	62.48	58.66	66.29
7	Shimla	62.30	59.58	65.03
8	Pune	62.29	60.76	63.81
9	Dhanbad	61.93	58.88	64.98
10	Nashik	61.80	60.21	63.39
11	Agra	61.26	58.59	63.93
12	Allahabad	61.11	58.30	63.93
13	Asansol	61.01	60.25	61.77
14	Chandigarh	60.98	62.53	59.42
15	Madurai	60.93	56.68	65.18
16	Indore	60.25	60.25	60.26
17	Meerut	59.99	57.87	62.11
18	Kochi	59.91	54.37	65.45
19	Thiruvananthapuram	59.91	54.36	65.45
20	Faridabad	59.85	55.14	64.55
21	Bhubaneswar	59.79	58.83	60.75
22	Amritsar	59.61	56.50	62.72
23	Kozhikode	59.18	52.87	65.49
24	Dehradun	59.13	56.56	61.70
25	Kota	58.82	55.04	62.59
26	Mysore	58.63	56.39	60.88
27	Ludhiana	58.59	54.72	62.46
28	Gurgaon	58.43	57.76	59.11
29	Coimbatore	58.38	57.72	59.04
30	Bengaluru	57.81	60.87	54.74
31	Bhopal	57.76	56.52	59.01
32	Jammu	57.66	51.38	63.93
33	Srinagar	57.46	51.68	63.24
34	Guwahati	57.37	51.08	63.65
35	Lucknow	57.20	57.24	57.16
36	Varanasi	57.12	50.02	64.21
37	Patna	56.83	55.94	57.71
38	Jabalpur	56.34	52.41	60.26
39	Jaipur	56.24	57.32	55.15
40	Hyderabad	55.80	54.53	57.07
41	Ahmedabad	55.70	54.20	57.20
42	Raipur	55.44	52.30	58.58
43	Kolkata	51.13	54.56	47.71
44	Chennai	51.06	61.81	40.30
45	Rajkot	48.56	56.90	40.23
46	Surat	47.65	55.07	40.23
47	Vadodara	47.06	53.89	40.23
48	Mumbai	46.04	63.87	28.20
49	Kanpur	44.58	55.09	34.07
50	Delhi	16.69	53.59	-20.21

## Socio-Cultural-Natural Environment Pillar

Rank	Cities	Overall score	Supporting Infrastructure	Natural Environment	Cultural Environment
1	Jaipur	61.02	61.07	62.36	58.25
2	Kochi	60.41	56.30	66.32	56.78
3	Noida	59.86	65.71	55.23	57.45
4	Meerut	59.86	65.30	56.09	56.50
5	Varanasi	59.83	64.53	56.74	56.62
6	Mysore	59.40	54.77	65.53	56.41
7	Kozhikode	59.29	55.88	63.95	56.78
8	Bhopal	58.77	56.98	60.59	58.72
9	Thiruvananthapuram	58.76	58.22	60.58	56.20
10	Chennai	58.61	57.92	59.84	57.54
11	Bhubaneswar	58.60	53.24	62.18	62.14
12	Faridabad	58.34	58.57	58.89	56.80
13	Gurgaon	58.20	58.90	57.52	58.15
14	Srinagar	58.16	54.10	63.25	56.08
15	Allahabad	57.99	58.24	58.53	56.42
16	Vishakhapatnam	57.97	53.52	63.04	56.74
17	Hyderabad	57.80	56.70	59.85	55.91
18	Guwahati	57.76	58.88	57.43	56.17
19	Kanpur	57.74	62.99	53.04	56.65
20	Agra	57.69	56.79	59.23	56.39
21	Nagpur	57.34	55.44	57.51	60.81
22	Dhanbad	57.19	55.49	58.88	57.21
23	Kolkata	57.14	61.55	54.21	54.19
24	Vijayawada	57.13	55.79	58.66	56.74
25	Asansol	56.96	59.99	53.65	57.49
26	Ludhiana	56.93	60.78	52.23	58.66
27	Lucknow	56.86	59.93	53.91	56.65
28	Bengaluru	56.78	53.59	60.16	56.41
29	Jamshedpur	56.67	60.98	52.10	57.21
30	Coimbatore	56.63	53.64	59.85	56.20
31	Indore	56.58	57.57	55.45	56.88
32	Shimla	56.48	55.81	57.75	55.27
33	Dehradun	56.44	58.37	54.08	57.31
34	Jabalpur	56.40	56.70	54.92	58.72
35	Kota	56.34	51.96	59.77	58.25
36	Raipur	56.25	56.26	55.22	58.27
37	Patna	56.12	56.97	56.38	53.88
38	Chandigarh	55.99	57.59	52.97	58.80
39	Jammu	55.96	55.81	55.98	56.23
40	Nashik	55.94	54.14	56.84	57.72
41	Madurai	55.64	51.30	59.70	56.20
42	Ranchi	55.56	60.32	49.97	57.21
43	Rajkot	55.46	50.82	60.08	55.51
44	Pune	55.26	55.18	53.31	59.29
45	Vadodara	55.09	51.40	58.58	55.51
46	Amritsar	55.04	58.29	50.15	58.34
47	Surat	55.02	53.05	56.75	55.51
48	Ahmedabad	54.74	51.57	57.53	55.51
49	Mumbai	54.58	57.78	48.26	60.80
50	Delhi	52.56	60.46	42.10	57.69



## Economic Environment Pillar

Rank	Cities	Overall score	Income & Environment	Economic Infrastructure	Business Environment	Purchasing Power
1	Delhi	70.19	85.62	65.02	65.20	64.90
2	Mumbai	69.50	73.47	78.56	62.22	63.78
3	Noida	66.92	85.26	62.36	61.07	58.99
4	Gurgaon	66.19	84.94	63.37	55.58	60.86
5	Kolkata	62.13	62.02	62.61	65.67	58.24
6	Bengaluru	61.12	60.60	57.17	57.22	69.52
7	Chandigarh	60.97	58.16	57.28	57.49	70.94
8	Pune	60.87	57.69	65.77	60.79	59.23
9	Chennai	60.77	61.78	59.57	60.16	61.55
10	Hyderabad	59.22	59.50	58.90	58.18	60.31
11	Ahmedabad	59.01	57.42	62.67	57.68	58.27
12	Nashik	58.48	53.85	59.50	60.02	60.56
13	Kochi	57.86	54.56	61.60	57.40	57.87
14	Amritsar	57.72	61.36	56.30	51.31	61.90
15	Ludhiana	57.69	61.36	56.46	52.22	60.72
16	Nagpur	57.54	53.95	55.72	60.25	60.25
17	Thiruvananthapuram	57.27	54.68	61.65	58.25	54.51
18	Rajkot	57.00	53.72	59.77	55.03	59.49
19	Shimla	56.79	56.51	61.13	50.52	59.01
20	Dehradun	56.73	56.70	56.44	53.46	60.32
21	Kota	56.72	52.76	59.10	56.45	58.55
22	Bhubaneswar	56.65	60.55	56.09	55.92	54.04
23	Coimbatore	56.59	53.97	60.29	59.94	52.17
24	Surat	56.37	53.74	58.14	55.44	58.16
25	Jaipur	56.26	52.58	54.82	56.64	60.98
26	Indore	56.22	52.48	61.11	57.31	54.00
27	Vadodara	56.06	55.99	59.04	55.63	53.59
28	Asansol	55.90	56.50	57.14	58.24	51.71
29	Mysore	55.70	53.82	57.93	57.28	53.76
30	Vijayawada	55.49	52.81	57.13	55.76	56.24
31	Patna	55.31	54.06	56.49	59.19	51.49
32	Bhopal	55.28	52.48	56.24	55.99	56.42
33	Jammu	55.13	54.23	55.48	50.52	60.31
34	Lucknow	54.81	51.74	53.17	58.58	55.74
35	Vishakhapatnam	54.69	52.81	54.69	56.03	55.21
36	Faridabad	54.55	51.42	53.53	55.68	57.58
37	Jamshedpur	54.45	58.48	49.83	54.30	55.18
38	Raipur	54.44	55.71	59.26	55.40	47.41
39	Meerut	54.43	51.74	52.19	59.14	54.66
40	Kozhikode	54.19	49.17	56.71	57.36	53.54
41	Varanasi	54.14	51.74	52.40	59.23	53.21
42	Ranchi	54.02	54.68	50.34	56.30	54.74
43	Jabalpur	53.95	52.48	53.31	57.51	52.50
44	Kanpur	53.76	50.90	52.22	59.72	52.20
45	Agra	53.69	51.74	49.86	59.07	54.08
46	Madurai	53.67	52.94	53.23	56.43	52.06
47	Guwahati	53.54	56.09	51.03	53.46	53.59
48	Allahabad	52.56	51.74	51.07	58.27	49.17
49	Srinagar	52.42	54.23	45.25	50.61	59.59
50	Dhanbad	52.18	50.42	48.22	56.02	54.05

## Planned Environment Pillar

Rank	Cities	Overall score	Communication	Transportation
1	Chennai	77.20	71.12	83.28
2	Delhi	72.96	83.06	62.86
3	Hyderabad	72.70	65.23	80.18
4	Bengaluru	67.94	74.49	61.39
5	Chandigarh	66.20	61.95	70.46
6	Mumbai	65.36	80.42	50.29
7	Indore	61.53	61.29	61.77
8	Kolkata	60.54	72.11	48.97
9	Noida	60.28	68.12	52.45
10	Pune	59.93	66.28	53.58
11	Gurgaon	59.78	58.34	61.22
12	Srinagar	59.59	62.27	56.92
13	Jaipur	59.56	61.50	57.61
14	Shimla	57.28	53.23	61.33
15	Bhopal	56.72	58.45	55.00
16	Ahmedabad	56.42	62.74	50.10
17	Kochi	55.95	60.46	51.44
18	Guwahati	55.05	56.80	53.31
19	Coimbatore	55.02	56.67	53.37
20	Mysore	54.55	49.57	59.52
21	Dehradun	54.53	56.26	52.80
22	Nagpur	54.30	55.86	52.74
23	Kozhikode	54.15	56.26	52.04
24	Kota	53.82	53.66	53.97
25	Madurai	53.24	55.16	51.31
26	Lucknow	53.01	55.87	50.15
27	Thiruvananthapuram	52.53	53.71	51.36
28	Jammu	52.33	52.79	51.87
29	Vadodara	51.99	55.22	48.75
30	Vishakhapatnam	51.95	53.58	50.31
31	Ludhiana	51.90	55.87	47.93
32	Jabalpur	51.77	50.73	52.81
33	Patna	51.53	52.36	50.69
34	Faridabad	51.45	51.05	51.84
35	Bhubaneswar	51.37	53.26	49.48
36	Varanasi	51.36	52.13	50.58
37	Nashik	51.00	55.87	46.14
38	Kanpur	50.67	54.71	46.63
39	Rajkot	50.66	52.50	48.83
40	Vijayawada	50.36	52.16	48.56
41	Amritsar	50.15	51.72	48.59
42	Agra	49.86	52.25	47.47
43	Raipur	49.73	47.82	51.64
44	Meerut	49.72	52.51	46.92
45	Allahabad	49.29	53.48	45.10
46	Surat	48.76	51.30	46.22
47	Asansol	48.38	50.82	45.93
48	Jamshedpur	47.10	44.76	49.45
49	Ranchi	45.82	45.77	45.88
50	Dhanbad	44.62	43.62	45.63



## 5. Understanding Liveability in-depth

The parameters of liveability might differ from a household of one region to another but the core focus remains the same. The concept of Liveability centers around the factors those are essential as well as required by an inhabitant for living peacefully in a region. The index is an integrated approach to measure the productive potential of the city. Indicators from all walks of life are taken into consideration so as to exhibit the real and updated picture of a region. The factors that would directly or indirectly benefit an inhabitant are looked upon so as to remain close to realism. It thus helps in commenting on the development graph of the regions. In other words, the index plainly describes the attraction level of a city by first understanding it and then comparing it with other cities.

The liveability index tries to provide answer to the questions such as, 'what all parameters are required for sustenance?', 'how is the region of an inhabitant performing on single as well as composite parameter?', 'what are the areas where a region lacks and what could be the possible measures taken?' etc. The outcome of the index is to assess liveability in terms of prosperity and development of the region.

### 5.1 A closer look at the top 3 liveable cities of India

The first three positions on the liveability index have been taken by the same set of cities which were on liveability index 2012 but in different order. The later four cities in the list of top ten liveability cities are new since last year because of their poor performance they could not manage to position themselves appropriately. In other words, there have been shifts in the overall ranking of the liveable cities of India. Reason for the upsurge and downfall of these cities is very evident looking upon the development of these cities in the last year.

Mumbai emerged as the most liveable city of India in 2013. It has surpassed Chennai to attain the numero uno position. Chennai holds the 2<sup>nd</sup> position on the liveability index 2013, followed by Hyderabad on 3<sup>rd</sup> position. Both the cities have moved down one position each. Bengaluru has taken a jump of 6 places and is at 4<sup>th</sup> rank on the liveability index 2013. It has moved upwards on pillars like safety, housing options and planned environment. Likewise, Delhi has grabbed the 5<sup>th</sup> rank on the index and has proved that it indeed should be included in the list of top ten liveable cities. It is one of the best cities on the sub pillar and pillar of the economic environment and communication respectively.

The other two entrants in the list of top ten liveable cities are Noida and Gurgaon which are placed at 7<sup>th</sup> and 8<sup>th</sup> rank respectively. Both of them have done commendably well on pillars of housing options and business opportunity. Their year-on-year slow but steady progress is an indication that they might appear in the list of top five liveable cities of India in the coming years. Contrarily, Pune and Nagpur that were in the list of top ten have reached the 12<sup>th</sup> and 13<sup>th</sup> rank respectively in the liveability index 2013. Below is a bird eye view of the top 3 liveable cities of India:



**Mumbai: Most livable city in India**

Liveability index 2013	Rank/50	Score
Overall	1	65.43
<b>Demographic Pillar</b>	<b>1</b>	<b>91.17</b>
Population	1	92.50
Migration	2	113.50
Labour Participation	2	74.05
<b>Education Pillar</b>	<b>3</b>	<b>64.72</b>
Education level	2	68.38
Occupation level	4	61.07
<b>Health &amp; Medical Standards Pillar</b>	<b>2</b>	<b>72.41</b>
Health parameters	3	64.43
Health support infrastructure	2	80.40
<b>Safety</b>	<b>35</b>	<b>59.66</b>
Crime	38	53.86
Road accidents	32	54.88
<b>Housing Options Pillar</b>	<b>48</b>	<b>46.03</b>
Housing cost & availability	2	63.87
Urban household crowding	49	28.20
<b>Socio-Cultural-Natural Environment Pillar</b>	<b>49</b>	<b>54.58</b>
Supporting infrastructure	21	57.78
Natural environment	49	48.26
Cultural environment	3	60.80
<b>Economic Environment Pillar</b>	<b>2</b>	<b>69.50</b>
Income & environment	4	73.47
Economic infrastructure	1	78.56
Business environment	3	62.22
Purchasing power	4	63.78
<b>Planned Environment Pillar</b>	<b>6</b>	<b>65.36</b>
Communication	2	80.42
Transportation	31	50.29

The most liveable city of India in 2013 is Mumbai. It has taken a leap of two places as it was placed at 3<sup>rd</sup> position on Liveability Index 2012. The city has performed well on pillars such as demographics and business. In addition, the city has showcased stability in its overall performance that is; the city has remained constant or moved upwards. There is barely any sign of downward motion on any pillar or sub-pillar. The financial capital of the country, which is being perceived as a saturated city, still seems to hold a lot of potential. The city has underperformed on pillars such as safety, housing options, socio-cultural-natural environment. It even needs to improve on the sub-pillar of transportation. If the city could improve upon these parameters then the city has the probability to become as one of the most preferred destination to live in. Though it is still a home for 1,24,78,447 people but it is often criticized for its lack of resources. The city thus is a powerful but require critical implementation of policies to grow, considering the fact that it has limited landscape.



