SHLC
Centre for Sustainable, Healthy and Learning Cities and Neighbourhoods

National Institute of Urban Affairs

Making Cities Work: Policies and Programmes in India

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Cover photo: Busy market street near Jama Masjid in New Delhi, India

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ACRONYMS

AEGR	Annual Exponential Growth Rate
AICTE	All India Council of Technical Education
AIDS	Acquired Immunodeficiency Syndrome
AIIMS	All India Institute of Medical Sciences
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
ANM	Auxiliary Nurse Midwife
ASER	Annual Status of Education Report
ASHA	Accredited Social Health Activists
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy
CAA	Constitutional Amendment Act
CDMO	Chief District Medical Officer
CHC	Community Health Centre
CSO	Central Statistical Organisation
CT	Computed Tomography
DAK	Delhi Arogya Kosh
DAN	Delhi Arogya Nidhi
DCB	Delhi Cantonment Board
DDA	Delhi Development Authority
DES	Directorate of Economics and Statistics
DGHS	Directorate General of Health Services
DISE	District Information System for Education
EWS	Economically Weaker Section
FRBM	Fiscal Responsibility and Budget Management
FSI	Floor Space Index
FYP	Five Year Plan
GCRF	Global Challenges Research Fund
GDDP	Gross District Domestic Product
GDP	Gross Domestic Product
GEM	Generators of Economic Momentum
GoI	Government of India
GoTN	Government of Tamil Nadu

GPI	Gender Parity Index
GSDP	Gross State Domestic Product
GST	Goods & Services Tax
GSVA	Gross State Value Added
HRIDAY	Heritage City Development and Augmentation Yojana
HUDCO	Housing and Urban Development Corporation
ICT	Information and Communication Technology
IDSMT	Integrated Development of Small and Medium Towns
IHSDP	Integrated Housing and Slum Development Programme
ISCE	Indian Standard Classification of Education
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
JSY	Janani Suraksha Yojna
LARR	Land Acquisition, Rehabilitation and Resettlement
LHV	Lady Health Visitor
LIG	Lower Income Group
LPA	Local Planning Area
LULC	Land Use and Land Cover
MCD	Municipal Corporation of Delhi
MDG	Millennium Development Goal
MHRD	Ministry of Human Resource Development
MMC	Madurai Municipal Corporation
MoHFW	Ministry of Health and Family Welfare
MoSPI	Ministry of Statistics and Plan Implementation
MPD	Master Plan of Delhi
MRI	Magnetic Resonance Imaging
MUA	Madurai Urban Agglomeration
MUDRA	Micro Unit Development and Refinance Agency

NCERT	National Council of Educational Research and Training
NCHE	National Council for Higher Education
NCR	National Capital Region
NCTD	National Capital Territory of Delhi
NCTE	National Council for Teacher Education
NCU	National Commission on Urbanisation
NDMC	North Delhi Municipal Corporation
NEP	National Education Policy
NFHS	National Family and Health Survey
NGO	Non-Governmental Organisations
NHP	National Health Policy
NITI	National Institute for Transforming India
NMA	Newly Merged Area
NOIDA	New Okhla Industrial Development Authority
NRHM	National Rural Health Mission
NRP	National Population Register
NSSO	National Sample Survey Organisation
NUEPA	National University of Educational Planning and Administration
NUHM	National Urban Health Mission
NULM	National Urban Livelihood Mission
OPD	Out Patient Department
PHC	Primary Health Centre
PMAY	Prime Minister Awaas Yojna
PPP	Public Private Partnership
PTR	Pupil Teacher Ratio
RAY	Rajiv Awas Yojana
RR	Rural to Rural
RTE	Right to Education
RU	Rural to Urban
SAP	Special Action Plan
SBM	Swachh Bharat Mission
SBY	Swasthya Bima Yojana
SCERT	State Council of Educational Research and Training
SCM	Smart City Mission
SDG	Sustainable Development Goal
SHIB	State Health Intelligence Bureau
SHLC	Sustainable Healthy and Liveable Cities
SPUR	Spatial Priority Urbanisation Region
SPV	Special Purpose Vehicle
SSA	Sarva Siksha Abhiyan
TCPO	Town and Country Planning Organisation
TFR	Total Fertility Rate
TT	Tetanus Toxoid
U5MR	Under 5 Mortality Rate
U-DISE	Unified District Information on School Education
UA	Urban Agglomeration
UFWC	Urban Family Welfare Centre
UGC	University Grants Commission
UHP	Urban Health Posts
UIDSSMT	Urban Infrastructure and Development Schemes for Small and Medium Towns
ULB	Urban Local Body
UNDP	United Nations Development Programme
U-PHC	Urban Primary Health Centre
URIF	Urban Reform Incentive Fund
USD	United States Dollar
UU	Urban to Urban
VAMBAY	Valmiki Ambedkar Awas Yojana
VBDC	Vector Borne Disease Control
WHO	World Health Organization
WPR	Work Participation Rate

DATA NOTES

1 USD = INR 63.00 (August 2018)

1 crore = 100 lakhs = 10 million

1 billion = 1,000 million = 100 crore

1 million = 10 lakhs

1 trillion = 1,000 billion = 1 lakh crore

TECHNICAL NOTES

Annual Exponential Growth Rate (AEGR) – This method represents the limiting case of compounding; that is the compounding takes place continuously (the variable grows at a constant rate at every infinitesimal of time). This method takes into account only the first and last observation of the time series, and not the intermediate values. Exponential growth rate will not correspond to the annual growth rate measured at one year.

Census Towns – These are administrative units satisfying the three criteria of urban areas: a minimum of 5000 persons, 75 per cent or more male main working population being engaged in non-agricultural pursuits, and a density of population of at least 400 persons per square kilometre. They do not have statutory body and falls under rural administration.

Child Sex Ratio – Number of females in age group 0–6 years per 1,000 males in the same age group.

Child Mortality – Number of deaths between birth and the fifth birthday per 1,000 live births in the five-year period before the survey.

Congestion Factor – Percentage of households with more than two members not living in exclusive rooms or in just a single room.

Crude Birth Rate – Number of live births occurring during the year, per 1,000 population estimated at mid-year.

Crude Death Rate – Number of persons who were usual household members who died each year during the two years preceding the survey, per 1,000 usual household members.

Drop-out Rate – A drop-out is a pupil who leaves school before the completion of a school stage or leaves at some intermediate or non-terminal point of a given level of education at school stage. This term 'drop-out' has been used in two senses. It may mean either: (i) one who has discontinued education before completing the last level of education for which he/she was enrolled, or (ii) one who has discontinued education before attaining a specific level. According to the first definition, for example, if a person has completed the upper primary level but does not enroll for higher education, he/she is not considered a drop-out. This is considered a case of discontinuation. However, if the person enrols specifically for the secondary level but does not complete it, then he/she is considered a drop-out. According to the second definition, in either case the person would be considered a drop-out, when, secondary level is considered as a specific level.

Enrolment Rate – Percentage share of students enrolled in education at a particular level to the total children in that age group.

Infant Mortality – Number of deaths between birth and the first birthday per 1,000 live births.

Informal Sector – All unincorporated private enterprises owned by individuals or households engaged in the sale and production of goods and services operated on a proprietary or partnership basis and with less than 10 total workers.

Informal Workers – Number of persons working in unorganised enterprises or households, excluding regular workers with social security benefits; and workers in the formal sector without any employment/social security benefits provided by the employers.

Life Expectancy at Birth – Average number of years to be lived by a group of people born in the same year assuming that mortality at each age remains constant in the future.

Literacy Rate – Percentage of population of age 7 years or above who can read and write with understanding to the total population aged 7 years and above.

Maternal Mortality Rate – Number of deaths of mothers per 100,000 live births caused by issues related to pregnancy.

Neo-natal Mortality – Number of deaths within the first month of life, per 1,000 live births

Per Capita Income – Net district domestic product at constant prices per head.

Retention Rate – Percentage of students in a class who enroll for the next class in the same institution the following year.

Sex Ratio – Number of females per 1,000 males in the population.

Stunting – Height-for-age is a measure of linear growth retardation and cumulative growth deficits. Children whose height-for-age Z-score is below minus two standard deviations (-2 SD) from the median of the reference population are considered short for their age (stunted), or chronically undernourished. Children who are below minus three standard deviations (-3 SD) are considered severely stunted.

Total Fertility Rate – The average number of children a woman would have by the end of her childbearing years if she bore children at the current age.

Under 5 Mortality Rate – refer to Child Mortality

Unemployment Rate – Percentage share of unemployed population in the total labour force.

Urban Agglomeration – An urban agglomeration is a continuous urban spread constituting a town and its adjoining outgrowths (OGs), or two or more physically contiguous towns together with or without outgrowths of such towns. An Urban Agglomeration must consist of at least a statutory town (administrative units such as municipal corporation, municipality, cantonment board, notified town area committee etc. that have been defined by statute as urban,); its total population (i.e. all the constituents put together) should not be less than 20,000 as per the 2001 Census.

Wasting – Weight-for-height index measures body mass in relation to body height and describes current nutritional status. Children whose Z-score is below minus two standard deviations (-2 SD) from the median of the reference population are considered thin (wasted), or acutely undernourished. Children whose weight-for-height Z-score is below minus three standard deviations (-3 SD) from the median of the reference population are considered severely wasted.