## Chennai: The second most livable city in India

Liveability index 2013	Rank/50	Score
Overall	2	64.19
<b>Demographic Pillar</b>	<b>5</b>	<b>69.91</b>
Population	6	69.49
Migration	4	72.95
Labour Participation	11	68.57
<b>Education Pillar</b>	<b>2</b>	<b>65.79</b>
Education level	3	65.03
Occupation level	1	66.55
<b>Health &amp; Medical Standards Pillar</b>	<b>4</b>	<b>66.50</b>
Health parameters	1	69.68
Health support infrastructure	6	63.32
<b>Safety</b>	<b>26</b>	<b>63.72</b>
Crime	12	62.90
Road accidents	47	45.94
<b>Housing Options Pillar</b>	<b>44</b>	<b>51.05</b>
Housing cost & availability	5	61.81
Urban household crowding	44	40.30
<b>Socio-Cultural-Natural Environment Pillar</b>	<b>10</b>	<b>58.61</b>
Supporting infrastructure	20	57.92
Natural environment	14	59.84
Cultural environment	16	16
<b>Economic Environment Pillar</b>	<b>9</b>	<b>60.77</b>
Income & environment	6	61.78
Economic infrastructure	14	59.57
Business environment	7	60.16
Purchasing power	6	61.55
<b>Planned Environment Pillar</b>	<b>1</b>	<b>77.20</b>
Communication	5	71.12
Transportation	1	83.28

The second most liveable city on the liveability index 2013 is Chennai which was placed at the first rank last year. The city has performed equally well on most of the pillars as it did on liveability index 2012. The only pillar where it has witnessed a downward movement is socio-cultural-natural. Unlike, last year it performed a little better on the housing options pillar and moved two positions upwards but still failed to hold on its number one position.

The city is doing well in the area of demographic profile, economical environment, educational setup, health infrastructure, occupational opportunities and best on the sub-pillar of transportation system. In short, Chennai can definitely come back as the best city to live in, if a check is made at its cultural environment.

**Hyderabad: The third most livable city in India**

Liveability index 2013	Rank/50	Score
Overall	3	63.38
<b>Demographic Pillar</b>	<b>4</b>	<b>71.46</b>
Population	4	75.87
Migration	8	62.13
Labour Participation	9	70.34
<b>Education Pillar</b>	<b>8</b>	<b>60.15</b>
Education level	8	61.37
Occupation level	13	58.94
<b>Health &amp; Medical Standards Pillar</b>	<b>10</b>	<b>61.66</b>
Health parameters	9	61.36
Health support infrastructure	11	61.97
<b>Safety</b>	<b>12</b>	<b>68.23</b>
Crime	16	61.31
Road accidents	8	66.29
<b>Housing Options Pillar</b>	<b>40</b>	<b>55.80</b>
Housing cost & availability	38	54.53
Urban household crowding	40	57.07
<b>Socio-Cultural-Natural Environment Pillar</b>	<b>17</b>	<b>57.80</b>
Supporting infrastructure	27	56.70
Natural environment	13	59.85
Cultural environment	43	55.91
<b>Economic Environment Pillar</b>	<b>10</b>	<b>59.22</b>
Income & environment	11	59.50
Economic infrastructure	19	58.90
Business environment	19	58.18
Purchasing power	13	60.31
<b>Planned Environment Pillar</b>	<b>3</b>	<b>72.70</b>
Communication	8	65.23
Transportation	2	80.18

Hyderabad has dropped one position from its last year's rank on liveability index 2013. Last year, it had moved two places upwards (from its rank on Liveability index 2011 which was 4<sup>th</sup> rank) to reach the second position. Currently, it has emerged as the third most livable city in India on the liveability index 2013. It has performed relatively well on pillars such as, demographic, health & medical standards, safety and planned environment. It is the largest GDP contributor for the state of Andhra Pradesh, an attractive location for companies especially IT and a preferred location for many working class. In other words, the city to a great extent has proven itself to be a good city to live in. Now, in order to become the most livable city of the country it needs to improve upon in the areas of socio-cultural environment and housing cost & availability. Building its potential on these pillars will result into a city that is favorable on social factors, economically strong, environmentally sustainable and provide a promising environment to its citizenry.

## 5.2 Looking upon the liveability scenario in Indian cities from different lenses

To exemplify the development trajectories of Indian cities, it is important to understand each entity of the composite construct. It will not only bring forth a clear picture of the cities but will also help to understand their set of strengths and challenges. This thought-provoking study based on hard facts will thus benefit to map the gaps in the area of growth. Thus making it meaningful as well as effective in strategic planning.

Assessing liveability in-depth by looking upon the eight different but connected pillars of liveability is very important. The pillars are the base for the liveability index.

### 5.2a) Demographics & Liveability in Indian cities

According to the Government of India Census 2011, India has a population of over 1.21 billion. It is only second to China. A recent report of UN cited that India would surpass China by 2028 and both the countries will touch base the population figure of 1.45 billion. Interestingly, India today contains more than a sixth of the world's population with only 2.3% share of the land area. The population increase of India in 2011 is nearly 17.7% more than the last decade. An increase of 90.97 million males and 90.99 million females was recorded in the latest census reports. The Population Reference Bureau has anticipated that India will grow to 1.63 billion people by 2050.

India is expanding at a very fast rate. It is clearly reflected by an upsurge in the number of cities and other urban centers. Today about 377 million people (31.2% of the total population) are living in 7935 towns/cities. As per the official records, there are exactly 3 mega cities, 53 million plus UAs/Towns and 468 class I UAs/Towns. 264.9 million people (70% of the total urban population) live in Indian class I UAs/Towns. Likewise, 160.7 million people (42.6% of the urban population) live in India's million plus UAs/Cities. People are moving to the urban centers to attain financial security, achieve their aspirational goals and enjoy high standard of living, which they consider exist in big cities. This is leading to expansion of existing cities and formation of new cities. 18 new UAs/Towns have grown since the last decade. In other words, shift from rural to urban India is abrupt and is highly influential.

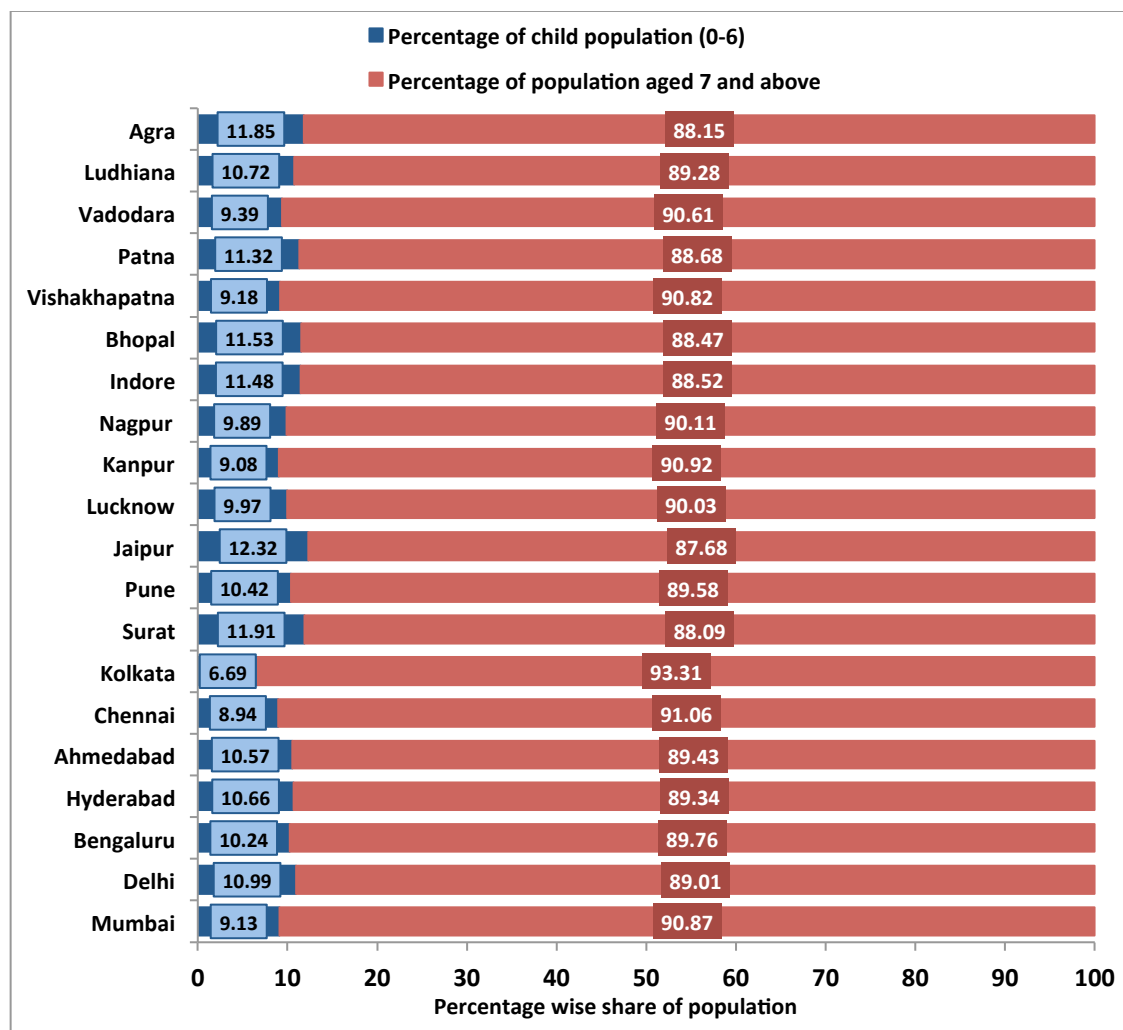
Today Mumbai is the most populated city of the country with about 18.4 million, followed by Delhi with 16.3 million and Kolkata with 14.1 million. These three cities have already stretched their boundaries in order to accommodate the growing population and large influx of migrants. Now the question arises, how to deal with their overburdened status and pave a road for better living conditions for their inhabitants. The issue is quite complex as these cities are the centers of urban agglomeration and also major corporate hubs. These cities have had always been attractive places to work and live in so the people compromise their healthy and safe living conditions at the cost of high remuneration.

Likewise, people are exploring other urban centers to improve their living conditions by migrating to them in search of a good job, better education opportunities and health



facilities. Indeed, the services available in rural areas of the country are still not recommendable so they are left with no option. Some experts state that all the major Indian cities such as Delhi, Mumbai, Kolkata, Chennai, Bengaluru, Ahmedabad, Hyderabad, and Pune etc. have equal mix of natives and migrants. In addition, the top ten most populated Indian cities in their respective order are Mumbai, Delhi, Bengaluru, Hyderabad, Ahmedabad, Chennai, Kolkata, Surat, Pune and Jaipur. Thus people are exploring more options in relatively new growing cities like Surat and Jaipur as well.

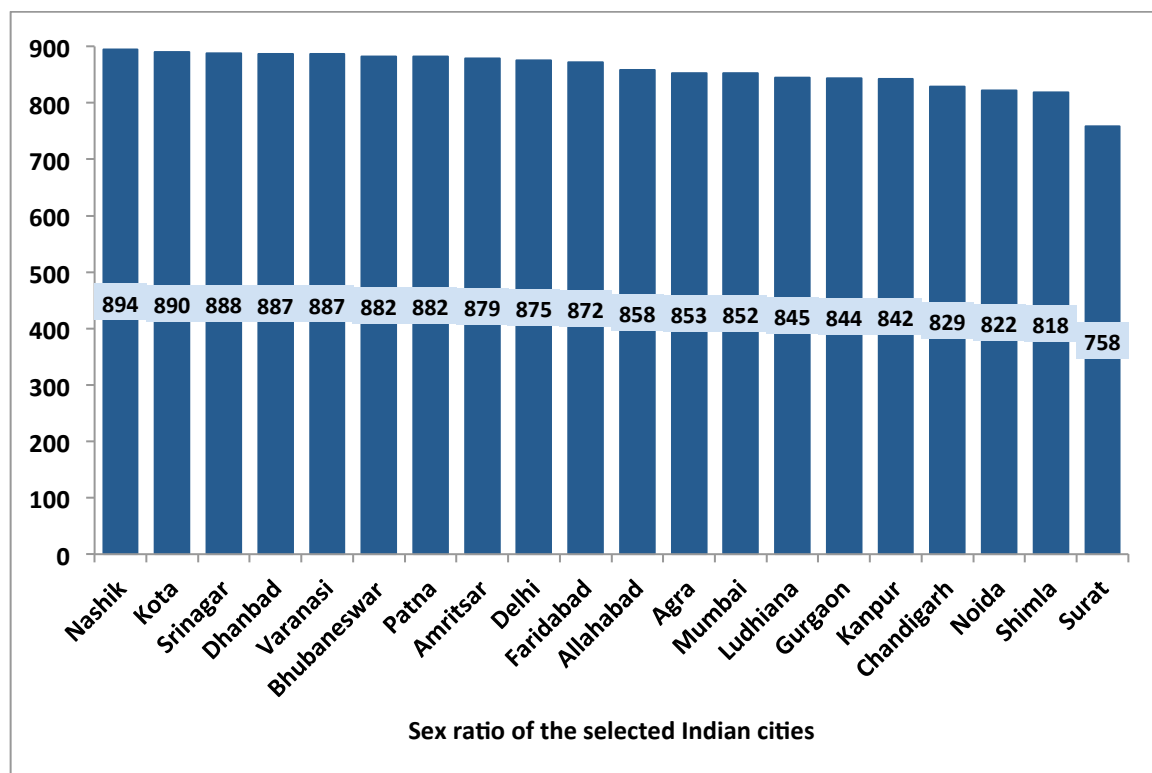
The demographic dividend of the top 20 most populated Indian cities also draw an interesting pattern. According to it, Kolkata has its major share of population in the age bracket of 7 and above. On the other hand, upcoming cities like Agra, Patna, Bhopal, Indore, and Surat still have at least 11% of their population below 6 years. The data clearly illustrates the fact often cited by experts that rural India is younger than urban India while 51.73% of rural Indians are under the age of 24, 45.9% of urban Indian are under 24. The graph below depicts the same that relatively urban centers of growth like Kolkata, Mumbai have less people in the working age group in comparison to cities like Agra and Surat etc.



Graph 1: The top 20 most populated Indian cities with the percentage wise share of their population (0-6 yrs. and 7+)

Demographic dividend definitely plays a major role in the economic growth of the country. Since our cities are the power engines of the country so it is important to tap the potential and plan the developments accordingly. Making it as an instrument, country at large can fight back against the widespread issues of building appropriate infrastructure, supplying services to people, improving the education and health facilities and most importantly, structuring as well as implementing policies. It will automatically bring a visible change in the living conditions of the inhabitants. Thus utilizing the power of our demographic dividend in the right direction can act as a game changer. However, it is important to equally encourage females and allow them to participate. India milieu is considered as a male dominated society and thus female are neither permitted to go to school, to work and at many regions to take birth. The destruction of this social aspect of the community can cause huge disruption to the economic environment.

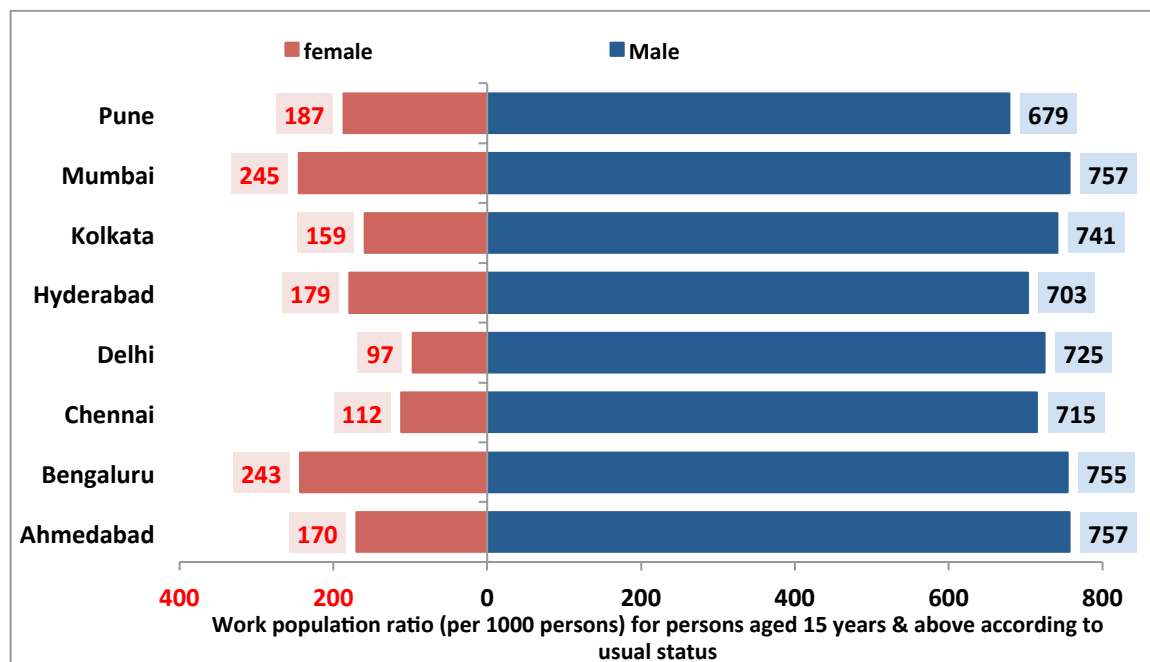
The low sex ratio of Indian cities is a concern and to a great extent reflects gap in the socioeconomic structure of the Indian society. Our society is gripped with the syndrome of ‘preference to male child than female’. However, southern India demonstrates a better sex ratio than the rest part of the country. Cities such as, Kozhikode, Thiruvananthapuram, Kochi and Mysore have sex ratio of 1000+. On the other hand, Surat, Shimla, Noida, Chandigarh, Kanpur, Gurgaon are the few Indian cities with a skewed sex ratio. The graph below represents some of the Indian cities with lowest sex ratio.



Graph 2: Cities with lowest sex ratio in India

It creates an imbalance in the society by hampering the societal behavior of a community. Thus affecting the living conditions of a region. These issues need to be fixed at an early stage before they lead to disorders such as lunacy. The wide gender gap is also evident in

the employment sector. Though, every passing year the female share is assumed to be getting better but the data says that presently it dominated by male. The labor participation trend when observed in the top metro cities of the country explains that the work population ratio of females is not even half in comparison to the work population ratio of males.



**Graph 3: Work population ratio (per 1000 persons) for persons aged 15 years & above for top metro cities of India**

According to the graph, Mumbai has the best working population ratio of female as well as male. Likewise, Bengaluru also displays a good work population ratio. Signifying that females in Mumbai have better working environment than say Delhi where just 97 females out of 1000 are employed. Kolkata, Chennai also have low work population ratio of females. In short, the situation is reasonably bad. It can be easily interpreted from presented facts that the living condition of a region vary from one region to another and is also gender dependent. Cities, which provide an inclusive environment packed with freedom of rights is preferred more. Thus this is one side of the bigger picture of liveability which concludes that demographics of a region are equally important to understand as they are the central entity of the entire concept.

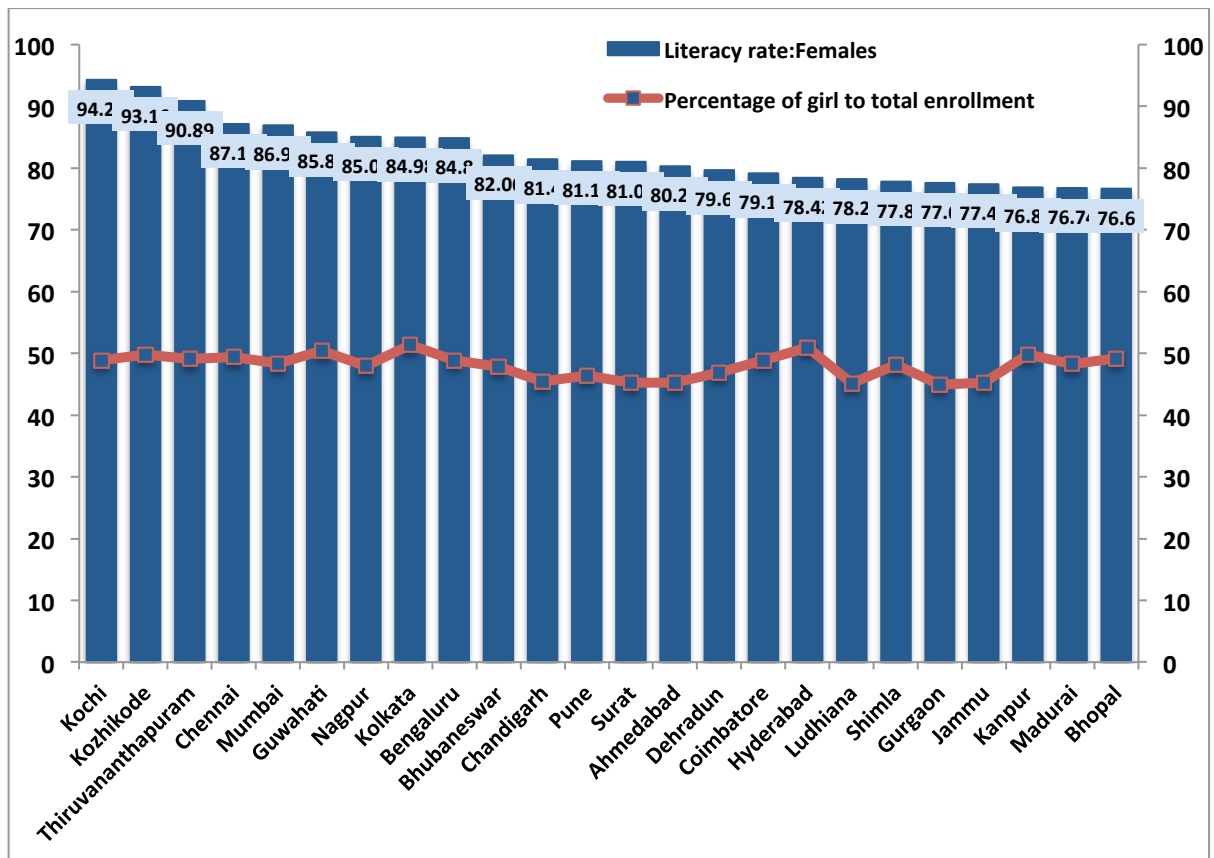
### 5.2b) Education situation in Indian cities

Structured and sufficient educational facilities are important to shape the future of a region because it directly influences the region's social and economic prosperity. Even Gordon Brown, United Nations special envoy for global education and the former Prime Minister of the UK once shared similar thoughts. He said, "education has a role to play in efforts of a country looking to transforming itself from a middle-income economy to a high-income one". Educated populace is always a boom for a country and relatively easy to deal with. As a result, the regions that have a high share of educated crowd have better business

opportunities, as industries prefer such regions. In addition, educated mass is considered to be more sensitive and aware about the issues of the country. This is definitely advantageous for a region because a region, which has a cooperative and understanding citizenry, tends to be more prosperous.

Our education system is surrounded by some pre conceived notions like better education will help them to build a respectable place in their social circle or to get a good job. However, the perception of people has now started changing and they are more inclined towards obtaining quality education. Their definitive motivation is not just to gain degrees. It is very clearly evident from the literacy data of Indian cities. It can be considered to be an appropriate determinant to gauge the impact of education in a region. According to it, cities in the southern part of the country as always have a better proportion of literacy rate among males and females. Mumbai, Pune, Ahmedabad and Bangalore have a good literacy ratio but there is a gap in between their male and female literacy rate. Delhi doesn't have an attractive data figures. Kolkata demonstrates a very low rate with just 89.085 of male literacy and 84.985 of female literacy. Among the low achievers are Patna, Vijayawada, Mysore, Agra, Srinagar and Vishakhapatnam. The female literacy rate of Agra is just 59.16%. Clearly, showing the signs of poor education system.

To understand the education system and its impact better, when the literacy rate of female and percentage of girl to total enrolment in school was looked upon then following results were obtained.



Graph 4: Literacy rate of female w.r.t. the percentage of girl to total enrolment in schools

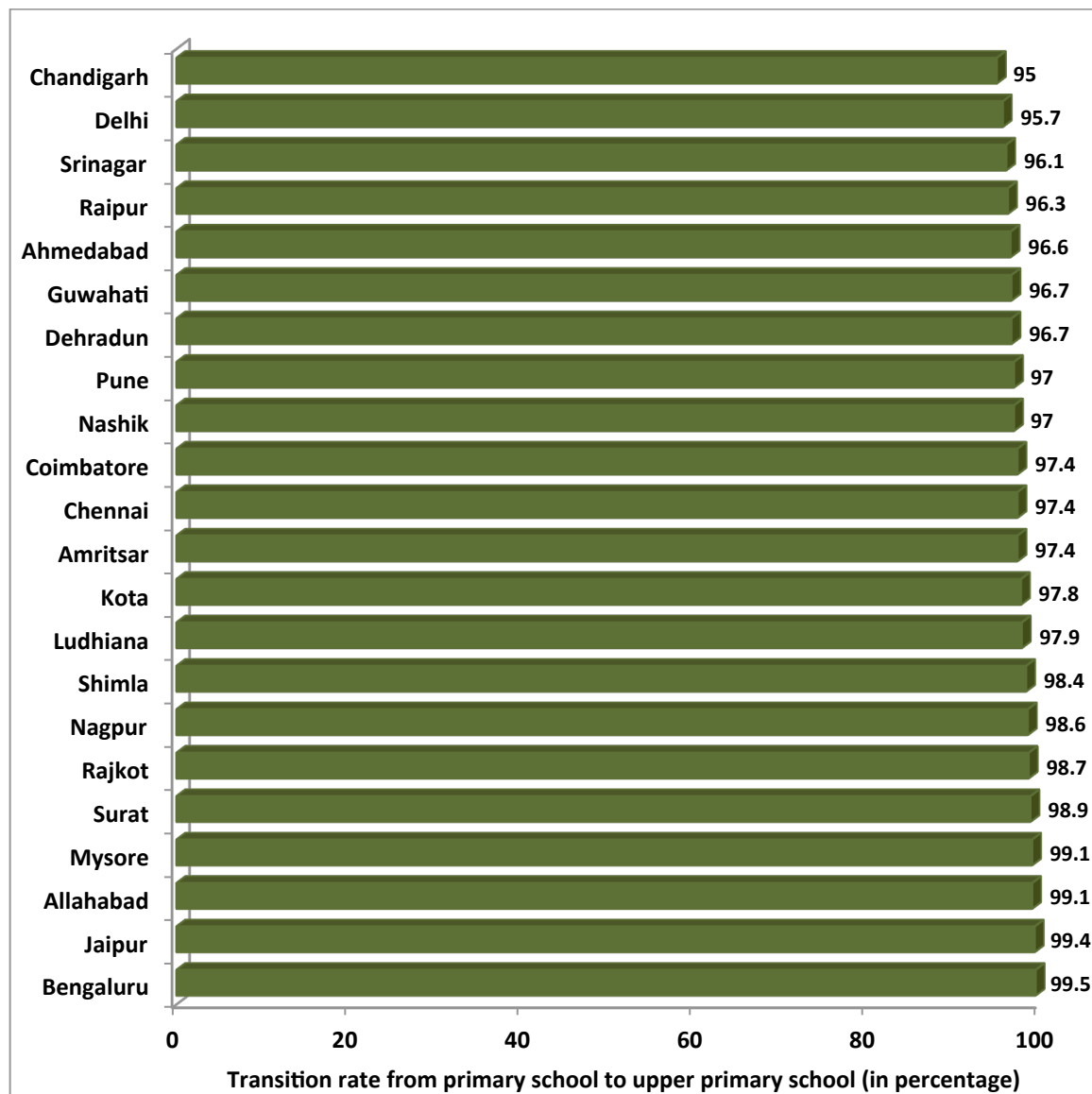
Agra, which has the lowest literacy rate among the 50 selected Indian cities, also has the lowest percentage of girls to the total enrolments made in schools. This explains that either girls are not encouraged (or allowed) to go to school or they have any other access issue because the female population in the city is not very skewed. Moreover, the percentage of girls to total enrollment is below 50 for almost all the cities, apart from Guwahati, Kolkata, Hyderabad, Indore, Lucknow and Dhanbad. It thus infers that majority of the girls are not able to taste the fruit of quality education, even if they want to. Hence resulting into a number of social problems. Because of illiteracy they are not able to find a good job, they are not able to raise their awareness level about various social and health issues.

The overall state of elementary education in the country is also not so promising. The data figures illustrates that there lies a gap between the promises made by the government and its implementation by the government departments. The appointment of professionally trained teachers is not uniform throughout the Indian cities. Cities like Delhi, Mumbai and Mysore have 100% whereas cities like Jammu and Srinagar have less than 50% professionally trained teachers. Likewise, the amenities such as computer and electricity available in the schools of lesser talked about Indian cities is poor in comparison to the metro or mega cities. Thus, the poor state of infrastructure in these cities is also a reason which discourages children from attending schools. It is eventually endangering our promising future because educated people are strong pillars of a society. These pillars form the foundation of a sensible, healthy and futuristic society.

The education department and private authorities should understand the fact that quality matters over quantity. Merely opening hundreds of schools and colleges wont solve the purpose. These institutions of learning need to be well equipped with the required services such as infrastructure, teachers, books, stationery etc. In addition, since private schools are not affordable by many people so efforts should be put in to enhance the state of government schools. Indian cities where the overall retention rate of students in school is less than 80% are Dhanbad, Faridabad, Guwahati, Jaipur, Jamshedpur, Kota, Noida, Patna, Ranchi and Shimla. These visible facts pertaining to the education system in Indian cities should be resolved. Education is meant for all and not just for few so equal chances should be given to everyone.

All Indian cities don't hold the same education delivery mechanisms and are very different w.r.t their quality of education. Some cities have excellent education set up and hence they are always appreciated. Apparently, all the metro cities have a good infrastructure and good access to education facilities. They have sufficient number of good schools and colleges as a result there is always a competitive atmosphere around them. People from small cities/towns often dream to get into these reputed and respectable institutions but the high rate of applications most of the time makes it unlikely. For an individual to reach that stage, it is important that they do not put a break in their journey of education. The graph below shows Indian cities where the transition rate from primary to upper primary school is more than 95%. Thus exemplifying that they have a better education delivery mechanism, which will help them to have a skilled human population and subsequently more chances to prosper in the long run.

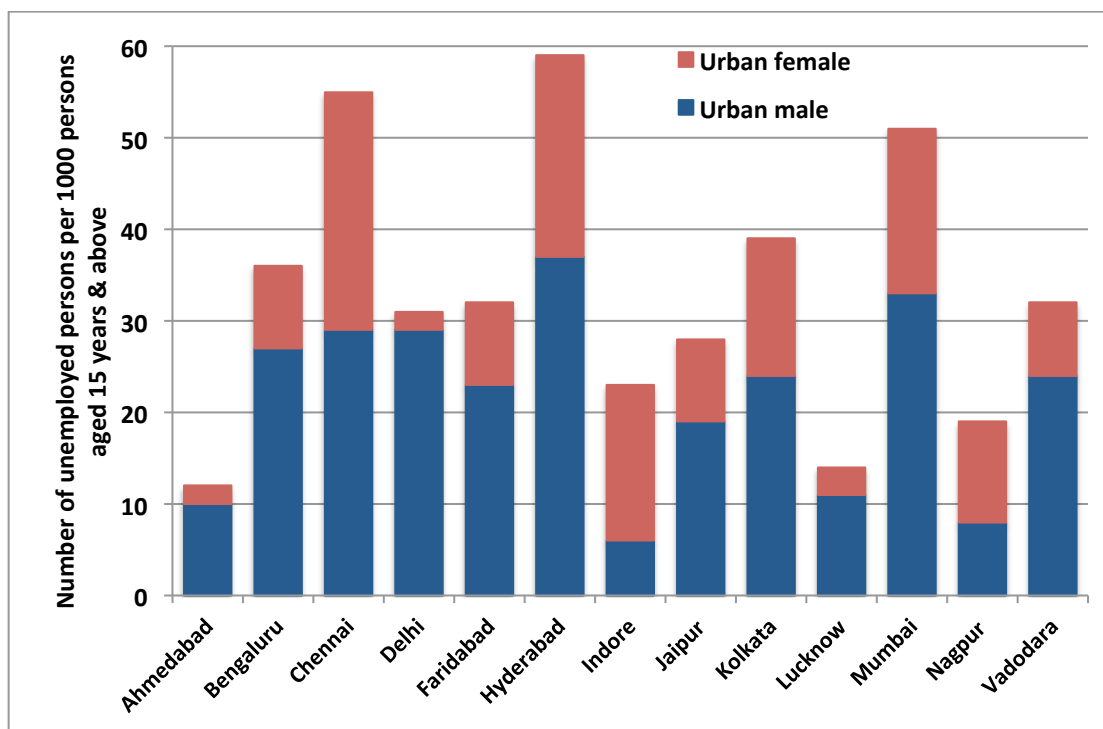




Graph 5: Indian cities where transition rate from primary to upper primary is more than 95%

The city authorities, which are busy in dealing with the challenges of education system of their region, would definitely be successful in putting a full stop on child labor, unemployment, population explosion etc. if tackled the right way.