Work and Worker – Work is defined as participation in any economically productive activity with or without compensation, wages or profit. Such participation may be physical and/or mental in nature. Work involves not only actual work but also includes effective supervision and direction of work. It even includes part-time help or unpaid work on farm, family enterprise or in any other economic activity. All persons (irrespective of age and sex) who participated in any economically productive activity for any length of time during the reference period are defined as workers. Reference period for determining a person as worker and non-worker is one year preceding the date of enumeration.

Main Workers – Those who worked for more than 6 months (180 days) in the reference period.

Marginal Workers – Those who worked for less than six months (180 days) in the reference period.

Non-worker – Those persons who did not work at all in any economically productive activity during the last one year preceding the date of enumeration. This category includes students, persons engaged in household duties, dependents, pensioners, beggars etc. provided they were not engaged in any economically productive activity during the last one year preceding the date of enumeration.

Work Participation Rate – Percentage of total workers (main and marginal) to the total population. However, for explicit understanding of the situation, WPR is also calculated for the working age group of 15–59 years.


TATA

EXECUTIVE SUMMARY

India, one of the fastest growing economies of the world, has witnessed a deceleration in the growth of population during the last three decades, dismissing the spectre of over-urbanisation.[1] This trend is visible in all major cities, including the case study cities of Delhi and Madurai. The decade 2001–11 registered a slight improvement in the pace of urbanisation which is attributed to the emergence of 2530 new census towns, expansion in municipal limits and formations of new urban agglomerations. With only one-third of the people living in urban areas the pace and level of urbanisation in India is still very low.

Urbanisation in India is increasingly becoming exclusionary in nature. The past two decades have witnessed a systematic decline in the share of rural urban (RU) migration in urban India, the two case study cities. Capital-intensive industrialisation and rigid labour laws restrict labour mobility in addition to low levels of education and skills of the people living in rural areas.

The Five Year Plans focused on provision of urban housing and basic amenities through institution building and programmatic interventions. However, the first comprehensive urban development programme which renewed the urban focus was launched only in 2005. It integrated the two pressing needs of urban India: massive investments required for infrastructure development, and at the same time, reforms which are required to sustain investments. However, this programme was biased towards the big cities. In recent years, several new missions have been launched to improve urban infrastructure. These again are biased towards the big cities.

Currently, the government is formulating a "National Urbanisation Policy Framework" which will provide a holistic framework to states to formulate their specific policies. This may signal a reversal of the top-down approach of policy formulation. Recognition of the importance of the principle of subsidiarity in urban governance and decentralisation of funds, functions and functionaries as per the 74th Constitutional Amendment Act (CAA), 1992, would ensure balanced and sustainable urban development in India.

Public spending on health is still very low. Although this is not the case for the education sector, both sectors suffer from a lack of holistic and integrated approach to ensure an efficient and effective system of delivery. Further, there has been an increasing dependency on the private sector in both cases. This can be attributed to the lack of adequate and quality services in the public sector which has adversely impacted the urban poor. In fact, the out-of-pocket expenditure for health care is high for the poor. The National Health Policy, 2017, has recognised this fact and stressed on the development of a framework in which both the government and private sector collaborate to address the challenges and meet the goals set by Sustainable Development Goal-3 (SDG-3).

The retention rate in schools is low for the poor and minority groups as poverty encourages entry of children into the labour market at very early ages. The quality of learning is also an issue in the public sector and class-

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[1]The level of urbanisation in India increased from 27.78 per cent in 2001 to 31.16 per cent in 2011 accounting for 377.11 million population

appropriate learning levels are inadequate. Although education policies have striven to promote employability through education, a mismatch still persists between skill development and employment opportunities. The Right to Education Act (2009) aims to provide universal education to all.

Delhi, the capital city of India, has multiple layers of historicity because of its centuries-old existence. It is the main administrative and political centre of India. The city registered a sharp decline in urban growth during 2001–11. Congestion and lack of adequate physical and social infrastructure for the population still plague the city. The accessibility and availability of basic amenities is better in the core than the peripheral areas in Delhi. High congestion and shortage of housing for the poor are main challenges for policymakers in Delhi.

Delhi has a strong economic base. It contributed 4.08 per cent to the total GDP figures of India in 2016–17 (as per advance estimates). The per capita income was the highest in Delhi among all states/UTs in 2014–15. The economy of Delhi is mainly driven by the tertiary sector which contributed 82.26 per cent of Gross State Value Added (GVA) in 2016–17. The workforce participation rate for all ages in Delhi increased during 2001–11. The nature of employment in urban Delhi shows that informalisation of work has increased with a corresponding decline in the share of workers in the formal sector.

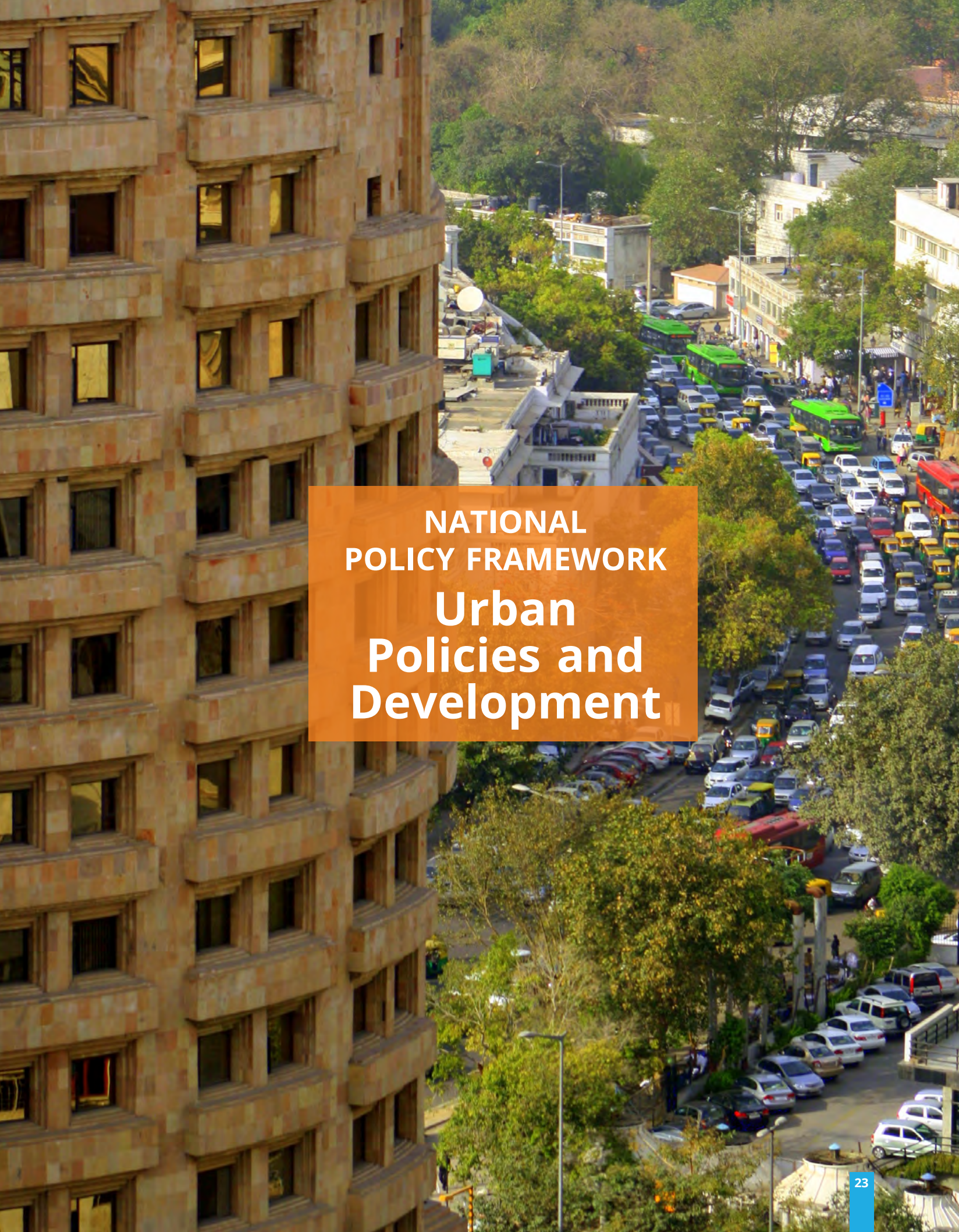
Delhi is gradually transforming into a knowledge-based city. However, a gender gap in the literacy rate in Delhi exists, although the city has a better educational infrastructure as compared to other states. Delhi is facing many challenges to provide quality, universal and inclusive education to the city's population. Children, especially from a deprived socio-economic background, still experience difficulty in availing elementary education.

Delhi has an extensive network of health facilities. The density of facilities is higher in neighbourhoods located in the core of the National Capital Territory (NCT) of Delhi. The social determinants of healthy living conditions and access to basic amenities continue to be grossly inadequate in slums, unauthorised colonies and other low-income settlements. The tertiary public hospitals in the city-state face enormous pressure as these hospitals also attend to highly critical cases from the neighbouring states. Frequent outbreaks of vector borne diseases such as dengue, malaria and chikungunya are major challenges for urban civic bodies in the NCT of Delhi. In the last few years, respiratory diseases caused by extreme air pollution have posed a major challenge.

Built in concentric squares around the Meenakshi Amman temple, Madurai city has been one of the main political and economic centres of south India from ancient times. Of late, there has been a decline in the population growth rate of the city due to decline of economic vibrancy and saturation of the core. Health conditions in the city are reasonably good because of a robust state health policy; however, lack of enough doctors and nurses in urban primary health centers (PHCs) is a major concern.