The population explosion in India has demeaned the employment market because it has created a huge gap in between the demand and supply of jobs. Thus increasing the problems of unemployment, corruption and poverty. The challenge that a nation faces is when educated people are looking for jobs. Though government is trying its best to help by introducing schemes like NERGA, Rajiv Gandhi Rojgar Yojana etc. The situation is more miserable in small cities where opportunities are less for the educated populace. As a result the people are forced to migrate which affects the prosperity level of their native as well as migrated region. If an educated person is able to engage himself in a job at his native place then he/she would contribute financially and socially to the region. However, dearth of resources thus raises a question on their present state. It to a large extent is negatively influencing the living conditions of a region.



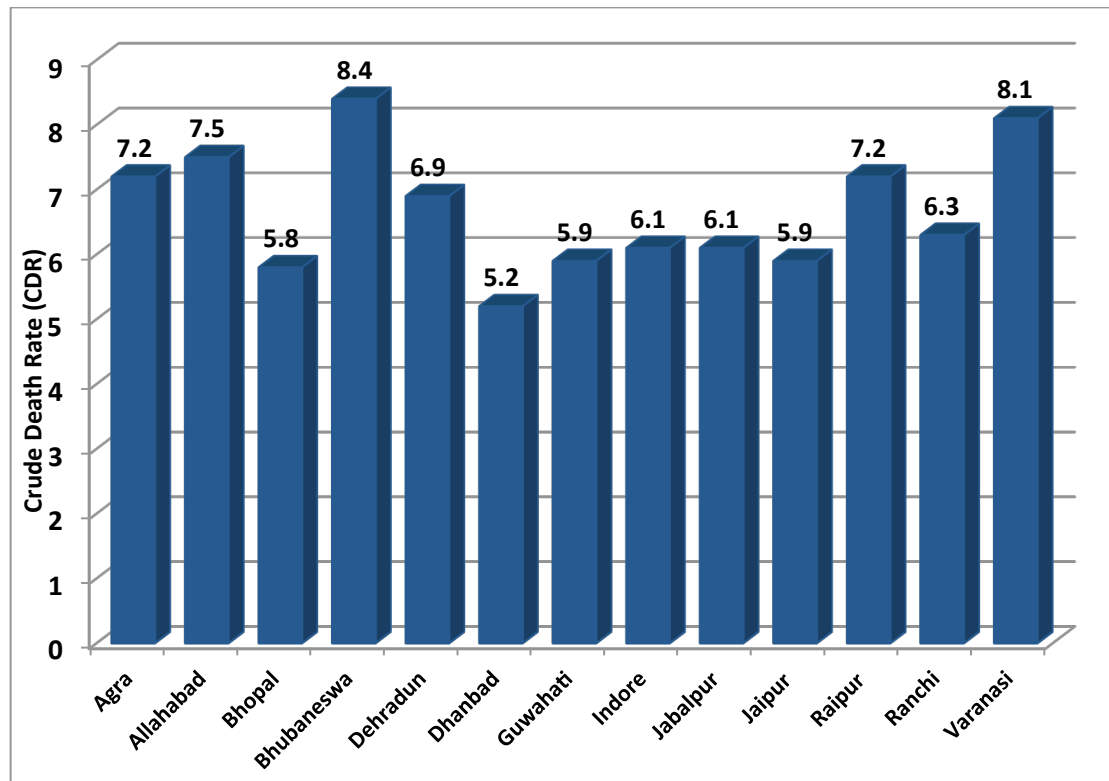
**Graph 6: Number of unemployed urban female and male per 1000 persons aged 15 years and above**

Employment market in the Indian cities is not very attractive. According to the 68<sup>th</sup> round survey by the National Sample Survey Office (NSSO), the unemployment rate of male as well as female is 2% that, at the same level in the rural areas. On the other hand, in the urban areas, the unemployment rate of women is 5% whereas of man, it is 2%. Similar data is reflected by the graph above. It clearly formulates that in the urban regions like Chennai, Indore etc. the unemployment rate of females is quiet high. There can be several issues like safety of women workforce or less number of opportunities. However, the fact remains the same that regions with better opportunities are more likely to scale themselves up and provide better living conditions to its inhabitants.

### 5.2c) Health and medical standards in Indian cities

India is a highly populous country and is constantly growing. It is anticipated to increase at a CAGR of 15% during 2011-17. Though the healthcare industry is expanding at a tremendous rate, still, there is a considerable gap between the quantity and quality of services that are provided in Class 'Y' and 'Z' cities. This also affects the productivity of the region because it is said that there is a direct equation between health and wealth or prosperity of a region. If the people of a region are healthy and disease-free, then they would be able to contribute in a positive and a constructive manner. This also leads us to the conclusion that health is a very crucial parameter, and it should be included while measuring the liveability of a region. Therefore to assess its influence determinants such as the birth rate, death rate, sanitation percentage of a region, number of hospitals and technological equipment are taken into consideration.

India currently spends only 1.2% of its GDP on publicly funded health care, which is very less w.r.t its size and also in comparison to other developing countries. The people who are in actual need of the health care facilities are not able to have a direct access; which in turn leads to a society which is more prone to diseases and infections. It has been observed that nearly 40% of the deaths in India are still due to infections. Clearly illustrating that the public services offered by the government are not very active and do not reach the small cities or rural areas of the country. Thus, developing a major threat for the prosperity and social stability of the country.



Graph 7: Crude death rate of Indian cities

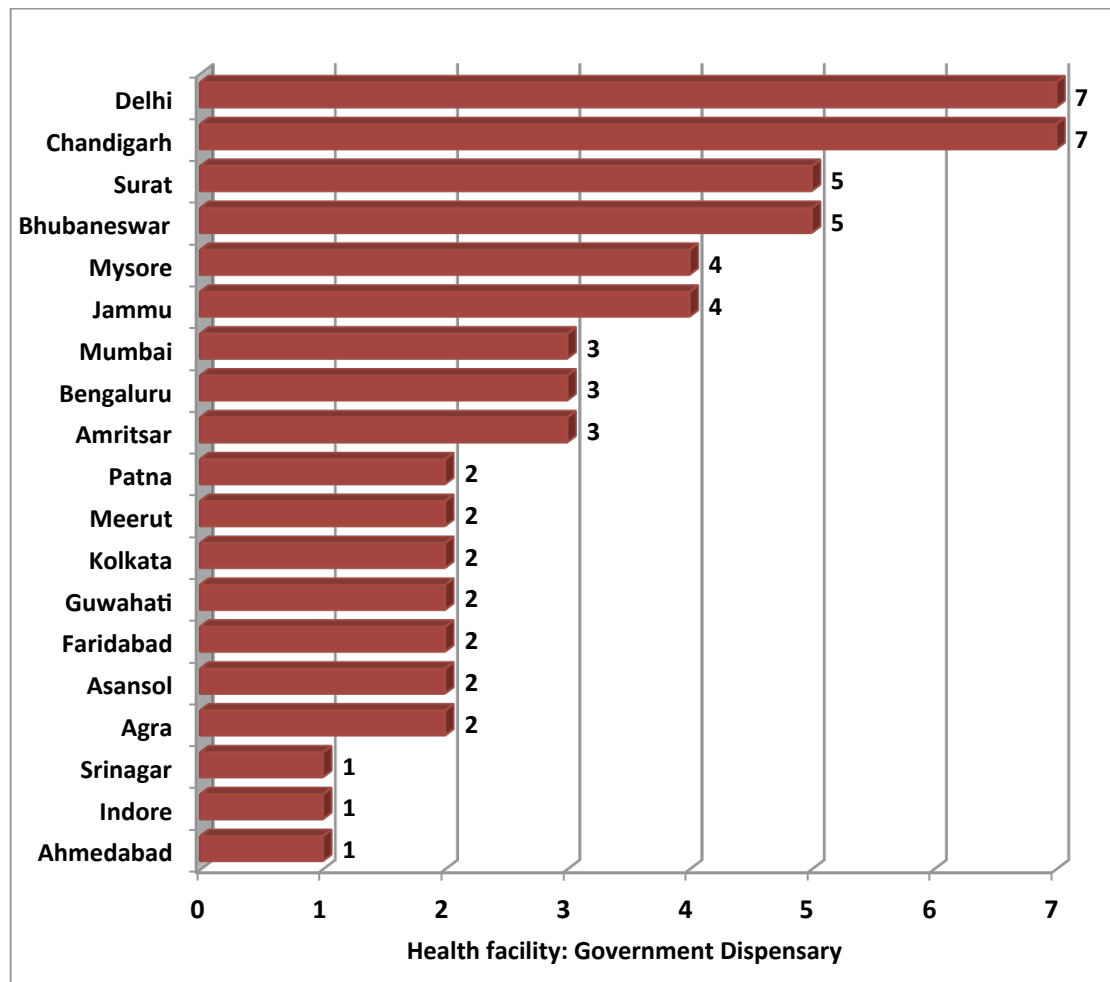
Cities like Bhubaneswar and Varanasi have a high crude death rate, since these cities lack the essential health services and their delivery mechanisms are not as efficient as of metro cities. Surprisingly, Dhanbad has a low crude death rate and a high crude birth rate. It illustrates that a region is less prone to diseases if the health care facilities are in order. It can be tagged as a balanced region w.r.t healthcare. Some cities of Uttar Pradesh such as Allahabad, Noida demonstrate a high crude birth rate, which could lead to overpopulation in the future assuming the rate, remains constant. High crude birth rate and low crude death rate are equally harmful for a region. It can negatively impact the demographic situation of the region by creating an imbalance and eventually resulting into multifaceted challenges such as infrastructure shortage, scarcity of resources et al.

On the similar lines, the sanitation statistics were also examined for the some of the Indian cities to gauge the awareness level of sanitation and hygiene among the citizens of a region. Chandigarh stood out in the list as people are more aware about sanitation and hygiene. They take required measures to keep their surroundings clean as compared to the other

cities in India. Surat and Delhi also closely follow on the footsteps Chandigarh and proved that within their region, municipal authorities are actively taking care of sanitation needs. On the other hand, people living in cities such Varanasi, Asansol, Amritsar and Srinagar appeared to be less aware w.r.t. sanitation facilities.

Many experts believe that healthcare should be considered as a long-term investment. This investment would pay off profitably but over a period of time. However, the healthcare infrastructure throughout the country is in a dire state, and there is an urgent need to strengthen it. The country and especially the Indian cities needs to have a stable and well-shaped healthcare infrastructure such as operational government and private hospitals, advanced technological setup, sufficient number of doctors and nurses etc.

People debate that government hospitals do not offer good services, their equipment's are not superior, their are not enough doctors to cater to the sick and needy and so on. This also indicates that the focus should be laid on opening more operational governmental hospitals (or dispensaries), having the latest equipment and adequate no of beds. Private hospitals (and clinics) are very expensive and are often out of reach for a common man. Albeit, there are many players in the private sector, but no efforts are being made to bring down the medical cost. Therefore, alternatives are required.



Graph 8: Number of government dispensaries present in selected Indian cities

Delhi and Chandigarh have the maximum number of government dispensaries among the selected Indian cities. Similarly, Surat and Bhubaneswar have 5 government dispensaries, Mysore and Jammu have 3 and so on. This helps the common man to have access to better health facilities within his means and reach. As stated by Amratya Sen, "Growth in national income by itself is not enough if the benefits do not manifest themselves in the form of more food, better access to health and education". Hence focus should be laid on making healthcare services available to a larger mass. If we look at the number of community health centers available in the selected Indian cities, then Kochi and Mumbai have the maximum health centers. The other two-mega cities, Kolkata has 17, and Delhi has 11 health centers. The least number of community health centers are in Ludhiana, Mysore, Ranchi and Srinagar. In short, accessibility to healthcare facilities is very important and crucial for an individual. This influences the liveability conditions of a region for sure. Therefore, private as well public bodies should strive to bring new and cost effective healthcare mechanisms to make the Indian cities healthy.

#### 5.2d) Safety and Indian cities

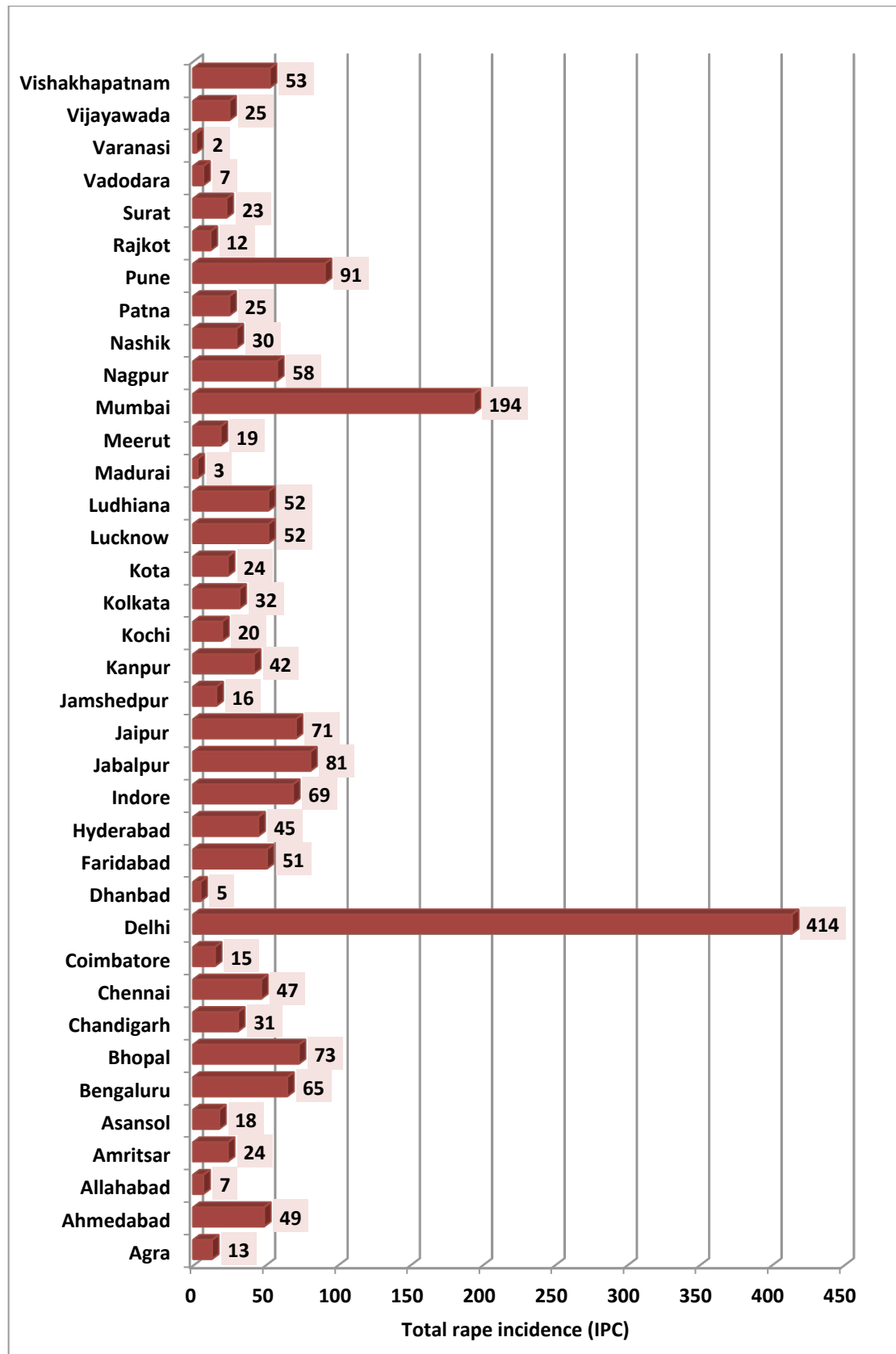
Indian cities are slowly turning into regions of crime. Earlier, Delhi was known for its high crime rate, but now it seems that no Indian city has remained untouched. News about rape, theft, and murder etc. are dominating the Indian media 24\*7. In other words, the increasing crime rate in Indian cities is a major area of concern. It not only results in an unsafe environment but also deteriorates the living conditions of a region. For instance, the capital city 'Delhi' is considered very unsafe for females. Many times the women from other cities do not want to come to Delhi because of its insecure environment and high rape rate. This has also affected the female tourists coming to India. Safety is always a major apprehension for people living in any part of the world, so it is of foremost importance. Even according to the Maslow's hierarchy of needs, safety is the second most crucial requirement for a human. It takes precedence and dominates their behavior thus shaping their actions.