The high literacy rate (90.9 %) and low gender gap (7.8 %) in Madurai city is noteworthy. The existence of educational institutions has encouraged migration from nearby towns and districts. However, the unemployment rate is high due to a mismatch of education and job requirement. The economy is highly dependent on tourism and lacks diversification. It is important to promote the small and medium enterprises and utilise the growth potential of special economic zones and industrial parks to create sustainable economic development. Access to water is a major issue in the city. Built-up areas have come up on wetlands and water bodies which have disrupted the natural drainage of the city. Finding space for landfill sites is also a challenge. These issues need to be sorted out on a concerted basis.

A holistic and integrated development approach and coordination among different stakeholders is essential for Delhi and Madurai to meet the SDGs and become models of cities providing good education and healthy living in India.



NATIONAL POLICY FRAMEWORK
Urban Policies and Development

URBAN POLICIES AND DEVELOPMENT

INTRODUCTION

A review of contemporary literature on Asian urbanisation suggests that the continent is currently experiencing rapid urbanisation and that this would continue in future decades. Scholars have posited an urban explosion in Asia and argued that the fulcrum of urban growth has shifted dramatically away from Africa and Latin America towards Asia. They are of the view that there has been a progressive shift of the epicentre of urbanisation from "the predominantly northern latitudes of developed countries to the southern ones of developing countries" and one where "the mean latitude of global urban population has been steadily moving south" (Mohan and Dasgupta, 2005). They have argued that rapid growth of the urban population is undoubtedly one of the key processes affecting Asian development in the 21st century. This view has emerged despite widely different trends and patterns, alternate policy frameworks and varying ideological dispositions of the policymakers and researchers (Kundu, 2009).

Contrary to the dominant perception, the global urban share of Asia, which is currently 53.70 per cent, is projected to decline to 52.08 per cent in 2050. This decline is largely due to a projected decline in the global urban share of China from 19.83 per cent in 2018 to 16.35 per cent in 2050. Importantly, India, which currently accounts for one-fifth of Asia's urbanisation, is likely to increase to a quarter by the middle of the present century (UNDESA, 2018).

India has been considered a major contributor to this urban explosion, both because of its heavy demographic weight, and because of the dynamics of urbanisation (Kundu, 2014). Several stylised facts – such as India's share of the projected world urban population increasing from the present 10 per cent to 14 per cent in 2050, and the increase in the number of 10 million-plus cities from zero in 1950 to three million-plus cities by the turn of the century – have been cited as evidence of unprecedented urban growth in India. The proponents of a "market led growth" oriented perspective believe that the strategy of globalisation and structural reform is responsible for the acceleration in rural-urban (RU) migration, which would boost urbanisation.

Given the global and regional trends, it would be important to begin the analysis of demographic trends in India by analysing the following aspects:

- The level and growth rate of urbanisation and the national urban/city hierarchy and distribution; the trend of demographic changes and migration patterns in the country;
- The population and migration management strategies and policies;
- The urban development policy framework, and/or an urban planning system;
- The main types of land ownership in rural and urban areas and how land issues are dealt with in the urban expansion and development process.

An analysis of Census data shows that urban India witnessed a deceleration in the growth of population during the last three decades, dismissing the spectre of over-urbanisation or an urban explosion. This made

policymakers at the national and state levels concerned about the slow pace of urban growth, particularly at a stage of rapid economic growth that accentuated rural-urban (RU) disparities in the economic and social spheres. The annual exponential growth rate (AEGR) of urban population in the country which was 3.5 per cent in the 1950s, was the highest in post-independence era. This was the highest the country had seen until that time, fuelled by large-scale migration due to partition of the country following independence, which led to the emergence of theories of 'over-urbanisation'. Formalisation of the criteria for identifying urban centres in the 1961 census resulted in a dramatic decline in urban growth figures in the 1960s. The 1970s, however, following the same methodology for identification of urban centres, saw a very high urban growth of 3.8 per cent. The growth rate thereafter came down to 3.1 per cent in the 1980s. It went down further to 2.73 per cent in the 1990s. Correspondingly, the percentage of population in urban areas went up from 17.3 per cent in 1951 to 23.3 per cent in 1981, and then to 27.78 per cent in 2001.

URBANISATION IN INDIA: A MACRO LEVEL ANALYSIS

The pace and level of urbanisation in India is still low as compared to the other developing countries such as China, Brazil etc. (HSMI-NIUA, 2017; Ahluwalia, 2017). The consistent decline in the growth rate of urban population over the past two decades of the last century led to the Tenth Plan expressing concern over "the moderate pace of urbanisation". The Eleventh Plan admitted that "the degree of urbanisation in India is one of the lowest in the world" and considered planned urbanisation through new growth centres in the form of small and medium towns its major challenge. The Approach Paper to the Twelfth Plan also recognises the need to promote spatially balanced urbanisation.

The level of urbanisation in the country increased to 31.16 per cent in 2011 and the urban population recorded an annual growth rate of 2.76 per cent during 2001–11 (Table 1). Scholars attribute this growth to the emergence of new towns, expansion in municipal limits and urban agglomerations (Hasan, Yiang and

Box 1 : What is 'Urban' in India?

Urban settlements in India consist of:

Statutory Towns: All places with a municipality, corporation, cantonment board or notified town area committee as declared by the state law.

Census Towns: Places which meet the following criteria:

- a minimum population of 5,000;
- at least 75 per cent of male main working population engaged in non-agricultural pursuits;
- a population density of at least 400 persons per square kilometre.

Cities: Urban areas: with a population of at least one 100,000 (0.1 million). The others are termed as **'Towns'**.

Metropolitan Cities: Cities with a population of at least 10 100,000 (1 million).

Urban Agglomerations (UAs): Continuous urban spreads constituting a town and its adjoining urban outgrowths (OGs) or two or more physical contiguous towns together and any adjoining urban outgrowths of such towns. A UA must consist of at least one statutory town, and its total population of all constituents put together should not be less than 20,000 as enumerated in the Census of 2001.

Size Class Classification (population):

Class I:	100,000 and more
Class II:	50,000 to 99,999
Class III:	20,000 to 49,999
Class IV:	10,000 to 19,999
Class V:	5,000 to 9,999
Class VI:	Less than 5,000

Source: http://censusIndia.gov.in/2011-provresults/paper2/data_files/India2/1.%20Data%20Highlight.pdf

Kundu, 2017). The 2011 census reported a dramatic increase in the number of urban agglomerations (UAs): 90 new UAs came up in the previous decade (Table 2). The mushrooming of new census towns in the vicinity of potential UAs resulted in this increment. The 2011 census also recorded an increase of million-plus UAs/cities from 35 in 2001 to 52 in 2011 accounting for 42.6 per cent of the urban population due to the same reasons cited above. The Class I UAs/towns account for 70 per cent of the urban population, their number increasing by 74 during 2001–11. According to the Population Census of India, there were 6,173 individual towns in 2001, which increased to 7,933 in 2011. These comprised 4,041 statutory towns and 3,892 census towns. There was an addition of 2,530 new census towns and 242 new statutory towns in 2011.

Table 1: Trend of Urbanisation in India

Census Years	Number of Individual Towns/Cities	Urban Population (in million)	Percentage of Urban Population to Total Population	Annual Exponential Growth Rate
1961	2657	78.94	17.97	–
1971	3081	109.11	19.91	3.24
1981	3891	159.46	23.34	3.79
1991	4615	217.57	25.70	3.11
2001	5161	286.12	27.81	2.74
2011	7933	377.11	31.14	2.76

Source: A Series, Population Census of India, 1961–2011.

Table 2: Number of Urban Centres in India

Type of Towns	2001	2011	Addition
Statutory Towns	3799	4041	242
Census Towns	1362	3892	2530
Urban Agglomerations	384	474	90
Outgrowths	962	981	19
Metropolitan Cities	35	52	17

Source: Population Census of India, 2001 and 2011.

Regional Pattern of Urbanisation

The pattern of urbanisation at the regional level is very diverse. In 2011, there were 18 states and union territories in which the level of urbanisation was higher than the national average. Delhi and Chandigarh had the highest level of urbanisation with 97 per cent population living in urban areas. Goa, Tamil Nadu, Kerala, Maharashtra, Gujarat, Karnataka and Punjab were the states which had a high level of urbanisation. These are also essentially the developed states. However, the states which had a low level of urbanisation were Himachal Pradesh, Bihar, Assam, Odisha and Uttar Pradesh (Figure 1). The pattern of urbanisation in states/UTs of India indicates that states with a high level of economic development had higher levels of urbanisation and vice versa. This dualism is the main characteristic of India's urbanisation since Independence. Historically the developed states in India were more urbanised because of a higher concentration of industries, infrastructure, services and investments in the urban centres located in these states (Kundu, 2014).

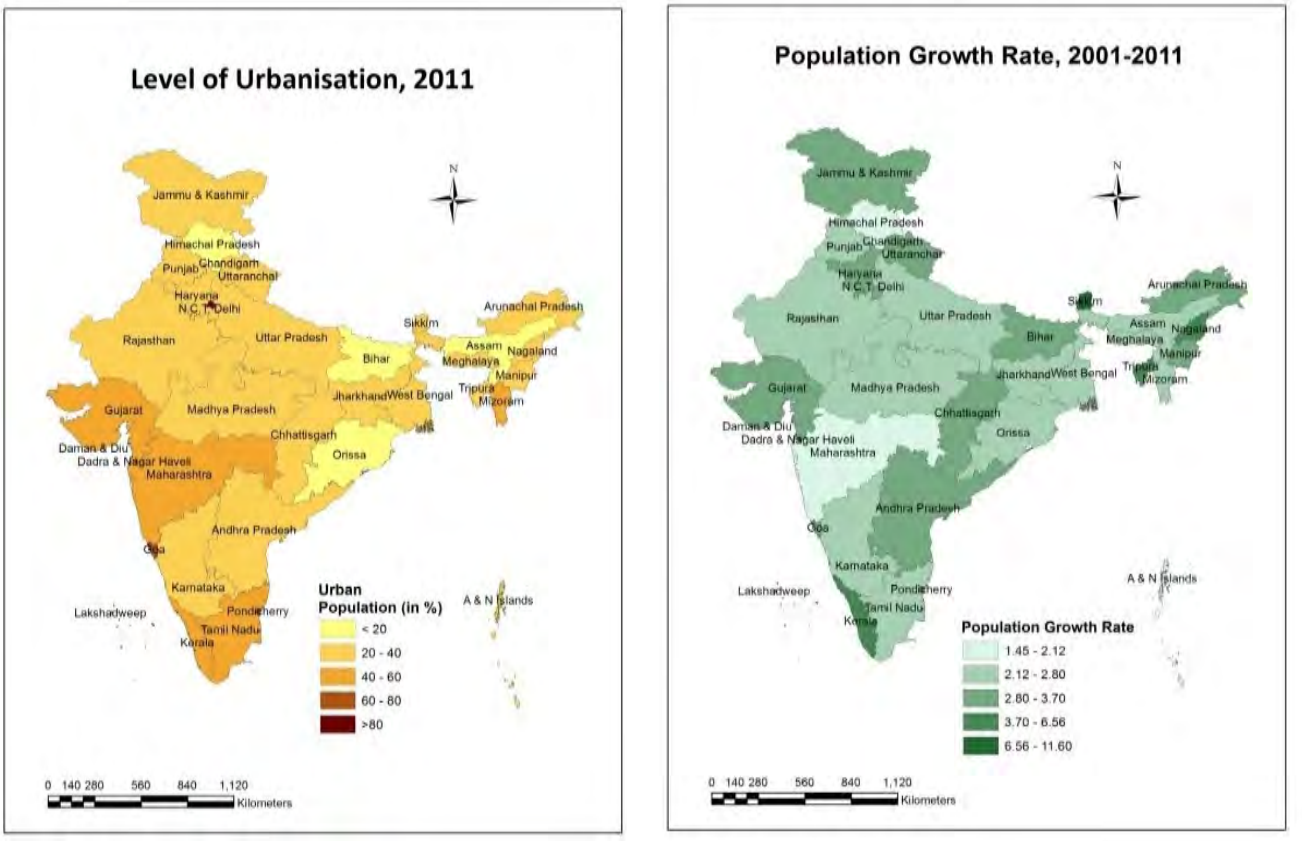
A significant departure is visible in the growth pattern during the 2000s when existing villages were reclassified into census towns resulting in a sharp increase in urban growth rates. This pattern is found in states like Kerala, Andhra Pradesh, Gujarat, West Bengal, Sikkim and Tripura. Kerala reported an annual growth of 6.56 per cent due to the addition of 363 new census towns. States where the growth of new census towns were minimal reported a low growth rate. Three north-eastern states – Sikkim, Tripura and Manipur – reported a higher urban growth during 2001–11. The growth pattern in north Indian states shows a declining trend, as these states did not register any substantial addition of new census towns.

Table 3: Regional Pattern of Urbanisation in India, 2011

Level of Urbanisation (in %)	States
80 and Above	N.C.T. of Delhi, Chandigarh
60–80	Lakshadweep, Daman & Diu, Pondicherry, Goa
40–60	Mizoram, Tamil Nadu, Kerala, Dadra & Nagar Haveli, Maharashtra, Gujarat
20–40	Karnataka, Andaman & Nicobar Islands, Punjab, Haryana, Andhra Pradesh, West Bengal, Uttaranchal, Manipur, Nagaland, Madhya Pradesh, Jammu & Kashmir, Tripura, Sikkim, Rajasthan, Jharkhand, Chhattisgarh, Arunachal Pradesh, Uttar Pradesh, Meghalaya
Below 20	Odisha, Assam, Bihar, Himachal Pradesh

Source: Population Census of India, 2011

Figure 1: Pattern of Urbanisation in India



Source: Population Census of India, 2001 and 2011

Urban Hierarchy in India: An Analysis of Size-Class Distribution of UAs/Towns

As per the Population Census of India 2011, there were 7,933 individual cities and towns in India. This included 4041 statutory towns and 3,892 census towns. There were 474 urban agglomerations (UAs) and 981 outgrowths. If urban agglomeration is taken as a unit, there were 6,173 cities/towns and UAs in India. Based on the size of the population, the Census of India groups cities and towns into six size classes from Class I to Class VI. The urban areas which have a population above one 100,000 (100,000) are termed as cities while those which have a population less than one 100,000 are termed as towns.

The analyses on size-class distribution have been carried out taking UAs and cities/towns as opposed to individual towns and cities as a unit. Therefore, in this chapter, the urban frame constitutes 6,173 UAs and cities/towns instead of 7,933 individual cities and towns. Class I cities have a population above 100,000 (0.1 million). Towns are the sum of Class II, Class III, Class IV, Class V and Class VI towns, i.e. all those urban centres with a population of less than 100,000.

While there was an increasing concentration of urban population living in the metropolitan UAs/cities of India in the decade 2001–11 the proportion of urban population in non-metropolitan India and towns of India declined during the same decade (Table 4). The percentage share of population in metropolitan cities increased from 37.8 to 42.3 per cent in 2001–11. It is evident from Table 4 that urbanisation in India is top heavy with 70.19 per cent population living in Class I UAs/towns in 2011. The main reason for a higher concentration of urban population in Class I UAs/towns is the real expansion of these UAs/towns due to the addition of new census towns and expansion of municipal boundaries. The pattern of population distribution across size-classes remained the same over the Census years with a decline in the proportional share of population in all size-classes except Class I. The 2011 Population Census shows a slight reversal of this trend in Class V and Class VI towns. These classes reported an increment in their proportional share of urban population. This is again due to the emergence of new census towns in these size-classes.

Table 4: Size- Class wise UAs/Towns in India

Census Year	Class-I			Class II	Class III	Class IV	Class V	Class VI	All Classes
	Metropolitan	Non-Metro-politan	Total						
Number of UAs/Towns									
1961	7	100	107	128	436	717	729	213	2330
1971	9	143	152	178	560	838	654	175	2557
1981	12	207	219	270	724	1047	746	240	3246
1991	23	276	299	346	939	1177	735	204	3700
2001	35	359	394	404	1163	1346	879	192	4378
2011	52	416	468	474	1374	1685	1748	424	6173
Percentage Distribution of Population									
1961	23.59	28.29	51.88	10.96	16.53	12.70	7.00	0.93	100
1971	26.28	30.88	57.16	10.97	15.70	11.00	4.57	0.60	100
1981	27.68	33.53	61.21	11.47	13.77	9.36	3.59	0.60	100
1991	32.90	31.45	64.35	10.99	13.45	8.09	2.74	0.38	100
2001	37.82	30.80	68.62	9.73	12.29	6.80	2.33	0.23	100
2011	42.32	27.88	70.19	8.53	11.10	6.37	3.35	0.45	100

Note : Metropolitan (million plus), Non-Metropolitan 1 100,000–10 100,000, Class I (1 100,000 & above), Class II (50,000–99,999), Class III (20,000–49,999), Class IV (10,000–19,999), Class V (5000–9999), Class VI (less than 5000)

Source: A- Series, Population Census of India, 2001 and 2011

Components of Urban Growth

There are four main components of urban growth in India, namely: a) natural increase, b) net rural-urban migration i.e. difference of rural-urban and urban-rural migration, c) net rural-urban reclassification i.e. reclassification of villages in towns and declassification of towns in villages, and d) jurisdictional changes or changes in municipal boundaries. In the present study, the last two components are merged together. It has been discussed in studies (Visaria, 1997; Bhagat and Mohanty, 2009; Bhagat, 2012) that natural increase, which was the most important component of urban growth in India, has lost its dominance since the 1970s with a corresponding increase in net rural-urban migration and net rural-urban reclassification which

includes jurisdictional changes and outgrowths. During 2001–11, net rural-urban reclassification including jurisdictional changes emerged as the most important factor in urban growth, because of the unprecedented increment in the number of census towns.