The safety of Indian cities on the liveability index is mapped by taking into consideration factors of crime and road accidents. Crime includes, items stolen/found, crime rate, murder incidence, people arrested, case registered, cyber crime and so on. Likewise, under road accidents parameters such as rate of accidental deaths and their number, total number of traffic accidents and number of people injured etc. These factors and associated parameters closely relate to the real scenario and helps to study a region.

During the study, it was found that the cities in the Southern region of the country have relatively less crime rate than cities in the Northern region. Regions such as Uttar Pradesh, Bihar, Chhattisgarh, Delhi, Jharkhand and Haryana are more prone to crime. The law and order of these regions are always under scrutiny. However, every time the police or the local government should not be blamed for the criminal activities. The outlook of the people should be changed, and they should start looking at females with respect and dignity. In fact, crimes like molestation and rape are largely a social problem and can only be resolved by collective efforts. Various forms of crimes certainly influence the living conditions of a



region, directly or indirectly. Therefore, people are always looking for safer places to live and work so that they are able to have social security and mental peace.

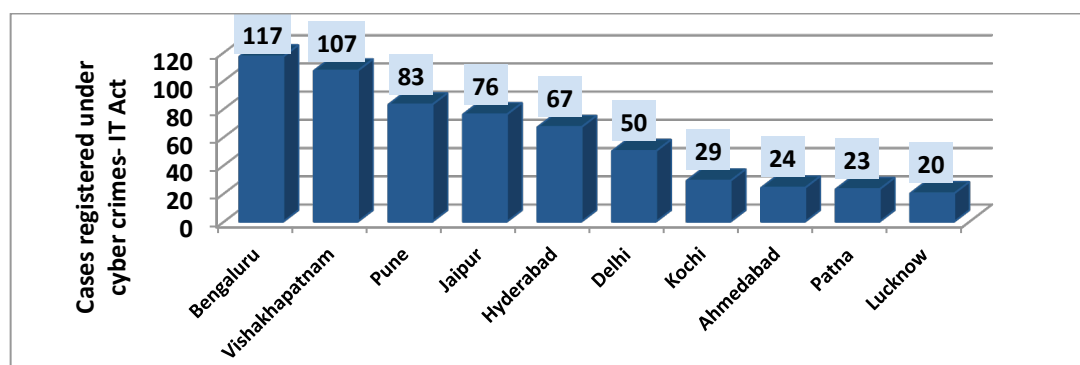


Graph 9: Total rape incidence (IPC) in Indian cities (in absolute terms)

Rape is becoming a major challenge within the country. The graph above illustrates the total incidence of rape in the Indian cities in the absolute terms. As evident, Delhi has the highest incidence of rape i.e. 414, followed by Mumbai with 194 which is less than half of Delhi, Pune with a number of 91, Jabalpur with 81, Bhopal with 73, Jaipur with 71 and so on. As per the figures, among the selected 50 Indian cities, Delhi has the highest count because the rape cases get reported. Experts say that such brutal cases gets attention in bigger cities but gets unnoticed by government authorities as well as public in the smaller cities. Indian cities such as Asansol, Agra and Varanasi etc. certainly must be having an equal (or higher) rape incidence. Cases of sexual assault go unreported in small cities as it leaves a social stigma on the victim's family.

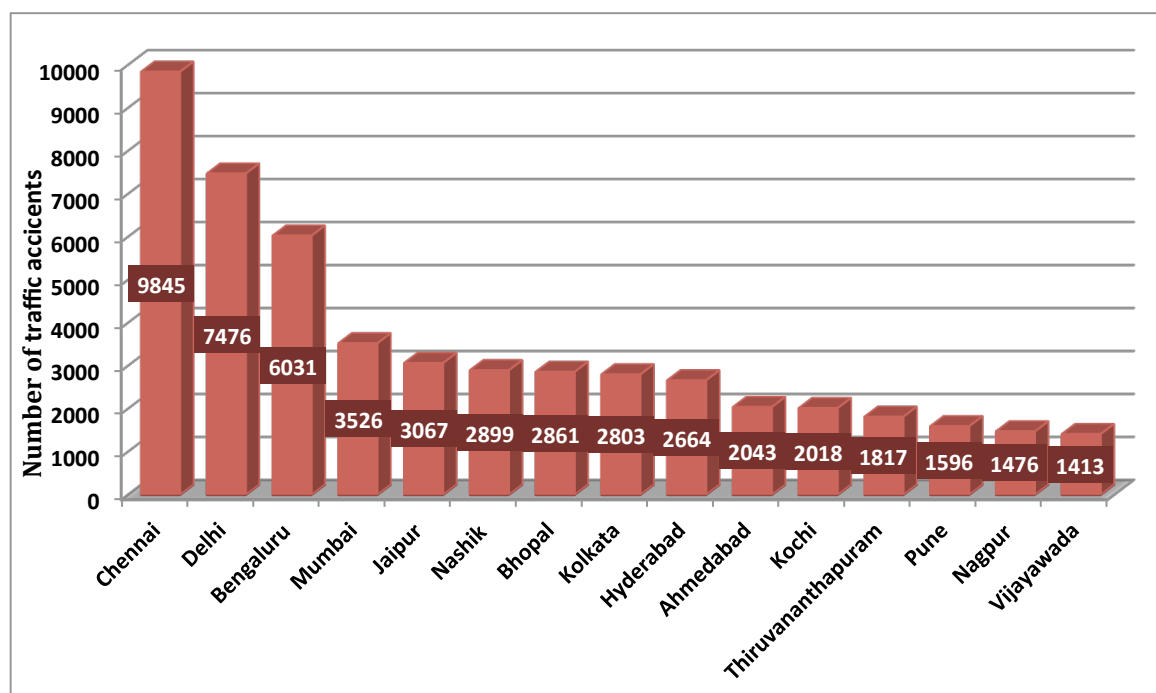
According to the Indian Penal Code (IPC) that covers all aspects of a criminal law, Kochi has the maximum number of reported crimes. The IPC crime rate of Kochi is nearly 8 times that of Delhi. Other cities, which have the IPC crime rate more than 400 in their respective order, are Indore, Bhopal, Jaipur, Raipur, Jabalpur, Vijayawada, Agra, Patna and Kota. Delhi has an IPC crime rate of 289.4 and Mumbai has 177.3. Surprisingly, Kolkata has one of the lowest IPC crime rates of 121.5 because of several undetermined reasons. However, on the other side, the value of property stolen in Kolkata city is highest among the 50 selected Indian cities accounting to Rs.1095.19 lakhs. The other two-mega cities, Mumbai and Delhi also share similar data figures, but the valuation of the properties in these cities is nearly half of Kolkata. Property of the value Rs. 646.88 lakhs was stolen from Mumbai and of Rs. 628.72 lakhs from Delhi. Interestingly, property of value less than 5% was recovered from all the three-mega cities. On the other hand, other emerging and relatively small cities like Jaipur, Raipur and Vishakhapatnam recorded low numbers in the value of property stolen. Thus indicating that the bigger cities are more likely to have high crime rate.

Some other parameters on the crime sub-pillars show that Delhi also has the highest murder incidence with a number of 453. Bengaluru and Mumbai also documented 266 and 228 cases respectively. On the parameter of suicidal deaths due to poverty, Bengaluru has the highest number of 29 cases, Chennai has 25 and Delhi has 22. According to it, cities, which are comparatively big economically, have high numbers. The most noteworthy number documented comes out to be of sexual harassment as Vijayawada has 219 cases of sexual harassment. It is generally believed that Indian cities in South are safe, but this fact clearly proves the theories invalid.



Graph 10: Top ten cities with the highest number of cases registered under cyber crimes - IT Act

With the increasing usage of Internet, there has been an upsurge in the number of cyber crimes. Today Internet is not just a medium; from which the society is gaining instead it is a highly sophisticated technology tool open for all and is being extremely misused. Some of the acts which comes under the umbrella of cyber crimes are defacement of websites, computer virus and worms, pornography, cyber squatting, cyber stalking and phishing. The graph above shows the top ten Indian cities w.r.t. the number of cases registered under cyber crimes (IT Act). Undoubtedly, Bengaluru, the IT city of India has the maximum registered cases that is 117. Next comes Vishakhapatnam with 107 registered cases. Pune is the third most cyber crime affected Indian cities with 83 registered cases. Surprisingly, Patna and Lucknow have also displayed signs of cyber crime cases and are listed under the top ten-cyber crime prone Indian cities. The number of registered cases was miniscule for cities such as Kota, Rajkot and Surat where merely one such case was recorded.



**Graph 11: Indian cities with maximum number of reported traffic accidents**

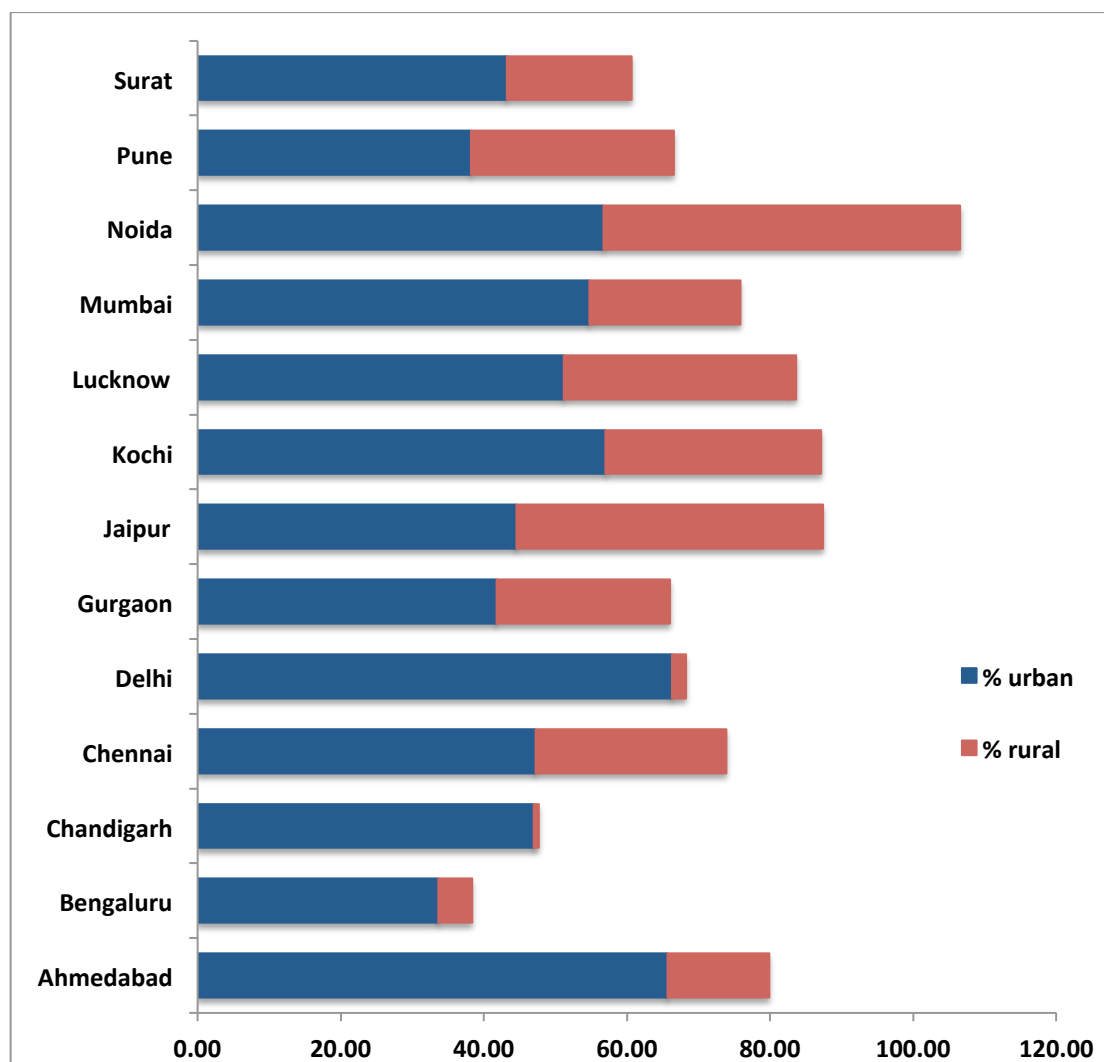
According to National Crime Records Bureau (NCRB) in 2009, the number of road accidents in India was more than 135000. It was then reported by 'Deutsche Welle' that India thus had the highest number of road accidents in the world. In short, road or traffic accidents are swiftly increasing in the country. As per the study, it was found that the prominent metro cities of the country like Chennai, Delhi, Bengaluru, Mumbai etc. have a higher rate of traffic accidents. Chennai reported 9845 number of traffic accidents, Delhi had 7476 and Bengaluru 6031 cases. The other following cities have cases nearly half or less than that of Bengaluru. The smaller cities of the country such as Allahabad, Varanasi, Amritsar and Jabalpur have less than 200 cases of traffic accidents. Thus, high rate of traffic accidents is an area of concern. Safety of the society is an integral part of the liveability aspect, which should be prudently taken care off so as to make a region more favorable for the citizenry of a region. The active participation of the inhabitants is also required to achieve the objective of road safety.



**5.2e) Housing options in Indian cities**

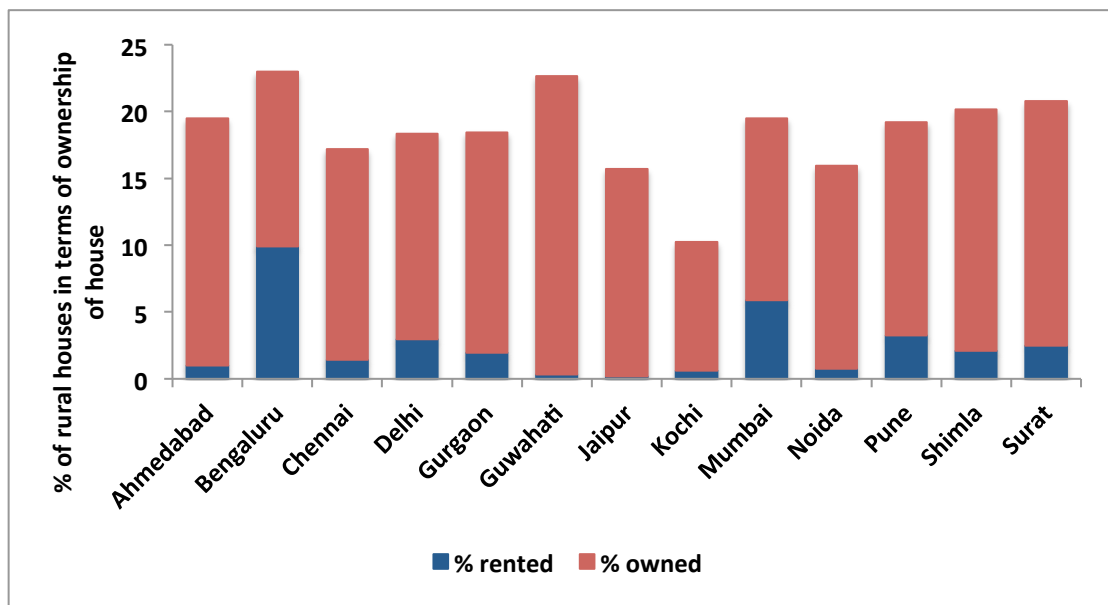
With the influx of population in all the major metro cities and in the other developing cities, affordable housing is another distress for the authorities as well as citizenry. It is a vital aspect of liveability for which government allots monetary funds but the implementation always takes a back seat in the entire process. There is a wide gap between the demand of housing and their supply. Earlier it was only a problem largely in the big metro cities but now it is rampant and quiet visible even in the smaller cities.

The situation is getting even worse with the increasing rental prices as well as growing property rates. When it is being said that the real estate market is booming then it indirectly indicates that the cost of houses are sky shooting and is moving out of the affordable range of a common man. Today even searching for a house on rent to live is a big task in a metro city. In fact owning a house can be considered similar to hitting a six in a cricket match. In short, the growing need of housing facilities, especially affordable housing is the need of the hour. According to experts, the economically weaker sections and low income groups are the category majorly hit by the housing shortfall.