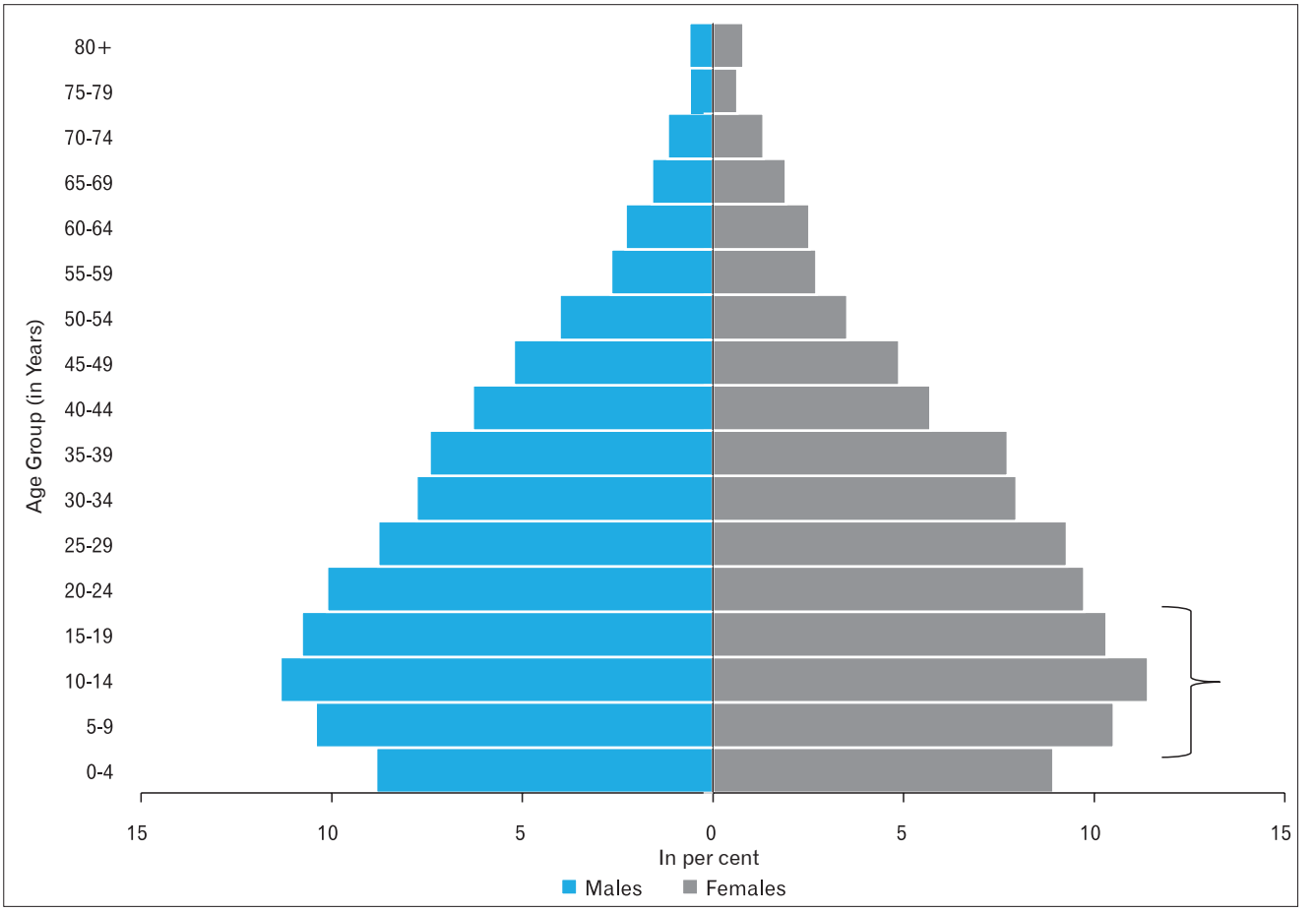
DEMOGRAPHY IN URBAN INDIA

In 2001, the percentage distribution of males and females across age groups showed the highest concentration of urban population in the 10–14 years age group followed by 15–19 years, 5–9 years and 20–24 years age groups (Figure 2). Half of the males and females in urban India were in the age groups below 24 years and 63 per cent of the urban population was in the working age group of 15–59 years. The percentage share of population declined for both males and females in higher age groups indicating that in comparison to the child and working age population, the percentage share of the elderly in urban India was low.

During the 2000s, India witnessed a 'demographic dividend' with a rise in the percentage share of the working age population. The dependency ratio came down from 54 per cent in 2001 to 46 per cent in 2011. The urban population which was concentrated in the 10–14 age group in 2001 shifted to the 20–24 age-group which had the highest percentage share followed by age groups of 15–19, 10–14 and 25–29 (Figure 3). The working age population (15–59 years) increased from 63 per cent in 2001 to 66 per cent in 2011.

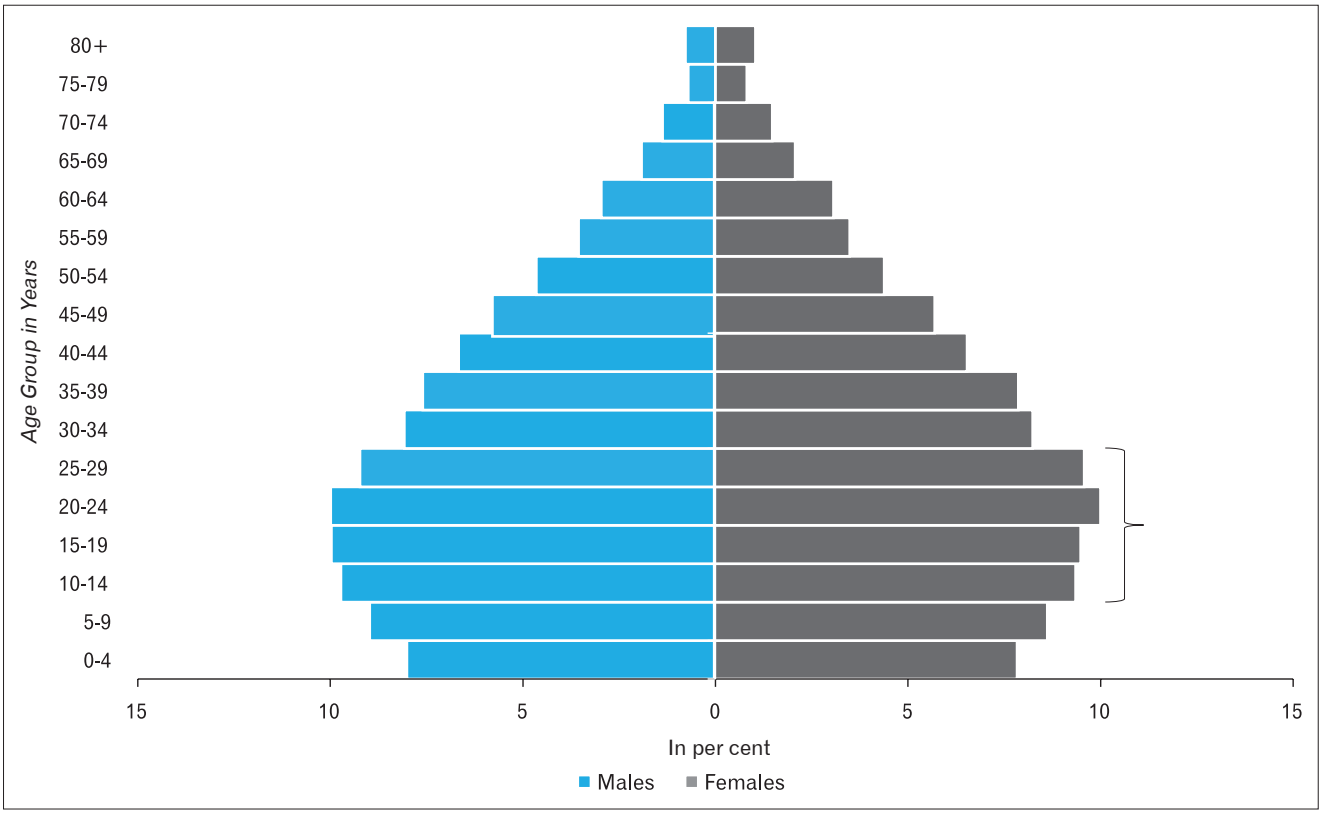
It is evident from the above estimates that the higher percentage share of youth and working population in urban India could be an asset in the process of nation building, with access to proper education, skill

Figure 2: Age-Sex Structure in Urban India, 2001



Source: C-Series, Population Census of India, 2001

Figure 3: Age-Sex Structure in Urban India, 2011



Source: C-Series, Population Census of India, 2011

training and decent employment opportunities. In this regard, the Government of India has started several programmes such as Skill India, Start-Up India, Micro Unit Development and Refinance Agency (MUDRA) scheme and National Urban Livelihood Mission (NULM) to provide skills to the population in relevant working age groups.

The sample registration system reported a decline in the rate of natural increase in urban India from 15.8 per thousand in 1991–2000 to 13.2 per thousand in 2001–10 (Bhagat, 2012). The life expectancy at birth in urban India increased from 68.4 years in 2000–04 to 71.5 years in 2010–14.[1] Due to a decline in the natural increase and increment in life expectancy at birth, the share of elderly population has started to increase in urban India and this will be a major challenge for policymakers in future.

The indicators of social demography in urban India showed an increment in sex ratio (females per thousand males) from 900 in 2001 to 929 in 2011. Male selective rural to urban migration is one of the reasons for the low sex ratio in urban India. In contrast, child sex ratio in urban India declined from 934 to 905 during 2001–11, which is attributed to the prevalence of son-preference in urban society manifested in illegal abortions and female feticides (HSMI-NIUA, 2017).

MIGRATION PATTERN IN URBAN INDIA

In the first few decades after Independence, the population remained relatively sedentary. The predominance of agriculture, strong community ties, lack of education, rigidity of caste system, diversity of languages, culture and food habits were main reasons cited by researchers for the immobility of the Indian population

[1] *http://www.censusIndia.gov.in/Vital_Statistics/SRS_Life_Table/2.Analysis_2010-14.pdf*

(Chandrasekhar, 1950; Davis, 1951; Yadava, 1989; Dubey et al., 2006). This pattern remained constant until the 1990s with a consistent decline in migration rates. In 1991, economic reforms were adopted by the Government of India and structural adjustments were made in the Indian economy due to severe balance of payment crisis. The migration figures from the Population Census of India in the last two decades have shown an increase in the rate of migration in India. In 2001, a total of 314 million people were migrants in India among which urban migrants were 104 million. In 2011, the volume of migration increased to 454 million among which 183 million were urban migrants. The total migration rates increased sharply from 30.07 per cent in 2001 to 37.47 per cent in 2011 (Table 5).

The percentage distribution of urban migrants showed that associational migration or family reasons (moved after birth and moved with household) emerged as an important reason for migration towards urban areas in 2011 (Figure 4). It could be explained by the fact that the Indian economy performed well in the previous

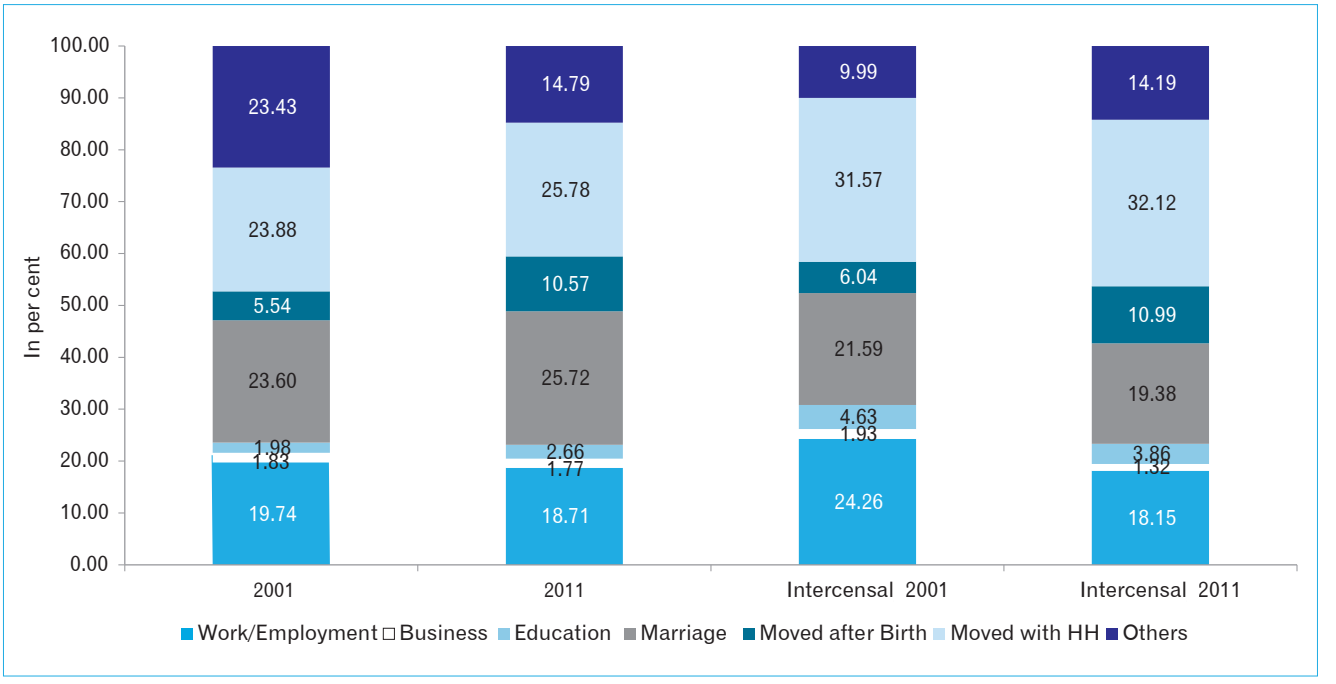
Table 5: Internal Lifetime Migrants in India by Gender and Residence

(in per cent)

Census Year	Total			Urban		
	Person	Male	Female	Person	Male	Female
1971	30.60	18.90	42.80	36.92	35.00	39.16
1981*	30.30	17.22	44.30	36.80	33.24	40.84
1991**	26.75	13.96	40.53	30.71	26.10	35.87
2001	30.07	17.04	44.05	35.51	31.98	39.44
2011#	37.47	22.62	53.23	48.41	42.65	54.62

** The figures for 1981 do not include Assam as the census could not be conducted there*
*** The figures for 1991 do not include Jammu & Kashmir as the census could not be conducted there*
Note: Unclassified migrants are included in total, urban and rural figures
 # Provisional figures. The 2011 data is for total migrants because internal migration figures are not available
Source: Migration Tables, Population Census of India, 1971–2001

Figure 4: Reasons for Migration in Urban India, 2001 and 2011



Source: Migration Table, Population Census of India, 2001 and 2011

decade with 7–8 per cent growth, of which more than half of the contribution was from the urban sector. Therefore, the income of migrant workers increased in urban areas, which could have motivated other potential earners of the family to join the migrant member of the household. This could also be attributed to distress being a less important factor in the migration of adult males (Kundu and Saraswati, 2012).

The gender analysis of migration in India shows that females have a higher migration rate as compared to males because of marriage migration. The male migration rate is high in urban areas as compared to the total rate. Associational migration followed by employment related migration are the main reasons for male migration towards urban centres. During the 1990s, the percentage share of employment related male migration increased but in the 2000s, it has declined and associational migration has emerged the single most important reason for male migration in urban areas.

Box 2: Who is a 'Migrant' in Indian Cities?

There are two main secondary data sources on Migration in India: Census and National Sample Survey

Definition of migrants adopted by Population Census of India

Census of India defines on the basis of 'Place of Birth' (PoB) and 'Place of Last Residence' (PoLR). Migrants defined by Place of Birth: According to Place of Birth criteria, if the place of birth of a person is different from the place of enumeration, then at the place of enumeration the person will be considered a migrant. Migrants defined by Place of Last Residence: Place of last residence is the most commonly used measure to determine the migrant status of a person. If the place of last residence of a person is different from the place of enumeration, then at the place of enumeration the person will be considered a migrant. Indian census data does not specify any duration of stay, which is necessary to qualify for reckoning the place of last residence.

Definition of migrants adopted by National Sample Survey Organisation (NSSO)

The National Sample Survey Organisation, a wing of the Ministry of Statistics and Programme Implementation, Government of India, conducts all-India household surveys for migration. The definition of migrants adopted by NSSO is different from that used by the census. NSS uses the concept of 'Usual Place of Residence' criteria to define migrants. A usual place of residence is defined as a place (village/town) where the person had stayed continuously for the period of six months or more. According to NSS, "if a person continuously stayed at least six months or more in a place (village/town) other than the place of enumeration then at the place of enumeration he/she will be considered as migrant." *Source: Bhagat, 2005*

National Population Register

The National Population Register (NPR) is a register of usual residents of the country. It is being prepared at the local (village/sub-town), sub-district, district, state and national level under provisions of the Citizenship Act 1955 and the Citizenship (Registration of Citizens and issue of National Identity Cards) Rules, 2003. It is mandatory for every usual resident of India to register in the NPR. A usual resident is defined for the purposes of NPR as a person who has resided in a local area for the past 6 months or more or a person who intends to reside in that area for the next 6 months or more. The data for National Population Register was collected in 2010 along with the house listing phase of Census of India 2011. The updation of this data was done during 2015 by conducting door to door surveys. The digitisation of the updated information is in process.

It is evident from Table 6 that rural-rural migration is the dominant stream in India but in the last decade the share of the rural-rural (RR) stream declined with a corresponding increase in the share of rural-urban (RU) and urban-urban (UU) migration. As per provisional figures of migration from Census, of 2011 urban-urban migration in India increased more sharply as compared to rural-urban migration and the increment was more in males as compared to females.

Stagnation in the growth of agriculture and non-farm employment sector, low rates, high level of rural poverty, rural-urban inequality in the access of better education and health facilities are some of the prominent reasons because of which rural folk in India migrate to urban centres (see Gupta, 1993; Bhattacharya, 1998; Bhattacharya, 2002; Joshi and Lobo, 2003; Parida and Madheswaran, 2010). In the last two decades, transport and telecommunication facilities in India have improved significantly, both of which have facilitated rural migration towards urban centres (Mahapatro, 2012; Srivastava, 2012). However, the share of R-U migration as a key component of urban growth has declined (Table 6). This may be attributed to exclusionary urban growth in India (Dupont, 2008; Kundu & Saraswati, 2012; Bhan, 2009, 2013). The inability of the urban labour market to absorb unskilled or semi-skilled rural people has been a key factor behind this growth pattern (HPEC, 2011).