**Graph 12: Rural-urban percentage in a region of the households that live in owned houses**

The graph above demonstrates the percentage of rural and urban inhabitants that live in self-owned houses. The rural percentage in cities such as Delhi and Chandigarh is very low in comparison to the urban percentage who own houses because of the higher concentration of wealth in these two regions. Likewise, Bengaluru, Chennai, Ahmedabad, Mumbai and Surat have high level of urban households that have self-owned houses. Interestingly, among the selected 50 Indian cities, Srinagar has the higher number of urban-owned houses and Guwahati has the maximum rural-owned houses. The rural owned houses were found more in cities like Allahabad, Raipur, Shimla, Asansol, Ranchi, Patna, Mysore, Varanasi, Agra, Vijayawada and Jammu. These cities have more than 50% of their rural percentage living in houses that are owned by the inhabitants, which is certainly a positive aspect. It signifies that the rural community is at least able to live peacefully and is less dependent on the authorities for a shelter.



Graph 13: Percentage of rural households in terms of ownership of house

If the rural scenario is looked upon in terms of the ownership of house then a following picture was obtained. Only Bengaluru and Mumbai have more than 5% of rented houses in rural areas. Largely, people own houses in rural areas of a city like it is a case with Guwahati, Jaipur, Kochi and Noida. In addition, rural areas in cities with the percentage of rented houses less than 0.5 are Agra, Allahabad, Amritsar, Jabalpur, Jammu, Kanpur, Lucknow, Meerut, Patna, Raipur, Srinagar and Varanasi. It can thus be inferred that in the rural areas of a city there is a higher percentage of owned houses. The reasons can be easy availability, and low property rates. This eventually leads to higher concentration of population in rural areas of a city but making it challenging by creating an imbalance of other essential resources required for living.

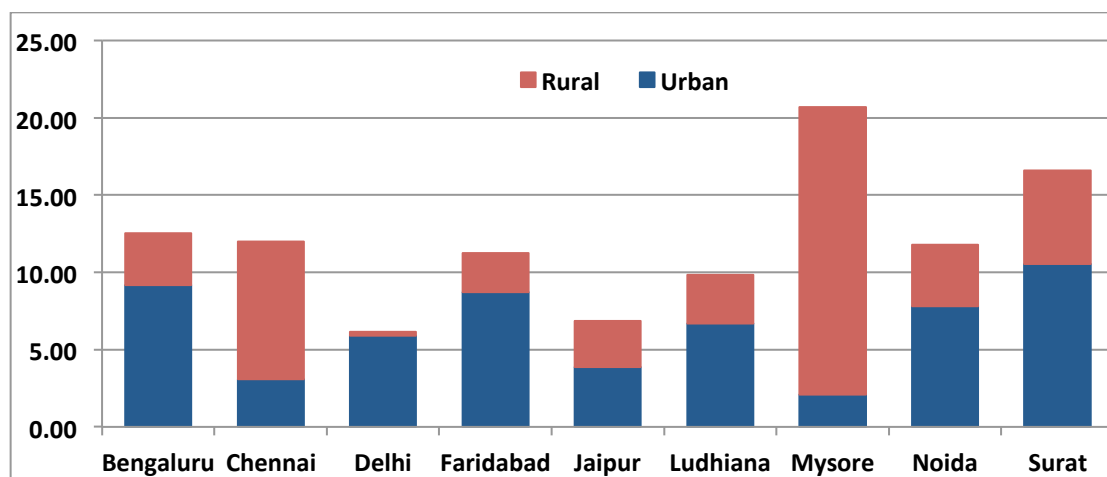
It is thus vital to provide adequate housing options to the inhabitant of a city so as to resolve the issues pertaining to homelessness and formation of slums. Though affordable housing has been there on the government's agenda from quiet some time but the results have not been impressive. Efforts should be made to come up with integrated housing societies,

which have affordable houses. It would then resolve multiple challenges in terms of easy access to transportation, abundance of space to play for children and convenience of parking area.

**5.2f) Socio-cultural-natural environment prevalent in cities**

Infrastructurally Indian cities have not been able to keep pace with the influx of people in the urban settlements. As a result, there is a lot of pressure on the existing infrastructure. If this trend continues, then the cities would further face urban challenges in the near future. We can see severe threats in the areas of infrastructure, natural and cultural environment. Therefore, for building an inclusive and prosperous community, immediate action is required in this area.

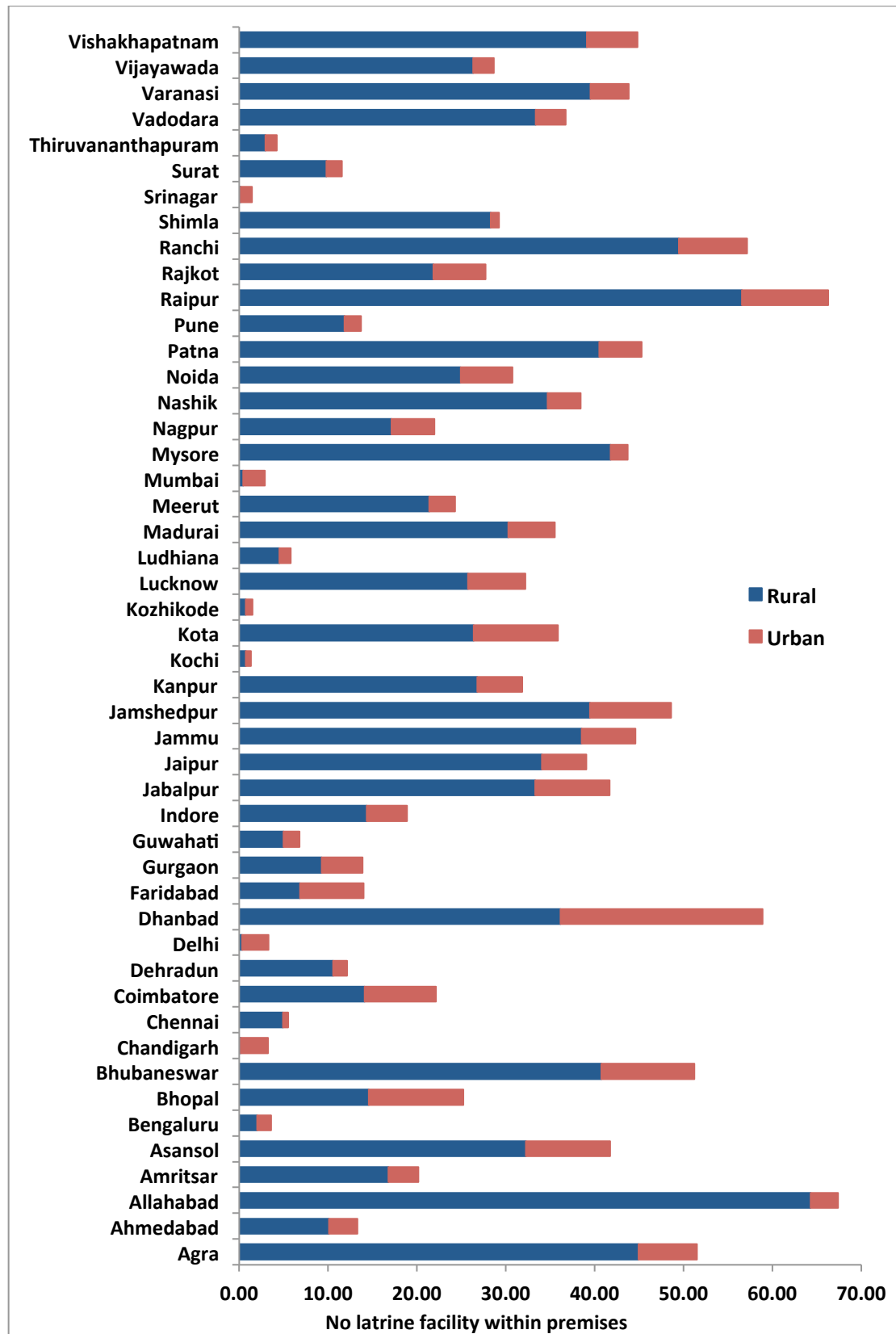
The pillar of socio-cultural-natural environment comprise of parameters pertaining to ambient air quality, waste treatment, and access to basic amenities such as water, electricity and toilet facilities. These parameters are essential for a healthy living and cannot be neglected because if the living conditions are favorable then people enjoy a comfortable and healthy life.



**Graph 14: The rural-urban percentage of households receiving tap water from un-treated source in the Indian cities (in %)**

Water is indispensable for a human life and cannot be substituted with any other resource. It is therefore, necessary for the people at large to understand its importance and realize its growing scarcity. They need to become more cautious and should make best efforts to save it for future. The dearth of clean drinking water can be clearly understood from the above graph, where households in the rural and urban region of a city are receiving tap water but from un-treated sources. Surat has the highest percentage of urban households who receive un-treated tap water followed by Bengaluru, Faridabad and Noida. Similarly, when looked upon the rural households of cities who do not receive treated tap water then Mysore holds the highest percentage. It illustrates that there is a lack of water even for drinking purposes, and thus they have to either depend on hand pumps or any other water body. This

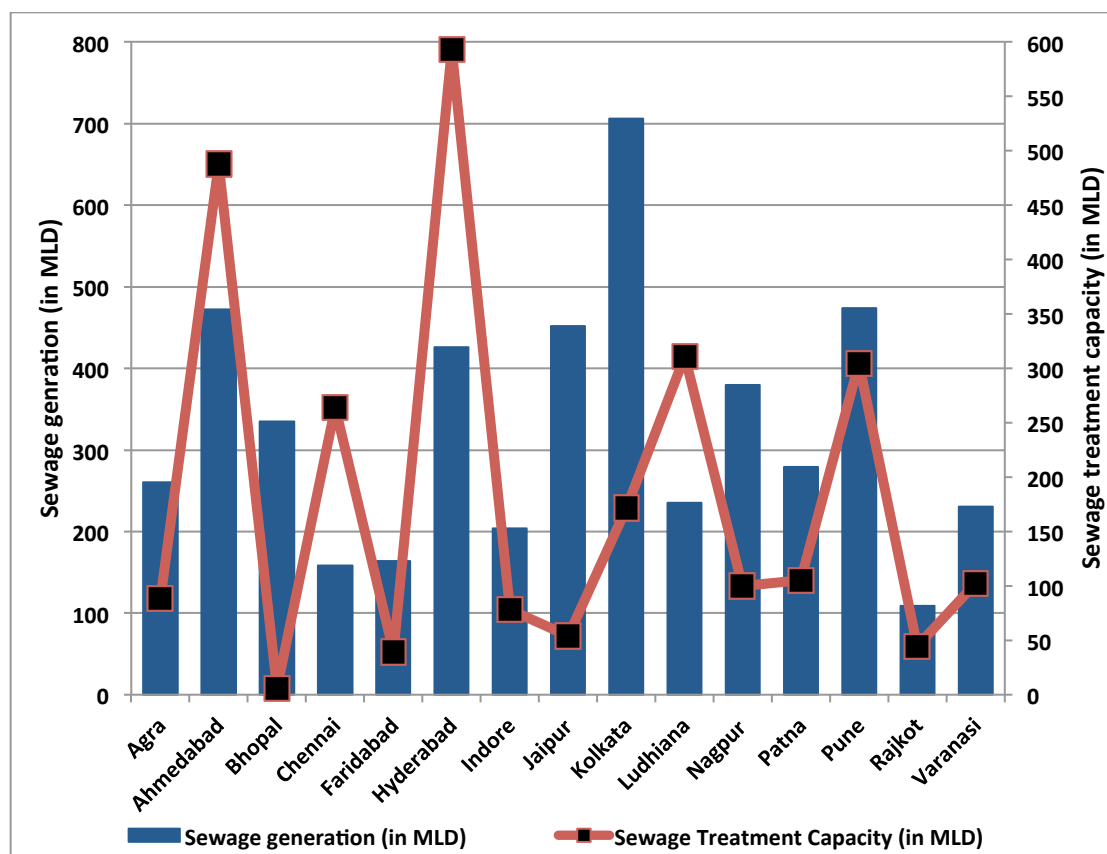
essentially deteriorates the liveability of a region because of the widespread gap between the demand and supply of resources.



Graph 15: Percentage of urban and rural regions of the Indian cities with no latrine facility within the premises

Another vital aspect of liveability, which is challenging the living conditions of the people in India, is the access and availability of toilet facilities in a region. Statistics reveal that 64.28% of rural households in Allahabad and 22.71% of urban households in Dhanbad do not have latrine facility within premises. In addition, the rural households have relatively few latrine facilities than the urban households in a city. The trend was similar across all the selected 50 Indian cities and described that the condition of rural households in a city are more vulnerable. For instance, in Mysore 41.78% rural households have no latrine facility within the premise in comparison to 1.90% of urban households. The conditions are truly susceptible in the rural regions of even the prominent Indian cities. Surprisingly, the authorities are slow with the implementation process even though a large portion of population resides in the rural areas of these growing cities.

It was exhibited in the Census 2011 data that nearly half of the rural India uses electricity as their main source of lighting. There was an increase of 12% in the usage of electricity, in 2011 as compared to 2001. Now, the city data of Indian cities reflect that nearly 6148 urban households in Asansol do not have any source of lighting their houses. Likewise, 8011 rural households in Pune have no source of light and are deprived of power or electricity. They are thus dependent on sources like kerosene and solar energy.



Graph 16: Sewage generation and their treatment capacity in Million Liters per Day (MLD)

Pollution caused by sewage production is one of the major factors responsible for the degradation in the quality of water resources. It thus becomes important to control the production of toxic sewage by treating it properly before it mixes with other bodies (water,

land) in the environment. In 2010, Bengaluru had the highest sewage production in the country with a capacity of 771.75 million liters per day. Even Kolkata every day generates 705.86 million liters of sewage. The trend illustrates that, in the metro cities, there is a large amount of sewage waste because of high population base. These metro cities even have fairly high capacity of sewage treatment plants and methods in comparison to other class 1 and class 2 Indian cities. In fact, Chennai, Hyderabad, Ludhiana and Vadodara have hundred percent of treatment capacity. On the contrary, the ratio between the sewage generation and sewage treatment capacity in cities such as Agra, Bhopal and Jaipur is very wide. It thus can be inferred that there is an imbalance in the sewage treatment capacity across the Indian cities. Therefore, attention should be paid towards increasing the treatment capacity and using it optimally.

Cultural composition of a region is yet another important determinant of liveability which is overlooked often. As per the statistics, high cultural diversity is present in Bhubaneswar, and the lowest is in Patna. Though India is a secular country and every individual has the freedom to practice his/her religion, but to have an amicable environment in a city it is necessary that every individual respect each other's religion. At times, people in Indian cities do disregard the religious feelings of other community, which results into clashes. Therefore, efforts should be made to protect the cultural heritage and traditional knowledge so as to maintain harmony in the region. It will then be easy to sustain the socio-natural-cultural environment of the Indian cities.

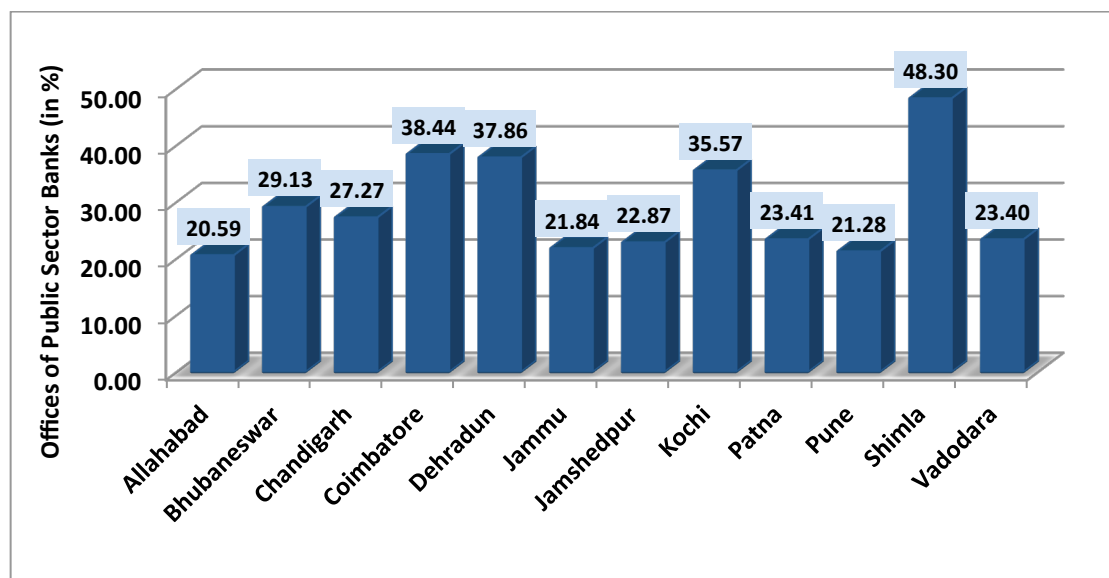
### 5.2g) Economic Environment

The urban economy of a country plays a crucial role in its economic development. As per the statistics, the top 100 Indian cities account for 16% of the country's population. They also occupy merely 0.26% of its geographic area but contribute 43% to the country's GDP. Cities are, therefore, cited as the engines of growth.