Table 6: Percentage Distribution of Total Migrants in India by Different Streams

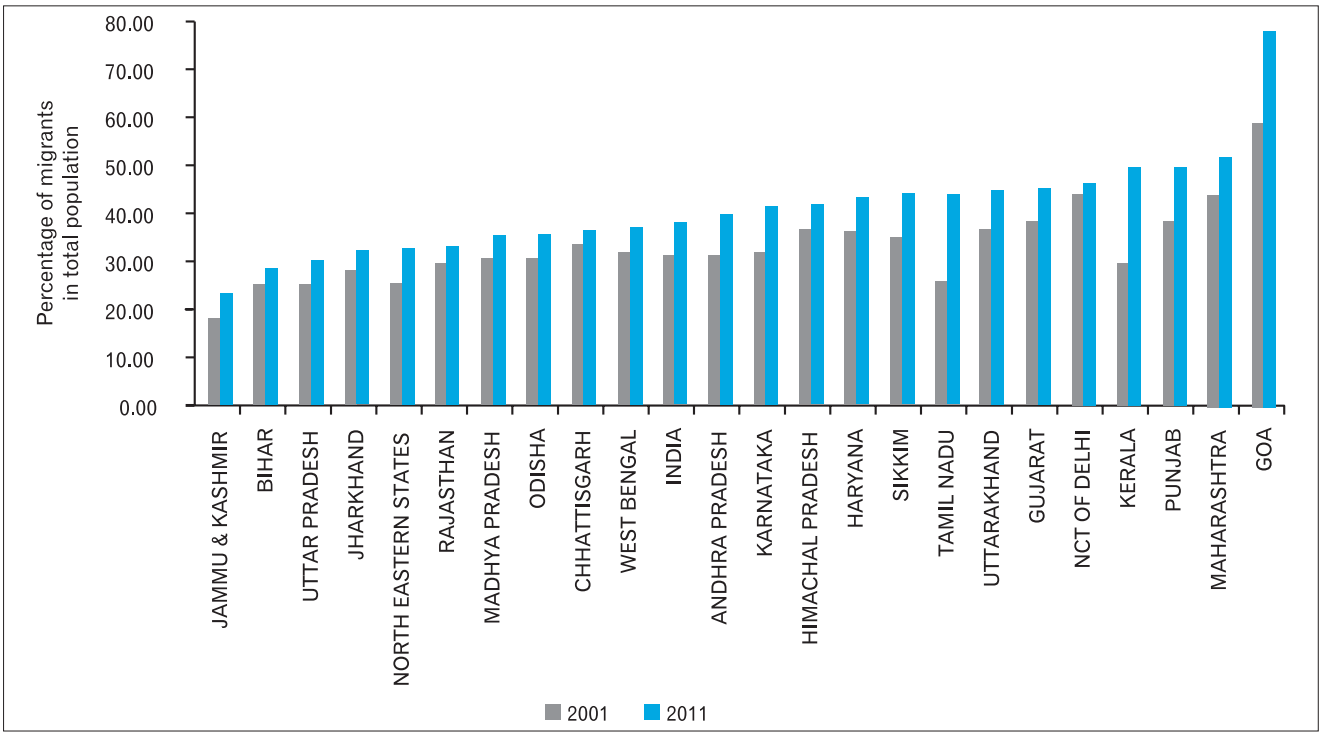
Census Years	R-R	U-R	Unclassified Rural	Rural	R-U	U-U	Unclassified Urban	Urban	Total
Persons									
2001	55.21	4.17	7.50	66.88	16.86	11.87	4.39	33.12	100
2011	49.78	5.26	4.72	59.76	18.21	17.48	4.55	40.24	100
Males									
2001	28.94	4.95	13.08	46.96	27.02	18.12	7.90	53.04	100
2011	29.97	6.25	4.64	40.86	26.72	25.50	6.92	59.14	100
Females									
2001	66.29	3.85	5.15	75.29	12.57	9.24	2.90	24.71	100
2011	58.71	4.81	4.76	68.28	14.38	13.87	3.48	31.72	100

Source: Migration Table, Population Census of India, 2001–2011

In the absence of detailed information from census findings of inter-state and intra-state migration, the present analysis is limited to the regional pattern of in-migration in India. It is evident (Figure 5) that Goa, followed by Maharashtra, Punjab, Kerala, Delhi, Gujarat, Uttarakhand and Tamil Nadu had a high in-migration rate in 2011. It clearly shows that in-migration was high in the states with a correspondingly high level of economic development. During 2001–11, four states of India, Kerala, Goa, Tamil Nadu and Punjab, experienced exceptional increase in the in-migration rates. Except for Punjab, Haryana and Uttarakhand, most of the north Indian states had in-migration rates lower than the national average. On the other hand, the north-eastern states had in-migration rates lower than the national average, because of their weak industrial base and therefore low level of economic development.

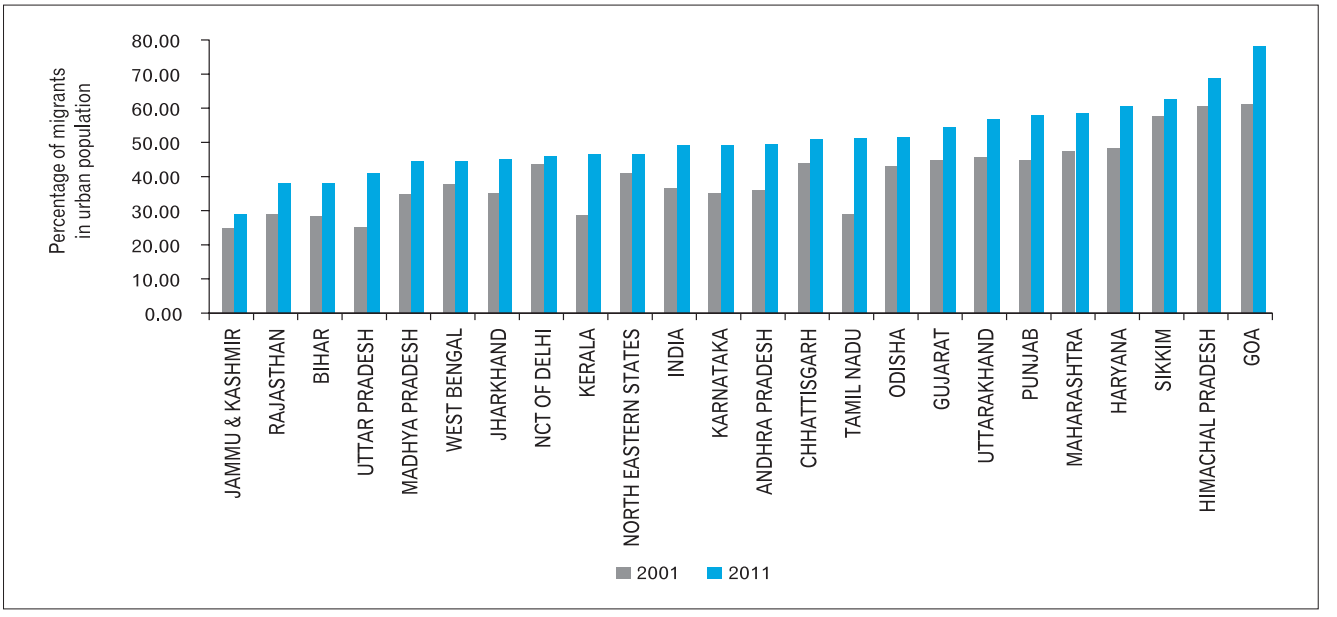
In 2011, the migration rate in urban India was highest in Goa followed by Himachal Pradesh and Sikkim (Figure 6). The reason could be the high level of infrastructure and economic investment in these small states. Haryana, Maharashtra, Punjab, Uttarakhand and Gujarat are the other states in which urban migration rates were very high in 2011. Jammu and Kashmir, followed by Rajasthan, Bihar, Uttar Pradesh, Madhya Pradesh and West Bengal had urban migration rates lower than the national average. During 2001–11, Tamil Nadu, followed by Kerala, Goa and Uttar Pradesh, experienced a high increase in in-migration rates in urban areas.

Figure 5: In-migration Rates in India across Major States, 2001 and 2011



Source: Migration Table, Population Census of India, 2001 and 2011

Figure 6: In-migration Rates in Urban India across Major States, 2001 and 2011



Source: Migration Table, Population Census of India, 2001 and 2011

Population and Migration Management Strategies and Policies

The Constitution of India provides certain fundamental rights to citizens among which freedom of movement and freedom to trade and do business and jobs anywhere in the territory of the country are some of the relevant rights in the context of internal migration in India. India is the only country in south Asia which has a legislation known as 'Inter-state migrant workmen Act, 1979' for the protection and welfare of inter-state migrant workers. Any establishment which has five or more inter-state migrant workers is covered under this Act and these workers are entitled to get minimum wages, housing, drinking water, toilets, restrooms, canteens, crèche and journey allowances from the establishment. There are punitive provisions for the violations of this legislation by the establishment but it has been found in studies (Borhade, 2012) that due to lack of awareness among migrant workers and civil society organisations and lack of political will among policymakers, the implementation of this legislation is very poor. Therefore, a large number of migrant workers are not benefiting from this legislation. They are more prone to occupational diseases but unfortunately, there is no comprehensive health policy that covers migrant workers under its ambit.

The National Commission on Urbanisation (1988) had identified 329 centres as Generators of Economic Momentum (GEMs) and 49 Spatial Priority Urbanisation Regions (SPURs) that would merit a special allocation of resources by the central and state governments. These cities and regions were identified to promote growth in these emerging centres and thereby restrict growth of already large cities.

URBAN POLICY FRAMEWORK IN INDIA

In the federal structure of India, the powers and responsibilities of formulating policies and programmes are divided between state and central governments, and on certain subjects, both can make legislations. Urban policy and planning come under the ambit of state governments. The central government only can provide guidelines, directives, advisory services, set up model legislations and fund programmes, but formulating urban policies and their implementation under the guidance of the central government are at the will of state governments. Few states have taken initiatives to formulate urban policies and programmes. After Independence, the Government of India set up a Planning Commission to formulate Five Year Plans (FYPs) for effective and balanced utilisation of resources and determining the priority sectors in each Plan period.

The Planning Commission was set up by a resolution of the Government of India in March 1950 in pursuance of declared objectives of the government to promote a rapid improvement in the standard of living of the people. This was sought to be achieved by efficient use of the resources of the country, increasing production and offering equal employment opportunities. In 1988, a policy document titled National Commission of Urbanisation (NCU) Report was brought out. This report was in the form of recommendations for the balanced and sustainable development of urban centres in the country. The recommendations of the NCU Report were advisory in nature and no effort either at central or state level was taken to follow up the implementation of the recommendations. In 2018, India has for the first time undertaken the formulation of a National Urbanisation Policy Framework covering all aspects of urban development.