The cities are the drivers for achieving faster and inclusive growth. They can be said to be agglomeration economies and also their reach to accessible markets is high. The economic conditions of Indian cities are thus mapped by including factors pertaining to income, economic infrastructure, business environment and purchasing power in the index. It is necessary to understand all these factors in order to paint the true picture of the Indian cities.

Urban centers tend to have higher productivity because of being the central locations of industrial activity, availability of right skill set and abundance of opportunities. These urban centers also provide higher wages which make people move towards urban areas. They are thus a higher per capita income generation areas in comparison to the rural areas. It is because of higher wages that people can have access to better education, get a quality medical treatment and have a high standard of living, which are undoubtedly significant from a liveability aspect. The growing aspiration of the rising middle-income class is an evident example of this phenomenon. It can thus be said that a good economic environment indeed contributes to the attractiveness of a region.

It can now be said that the aggregate disposable income of the Indian middle-class is increasing. As a result, their purchasing power has also increased. It was estimated that presently the middle class population constitutes nearly 5% of the total population, and this will rapidly increase in the future. Their basket of shopping ranges from mobile phones to television to motorized vehicle, apart from the usual essential commodities of living. According to the statistics, more than 80% of the households in Chandigarh and Mumbai have mobile phones. Similarly, nearly 70% of the households in Delhi, Hyderabad, Srinagar, Bengaluru, Chennai and Pune have mobile phones which explains that these regions are well versed with technology and have a growing inclination towards electronic gadgets. The data also illustrates that the prominent metro cities of the country such as Delhi, Hyderabad, Chennai, Mumbai and Bengaluru have a good proportion of the percentage that now use LPG for cooking. However, Kolkata has a relatively bad percentage in comparison to the other two-mega cities. It demonstrates that facilities are still not spread uniformly across all the regions of the country.

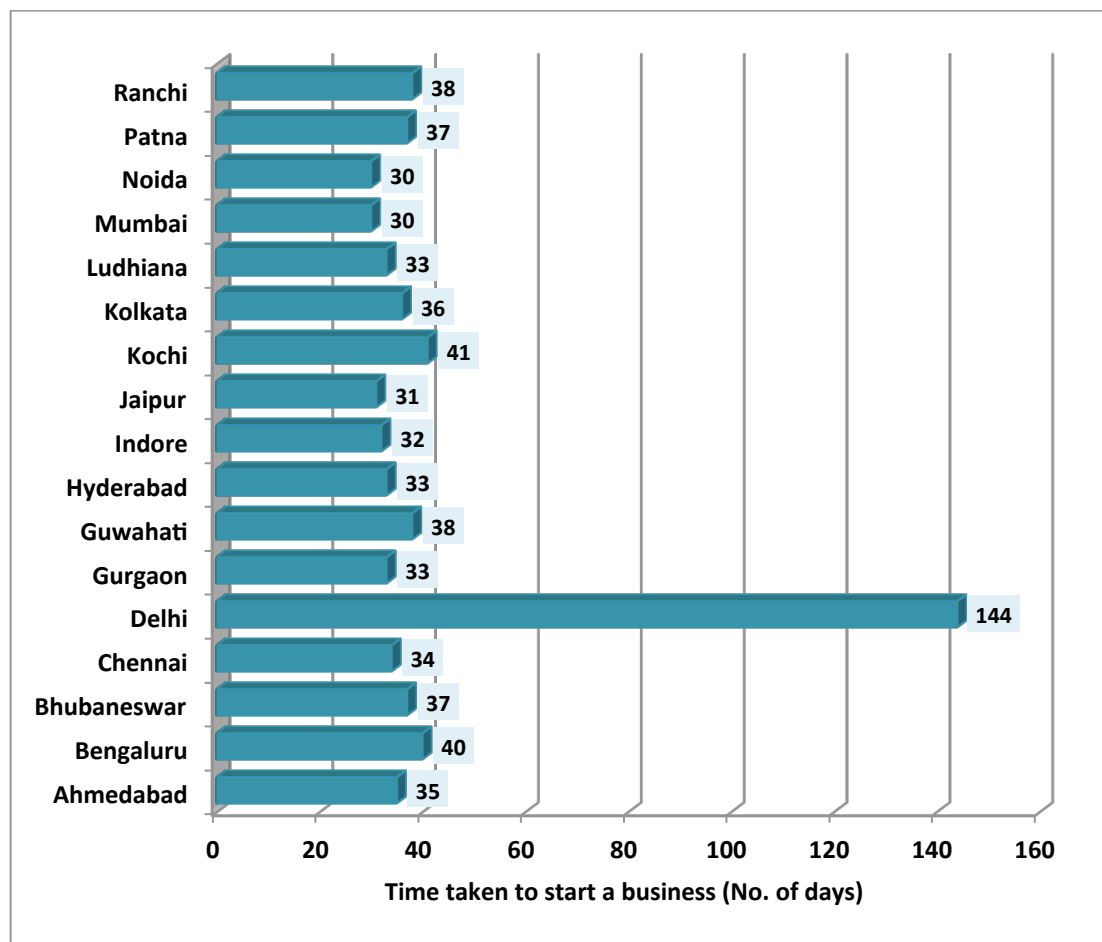


Graph 17: Offices of Public Sector Banks in some of the cities (%)

The economic infrastructure has to be in accordance with its economic development so as to offer better access of services to its inhabitants. The banking facility is one of them, which needs to be in good condition. Shimla has the maximum number of public sector bank offices in comparison to the other Indian cities. It also has a relatively high percentage of commercial banks branches. This explains that the city has an adequate economic infrastructure. Even Coimbatore, Dehradun and Kochi have a decent percentage of public sector bank offices. However, Kota, Faridabad, Surat and Srinagar data figures reveal that there are very less public sector bank offices. The three-mega cities of the country that is Mumbai, Delhi and Kolkata have a higher percentage of commercial banks branches than the public sector banks branches. Clearly, indicating the increase of private sector banks in the economy which are a major support structure for the country.

Growth rate of the Indian cities is also commendable which is distinctly evident from the growth rate of their states. Rajasthan reported a growth rate of 21.91%, which is also

reflected by the growth of Jaipur. Even Madhya Pradesh is on a rise with a growth rate of 19.02% signifying that the cities are moulding themselves into newer shapes. A region is preferable in a long run if it is economically sustainable in the long run by maintaining a strong financial environment and provisions to expand.



Graph 18: Time taken (number of days) by Indian cities to start a business

Though many Indian cities have all the major requirements of a business still they lack in providing a friendly business environment. It is important for an organization to look upon the parameters of ease of operation, their cost incurred to set up a business in a specific location and the total time required. Corporates prefer locations where they can set up their business with ease and which is friendly over the long term. It is thus essential to look at the indicators such as time/cost taken to pay taxes, time/cost involved in trading across borders and dealing with construction permits etc. The graph above describes time taken by some of the major Indian cities to start a business. According to the graph, setting up a business in Delhi, the national capital is very time consuming as it takes 144 days to start a new business. It is nearly 6 times more than the time taken by any other Indian city. On contrary, Mumbai takes just 30 days to start a business and is indeed one of the favorable business destinations of the country. Noida, which incidentally falls, in the NCR region also takes 30 days to start a business. It can be interpreted that it is an alternative yet attractive business location for the corporates who are not able to start their business in Delhi.

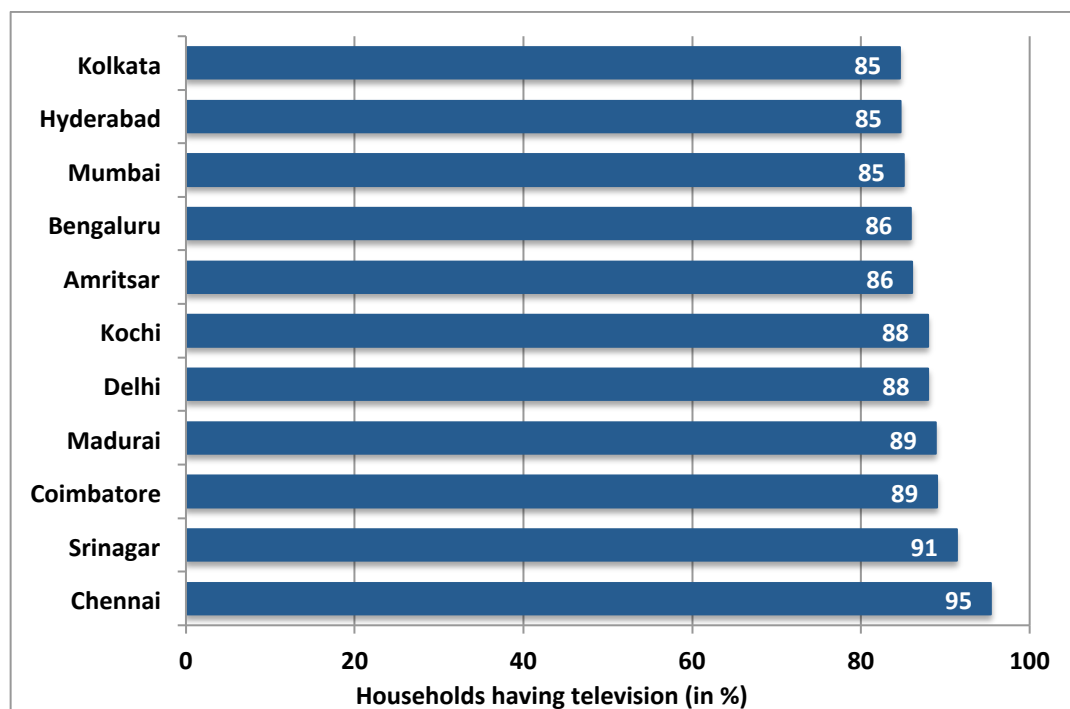


Attractive business environment with adequate economic infrastructure transforms a local business space into an attractive location. It eventually raises the per capita income of the people and also positively influences their purchasing power. Thus, sound business ecosystems make the life of people comfortable, raise their standard of living and also provide job opportunities.

**5.2h) Connectivity built-in system of cities**

Indian cities are supposed to have connectivity issues. The main reason being touted is of the lack of a planned environment. However, the argument seems to be a bit flawed as some Indian cities like Delhi, Jaipur and Kolkata have been planned cities of India, since 1911, 1727 and 1958 respectively. It is only because of the rampant urbanization now that they are facing few challenges pertaining to the connectivity of technology. Otherwise, Indian cities certainly have demonstrated a well-planned and connected environment in terms of media reach and transportation services.

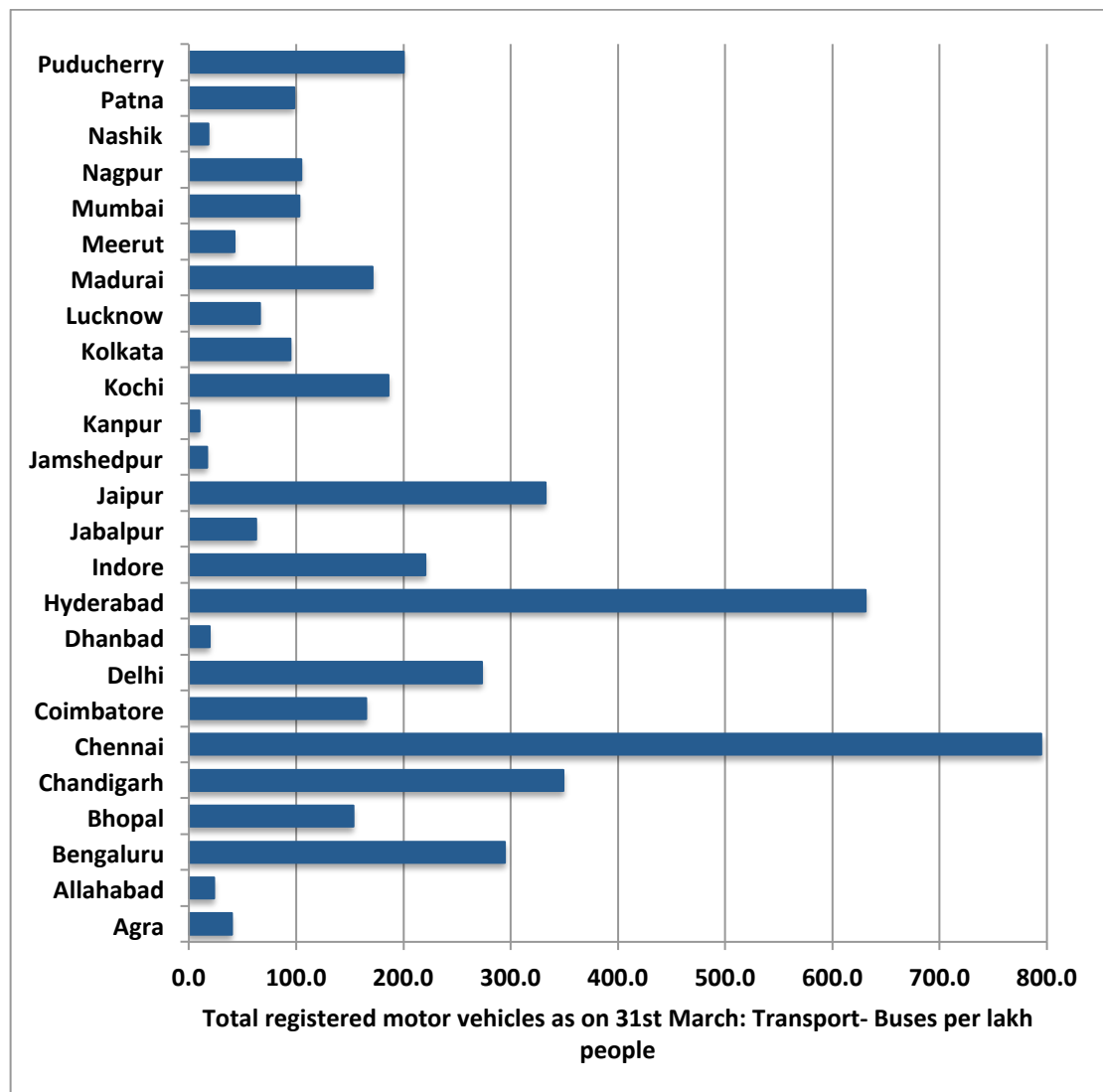
The biggest tool of media, which is still prevalent even after the emergence of technology, is press. According to statistics, Mumbai has the maximum press reach where 98.9% of the people are covered. It is closely followed by Kanpur and Delhi. Cities like Jamshedpur and Ranchi have a low percentage of media reach among people. It was however noticed that people are actively using other media. Kolkata has the maximum number of GSM users per lakh. Even Chennai, Mumbai and Delhi emerged out to be the top contenders. It thus implies that the advent of better mobile technology and availability of smartphones at a lower rate has shifted the trend. People now are more dependent on 3G services than 2G. It can also be stated that prominent metro cities, including the mega cities have a high mix of people who use 2G/3G services because every other person owns a phone here.



**Graph 19: Top eleven Indian cities where households have the maximum percentage of television**

Above graph demonstrates the top eleven Indian cities that have the maximum percentage of television owing households. Chennai has the highest percentage among the list. It was interesting to note via the data figures that most of the cities have television, though with a variation in their percentage. The reason can be that they prefer some other source of media expressions like radio or newspaper. Radio is still a very active source of entertainment and information in many regions. Srinagar has a 77% of households who own radio/transistor. On the other hand, Vijayawada has the lowest percentage of households having radio. The point here is to gauge that how are people connected and how fast our media is increasing. The data figures definitely explain the basic intrinsic reasons for it.

Mobility is also one of the core areas for liveability, which apparently comes under the lens of planned environment. Availability of adequate and connected transportation facilities is also significant for a region. Integrated urban transportation not only makes the movement of the people easy but also is vital from a business point of view. As then efforts can be made to make the region sustainable and more productive.



Graph 20: Total registered motor vehicles as on 31st March: Transport- Buses per 100000 people

Today's need of the hour is to have an integrated transportation system which is in sync with the city's infrastructure so as to make the life of its people convenient and livable. The graph above illustrates the statistics of the some Indian cities w.r.t. the number of registered buses in their region per lakh population. Chennai showcases the maximum number of around 750 buses. The next is a city from Southern India that is, Hyderabad. Mumbai and Kolkata have fairly low buses according to the data figures. Please note that there is dearth of buses as compared to the population.

If the overall state of total registered motor vehicles is looked upon, including transport and non-transport vehicles then Chandigarh has the maximum count. It is then followed by other cities in the order as Hyderabad, Chennai, Puducherry, Delhi and Bengaluru. This thus infers that these cities have higher density of vehicles that are used for various purposes. It is also important to note that high percentage of vehicles is not directly proportional to a better living environment, unless there is a synergy between them.

It is thus important to have a public and well-connected urban mobility network. Inhabitants should also be encouraged to use the public transportation system and be less dependent on their private vehicles. This would also check the traffic congestion, air pollution etc. Office goers should resort to car pooling systems which would also lead to less pressure on the roads. Certainly then the city will become more livable and would also become attractive destinations for people.



## 6. Liveability and the ways to enhance

Indian cities are trying to make a global footprint. The cities are gearing themselves up and utilizing their potential to meet up with the global standards. They are expanding at a fast rate, as they are well equipped with the required set of resources. Over the last few decades, Indian cities have attracted huge investments, but in this mad race of urbanization somewhere a city also loses its charm and glory. The rampant urbanization of the cities is also leading to the deterioration of the living conditions within the city.

The municipal authorities or the state governments should realize that the development of a city has to be looked from all the perspectives. Focus should be laid on building education hubs/institutions and healthcare facilities, improving environmental conditions etc. within the cities and their hinterland. There has to be a synergy between the economical, social, cultural and environmental conditions of a region in order to offer better sustainable living conditions to its people. Investments should be done to provide public facilities like better roads, better modes of public transport, clean drinking water et al. The governance structure should be improved, and people should also work towards making a city more productive and liveable.

### 6.1 Need of strong governance and structured planning

Urbanization is an inevitable process, and by 2030, the larger cities of India are anticipated to get bigger in size in comparison to other cities around the globe. Therefore, a strong governance structure with responsible authorities should be there to govern the present and future cities of India.

Many city authorities are not able to provide answers to some of the questions related to the development of that region. The reason that is cited is the lack of efficient and effective governance. There is no functional linkage between the various local bodies of a region and also they do not have a single integrated vision. In addition, the fast growing urban boundary outside their realm is also creating discernible and debatable growth patterns. So, to strengthen the structure, the 74th amendment of the constitution of India was laid stated that there will be true devolution of power and responsibilities from states to the local and metropolitan bodies. It will then help the urban bodies to become more efficient, effective, citizen friendly, transparent and hence accountable. Moreover, since local bodies are better aware about the conditions of a region, their active participation would certainly help in development not only at the regional level but at the national level.

Growth and governance in India should go hand-in-hand. It has been recommended that local urban bodies should be empowered to take decisions related to their area. Furthermore, there should be a capacity building of the urban local bodies at different levels

and also of the institutions working in the sector. Some of the megacities such as Hyderabad and Bangalore have also implemented modern IT tools like e-governance portals to address the urban growing challenges.

Some of the key other areas to look upon could be:

- Strong policy formation and governance actions should be put in place before new cities are planned in India. Otherwise, they will also have to face the challenges pertaining to resource crisis and unsystematic development
- Encourage stakeholders to invest so that the financial burden can be shared and executed fast
- The urban areas require taxation and regulatory powers in order to have an effective and supporting business as well as social environment
- Improve public administration by genuinely handling the issues. Therefore, focus should be on establishing employment exchanges, public distribution system, women protection and empowerment cells, public grievance departments and consumer protection forums
- Focus on building smart infrastructure, ranging from highways to power to telecom projects and also education as well as health facilities
- Educate masses w.r.t. environment conservation and related projects like green buildings and energy conservation derive
- Take immediate and severe actions against people who disobey law and order

It can thus be said that resolving the issues related to urban areas with inclusive models of growth will definitely help the urban areas to get shaped into well groomed cities.

## 6.2 Proper urban land use planning

The phenomenon of rapid urbanization is swiftly altering the master plans of some Indian cities and making them obsolete. The haphazard growth with the increasing population base and expanding boundaries has resulted into unplanned development of Indian cities. As a result, the quality of life of people in cities is at stake and getting negatively influenced.

Today, India requires optimal utilization of resources, especially land. The basic concepts such as inclusive growth and environment sustainability are not included in the city's agenda. In addition, regional planning is not taken into serious consideration across the country due to which there are flaws in the planning structure of some Indian cities. Either they have insufficient infrastructure or there is a lack of basic facilities. A case in point is of Pune which has turned into another IT hub of the country. The random development pattern of the city in all directions is already putting a lot of pressure on its infrastructure. It is also



creating several problems for the future expansions. It is therefore, important that the development should be in consonance with the policies and planning instruments.

Government should understand the significance of urban land use planning. They should implement policies based on sustainable development and future scope of investment so as to address the dynamics of urban challenges in a functional manner.

### **6.3 Active engagement of civil society/NGOs**

The spread of social movements and voluntary organizations has acted as a voice for a common man in difficult times. Their existence and active engagement over a period of time has provided innovative solutions to a number of social problems. They have acted as a third party who always tries to redefine the concept of 'development' from a citizenry point of view. Mostly, they adopt people centric policies to maintain stability, equality, prosperity and peace in the society.

They have been active actors of the Indian democracy and are present in the society in different forms like NGOs, self help groups, business associations, faith-based groups and trade unions etc. Like WWF India has set up Civil Society Collaboration for Environmental Governance, which is a platform to seek effective, efficient, and empowering environmental governance. It would analyze the real scenario and influence the actions of the policy making process so that it leads to equitable and sustainable management of natural resources. Thus helping in establishing a peaceful society. Government should therefore, support and aid them so that they keep striving for the welfare of the society in the long run.

### **6.4 Contribution made by private players & technology**

The private sector has been the backbone of the economy for nearly past 15 years. Their role has been commendable since they led to the tremendous growth of Indian industry across all major sectors. They are one of the main drivers of employment generation. Now, to make efficient use of the assets, harness the new investments and speed up the entire process of growth, Government on a timely basis has joined hands with the private sector. The public private partnership (PPP) then becomes an effective tool for implementing sustainable development objectives.

PPP has become one of the most preferred modes of development, especially with respect to infrastructure. One such success story is that of Yamuna Expressway project. The road connecting New Delhi to Agra was built by Jaypee in collaboration with the UP Government. The project was very successful and has not only reduced the travel time between New Delhi and Agra but has also opened avenues for industrial and urban development. It would also boost the tourism sector and other allied industries of the state and the region in the future. In short, the project has slowly turned into an economic center for various activities in the region.

## 6.5 Expectations from the public

Contributions by the citizens of the country play a big role in the development of the cities. It is always the collective effort of a community that can bring the real change in the society. The several policies, plans and models laid down by the government are worthless, without an active involvement of the public. Therefore, the citizens of a country also play an important and crucial role. Their role is beyond being just a worker or a consumer. Their decisions and their actions are equally powerful. They should make it a point to exercise not only their rights but also their duties. Then only, the intended results can be achieved in the system.

A responsible citizen is one who contributes willingly towards the society by keeping an eye on the governance and performing his/her duties correctly. They need to be an active member of change by exercising their vote, keeping their environment clean, abiding by the rules and regulations, paying their taxes timely and saying no to corruption. Citizen engagement is thus an essential requirement of the governance structure so as to integrate their suggestions into development. This would tap into more productive perspectives and result into a society shaped by people but managed by the government.



# List of Sources

## Institutions, Government Ministries et al.

- Central Government Health Centre
- CSO, Compendium of Environment Statistics
- District Information System for Education (DISE)
- District Level Household and Facility Survey 2007-08
- Doing Business in India
- Government of India, Census 2001 and 2011
- Marketing White book
- Ministry of Health & Family Welfare
- Ministry of Housing & Urban Poverty Alleviation
- Ministry of Labor & Employment
- Ministry of Statistics & Program Implementation
- National Crime Records Bureau
- National Health Family Survey
- National Institute of Urban Affairs
- National Urban Sanitation Policy
- Reserve Bank of India
- Road Transport Yearbook 2012
- Urban Statistics Handbook
- World Bank

## Other online sources

- Datta P. (2006) Urbanization in India. Paper presented at Regional and Sub-Regional Population Dynamic, Population Process in Urban Areas, European Population Conference. [Online]. Available from: <http://www.infostat.sk/vdc/epc2006/papers/epc2006s60134.pdf> [Accessed: January 10, 2013]
- India Population 2013. [Online]. Available from: <http://worldpopulationreview.com/countries/india-population/> [Accessed: January 14, 2014]
- India's total population is now 121 crore, Livemint, April 30, 2013. [Online]. Available from: <http://www.livemint.com/Politics/rmZay6rxYDggHLLIKaHPfN/Indias-total-population-is-now-121-crore.html> [Accessed: January 16, 2014]
- India population 'to be biggest', BBC News, August 18, 2004. [Online]. Available from: <http://news.bbc.co.uk/2/hi/3575994.stm> [Accessed: January 16, 2014]
- Das K. (no date). The growing number and size of towns/cities in India: Emerging issues from 2011 census data. [Online]. Available from: [http://www.iussp.org/sites/default/files/event\\_call\\_for\\_papers/Urban%20transition%20India\\_IUSSP%202013.pdf](http://www.iussp.org/sites/default/files/event_call_for_papers/Urban%20transition%20India_IUSSP%202013.pdf) [Accessed: January 17, 2014]



- Mumbai biggest city, Delhi NCR largest urban spread: Census, DNA, October 31, 2011. [Online]. Available from: <http://www.dnaindia.com/india/report-mumbai-biggest-city-delhi-ncr-largest-urban-spread-census-1605626> [Accessed: January 17, 2014]
- Rukmini (2013). Demographic dividend at its peak, The Hindu, September 7, 2013. [Online]. Available from: <http://www.thehindu.com/news/national/demographic-dividend-at-its-peak/article5102093.ece> [Accessed: January 18, 2014]
- Classteacher (2012) Education system in India. [Online]. Available from: <http://www.classteacher.com/blog/index.php/e-learning-to-shape-future-of-education-in-india/> [Accessed: February 12, 2014]
- Gill J. and Taylor D. (2013). Health and healthcare in India. UCL School of Pharmacy. [Online]. Available from: [http://www.ucl.ac.uk/pharmacy/documents/news\\_docs/healthcareinindiajuly2013](http://www.ucl.ac.uk/pharmacy/documents/news_docs/healthcareinindiajuly2013) [Accessed: February 12, 2014]
- Muthukumar B. (2008) Cyber crime scenario in India. [Online]. Available from: [http://www.gcl.in/downloads/bm\\_cybercrime.pdf](http://www.gcl.in/downloads/bm_cybercrime.pdf) [Accessed: February 6, 2014]
- Lucas G. and Krishnan M. (2010) *India has the highest number of road accidents in the world*, DW, April 29, 2010 [Online]. Available from: <http://www.dw.de/india-has-the-highest-number-of-road-accidents-in-the-world/a-5519345-1> [Accessed: February 7, 2014]
- Nyqvist K. (no date) *Planned cities in India*. [Online]. Available from: [http://www.studio-basel.com/assets/files/files/04\\_atlas\\_web.pdf](http://www.studio-basel.com/assets/files/files/04_atlas_web.pdf) [Accessed: February 7, 2014]
- *Yamuna expressway project has opened plethora of opportunities for the state* (April 2013) Infrastructure today. [Online]. Available from: <http://www.infrastructuretoday.co.in/News.aspx?nid=tuehiEUrm2OkEHU2HcUGGA%3D%3D> [Accessed: February 11, 2014]
- *Civil Society Collaboration for Environmental Governance* [no date] WWF [Online]. Available from: [http://www.wfindia.org/about\\_wwf/enablers/sustainable\\_livelihoods\\_governance/projects/civil\\_society/](http://www.wfindia.org/about_wwf/enablers/sustainable_livelihoods_governance/projects/civil_society/) [Accessed: February 11, 2014]
- Zope, R. (2013) The planning strategies for urban land use pattern: A case study of Pune city, India. *International Journal of Innovative Research in Science, Engineering and Technology* July 2013, Vol.2 (Issue 7). [Online]. Available from: [http://www.ijirset.com/upload/july/13\\_%20THE%20PLANNING.pdf](http://www.ijirset.com/upload/july/13_%20THE%20PLANNING.pdf) [Accessed: February 11, 2014]
- **India**. The Planning Commission, Government of India [no date] *Managing Urbanization* [Online]. Available from: [http://12thplan.gov.in/forum\\_description.php?f=17](http://12thplan.gov.in/forum_description.php?f=17) [Accessed: February 11, 2014]
- **India**. The Planning Commission, Government of India [no date] *Report of the Working Group on Urban Governance*. Planning Commission. [Online]. Available from: [http://planningcommission.nic.in/aboutus/committee/wrkgrp12/hud/wg\\_Urban\\_Governance\\_Final\\_Report.pdf](http://planningcommission.nic.in/aboutus/committee/wrkgrp12/hud/wg_Urban_Governance_Final_Report.pdf) [Accessed: February 11, 2014]



## List of Graphs

Graph 1: The top 20 most populated Indian cities with the percentage wise share of their population (0-6 yrs. and 7+)

Graph 2: Cities with lowest sex ratio in India

Graph 3: Work population ratio (per 1000 persons) for persons aged 15 years & above for top metro cities of India

Graph 4: Literacy rate of female w.r.t. the percentage of girl to total enrolment in schools

Graph 5: Indian cities where transition rate from primary to upper primary is more than 95%

Graph 6: Number of unemployed urban female and male per 1000 persons aged 15 years and above

Graph 7: Crude death rate of Indian cities

Graph 8: Number of government dispensaries present in selected Indian cities

Graph 9: Total rape incidence (IPC) in Indian cities (in absolute terms)

Graph 10: Top ten cities with the highest number of cases registered under cyber crimes - IT Act

Graph 11: Indian cities with maximum number of reported traffic accidents

Graph 12: Rural-urban percentage in a region of the households that live in owned houses

Graph 13: Percentage of rural households in terms of ownership of house

Graph 14: The rural-urban percentage of households receiving tap water from un-treated source in the Indian cities (in %)

Graph 15: Percentage of urban and rural regions of the Indian cities with no latrine facility within the premises

Graph 16: Sewage generation and their treatment capacity in Million Liters per Day (MLD)

Graph 17: Offices of Public Sector Banks in some of the cities (%)

Graph 18: Time taken (number of days) by Indian cities to start a business

Graph 19: Top eleven Indian cities where households have the maximum percentage of television

Graph 20: Total registered motor vehicles as on 31st March: Transport- Buses per 100000 people

# Institute for Competitiveness

Institute for Competitiveness, India is the Indian knot in the global network of the Institute for Strategy and Competitiveness at Harvard Business School. Institute for Competitiveness, India is an international initiative centered in India, dedicated to enlarging and purposeful disseminating of the body of research and knowledge on competition and strategy, as pioneered over the last 25 years by Professor Michael Porter of the Institute for Strategy and Competitiveness at Harvard Business School. Institute for Competitiveness, India conducts and supports indigenous research, offers academic and executive courses, and provides advisory services to the Corporate and the Governments. The institute studies competition and its implications for company strategy; the competitiveness of nations, regions & cities and thus generate guidelines for businesses and those in governance; and suggests and provides solutions for socio economic problems.



U 24/8, Ground floor, DLF Phase 3, Gurgaon, Haryana, India 122 002

T: +91 124 4376676

[www.competitiveness.in](http://www.competitiveness.in)



@arthsastra



[www.linkedin.com/in/competitiveness](http://www.linkedin.com/in/competitiveness)



[www.facebook.com/arthsastra](http://www.facebook.com/arthsastra)



[www.youtube.com/arthsastra](http://www.youtube.com/arthsastra)