Urbanisation in India has never been a product of effective formulation and implementation of urban policies. Until the 2000s, the coverage of urban policies and programmes under different FYPs was limited to metropolitan cities and the small and medium towns largely remained unaffected (Shaw, 1996). The urban policies and programmes under different FYPs are compiled in the following Table 7.

Table 7: Urban Policies and Programmes in Five Year Plans

Five Year Plans	Policies and Programmes
First Five Year Plan (1951–1956)	1. Institutional set-up for the management of urban areas such as creation of Ministry of Works, Housing and Supply (1952); the National Building Organisation (1954); Regional and Town Planning Department in Indian Institute of Technology, Kharagpur (1952) 2. Emphasis on preparation of Master Plans and nactment of town and country planning regulations 3. Integrated Subsidised Housing Scheme (1952) for industrial workers and economically weaker sections 4. Low Income Group Housing Scheme (1956)
Second Five Year Plan (1956–1961)	Establishment of School of Planning and Architecture (1959); Town and Country Planning Organisation (1962); and Delhi Development Authority (1957) Schemes of slum clearance and slum improvement, Expansion of Plantation labour housing scheme under Low Income Group housing scheme
Third Five Year Plan (1961–1966)	1. Directives to correct the pattern of urban growth: Control of urban land values through public acquisition, physical planning of use of land and planning of Master Plans; defining 'tolerable' minimum standards for housing and other services; strengthening of municipal administration 2. Development plans to come into effect for 72 urban centres and almost all states to introduce town planning legislations 3. Financial incentives to industry located in backward areas and encouraging a strict industrial licensing policy
Fourth Five Year Plan (1969–1974)	1. Establishment of Housing and Urban Development Corporation (HUDCO) to finance housing and urban development projects 2. Development of new state capitals such as Chandigarh, Gandhinagar, Bhopal and Bhubaneswar 3. Environmental Improvement of Urban Slums (1972) Provision of a minimum level of basic services in slums areas of 11 cities with a population of eight 100,000s and above 4. Establishment of Calcutta Metropolitan region
Fifth Five Year Plan (1974–1978)	1. Urban Land (Ceiling and Regulation) Act, 1976-. Putting a ceiling on the ownership of vacant land in UAs and thereby bringing more land into the markets 2. Coverage of Environmental Improvement of Urban Slum programme extended to all citie regardless of size 3. Integrated Urban Development Programme (1974–1979) in metropolitan cities and areas of national importance 4. Establishment of Mumbai Metropolitan Region Development Authority
Rolling Plans (1978–1980) and Sixth Five Year Plan (1980–1985)	1. Integrated Development of Small and Medium Towns (IDSMT) (1975–1979): Regenerate 200 Small and Medium towns
Seventh Five Year Plan (1985–1990)	1. National Commission on Urbanisation (1986) 2. First attempt to grant constitutional status to Urban Local Bodies in 1989 by introducing 65th Constitutional Amendment Bill in Lok Sabha 3. Urban Basic Services for Poor
Eighth Five Year Plan (1992–1997)	1. Mega City Scheme (1992–97) 1993–94 Mumbai, Calcutta, Chennai, Bengaluru and Hyderabad 2. Nehru Rojgar Yojana (1992–1993)
Ninth Five Year Plan (1997–2002)	1. Swarna Jayanti Shahari Rozgar Yojana (1997) subsuming Nehru Rojgar Yojana, Urban Basic Services for Poor 2. National Slum Development Programme (1997) 3. The coverage of Integrated Small and Medium Towns scheme extended to 904 towns
Tenth Five Year Plan (2002–2007)	1. Valmiki Ambedkar Awas Yojana (VAMBAY) (2001) for the provision of shelter and upgrading shelter of people below poverty line
Eleventh Five Year Plan (2007–2012)	1. Launch of Jawaharlal Nehru Urban Renewal Mission (JNNURM): For integrated development of urban infrastructure and services in select 65 mission cities. Earlier programmes such as Mega City, IDSMT, NSDP and VAMBAY were subsumed under this programme 2. Rajiv Awas Yojana: To support state and city governments to upgrade slums and assign title to slum dwellers and make Indian cities slum free

Five Year Plans	Policies and Programmes
Twelfth Five Year Plan (2012-2017)	1. Smart City Mission, aimed at developing Smart solutions for selected urban areas in 100 cities 2. Swachh Bharat Mission (Urban): Focus on waste management and sanitation in all statutory towns 3. The Atal Mission for Rejuvenation and Urban Transformation (AMRUT): Focus on water supply and sewerage improvement in all Class I cities 4. Heritage City Development and Augmentation Yojana (HRIDAY): To address the development of 12 heritage cities 5. Pradhan Mantri Awas Yojana (PMAY): To provide housing to all by 2022 in all statutory towns
Three Year Action Agenda (2017–2018 to 2019–2020), NITI Aayog	Reduce the inflated land prices in India by bringing land price down through lowering the stamp duty, controlling the flow of illicit money into real estate Relax the permitted FSI Replace the current rent control law by a modern tenancy law which would give freedom to tenant and owner to negotiate on rent the length of the lease Dormitory housing for migrant workers A rental voucher scheme for the urban poor in the 100 Smart Cities Establish an authority at the centre to spread the use of waste to energy plants Emphasis on making a national metro rail policy

Source: Compiled from Bhagat, 2014, Shaw, 1996, and various Five Year Plans

The launch of Jawaharlal Nehru Urban Renewal Mission (JNNURM) in 2005 laid down the foundation of a centrally funded reform driven urban development programme in select cities. It was a large umbrella mission with multiple sub-missions. It aimed to achieve sustainable economic growth in urban areas through large-scale investments made for urban infrastructure. Subsequently, with the change of government at the centre, new missions targeting different components of urban development were launched during 2015. Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Smart Cities Mission (SCM), Swachh Bharat Mission (SBM), Heritage City Development and Augmentation Yojana (HRIDAY), National Urban Livelihood Mission (NULM) and Pradhan Mantri Awas Yojana (PMAY) are the main missions covering almost all Class I cities of India.

Urban Development Policies: A Review

The 1990s saw an era of opening up of the country's economy, although ad hoc measures of liberalisation had been initiated in the mid-80s. Following the balance of payment crisis, a programme of economic liberalisation was launched in the country which propagated the idea of a free market with limited state intervention. Roughly, during the same time the 74th Constitutional Amendment Act (CAA) was enacted which decentralised powers and essential functions related to city planning, poverty alleviation and provision of basic services to the Urban Local Bodies (ULBs). The 74th CAA laid down the functions to be fulfilled by ULBs, established ward committees in cities with a population of 300,000, mandated periodic election of the ULBs and devolution of funds, functions and functionaries to ULBs as per the suggestions of the State Finance Commissions (Batra, 2009). However, many states have not transferred all functions to ULBs, thus ULBs depend on higher authorities for actual transfer of funds.

The Eleventh Plan launched an inclusive agenda and emphasised the need to bring about major changes in urban governance in order to boost investment in infrastructure development in urban areas (Kundu and Samanta, 2011). The launch of the JNNURM in 2005 was a landmark achievement, as for the first time huge funds in the form of substantial additional central assistance (ACA) were allocated to cities for urban development, which included infrastructure, housing and capacity building of officials. Besides, developing infrastructural facilities across 65 mission cities, JNNURM aimed at providing urban infrastructure and housing through its component of Urban Infrastructure and Development Schemes for Small and Medium Towns (UIDSSMT) and Integrated Housing and Slum Development Programme (IHSDP) in non-mission cities.

The mission succeeded in getting the state and the city governments to commit themselves to structural reforms which the central government failed to achieve despite adopting several measures and incentive schemes through other programmes and legislations (Kundu and Samanta, 2011). It was also effective in renewing focus on the urban sector across the country. Yet, many states lagged behind in programme utilisation due to lack of enabling capacity and capacity to generate matching funds (Planning Commission, 2011).

The share of government funds allocated under JNNURM was largely biased against the non-mission cities/towns. The share of UIDSSMT and IHSDP was 12.8 and 8.9 per cent respectively. The remaining share of 80 per cent funds was directed towards the 65 mission cities. The big city bias of JNNURM is also reflected in the per capita spending by the central government between 2005 and 2009; the figure for mission cities worked out to be Rs. 220 per capita per annum as compared to Rs. 119 for the non-mission cities (Kundu and Samanta, 2011). Moreover, the mission was deeply criticised on the ground that irrespective of size of the state and ULBs, the central government mandated the reforms. There was no cost benefit analysis whether the reforms recommended for metropolitan cities were applicable to small towns as well (Planning Commission, 2012).

During the Eleventh Plan, in pursuance of the vision to make India slum-free, Rajiv Awas Yojana (RAY) was launched. The scheme aimed to upgrade slums, assign title to their residents along with basic infrastructure and social amenities in each selected slum. RAY also extended financial support to the states for creation of affordable housing stock through public-private partnership (PPP). However, not much progress was achieved under this scheme, as it was stalled with the change of the government. In fact, this programme was replaced in 2015 by 'Housing for All', which is aimed to operate under four verticals: rehabilitation of slum dwellers with participation of private developers using land as a resource; promotion of affordable housing for weaker sections through credit linked subsidy; affordable housing in partnership with private and public sectors; subsidy for beneficiary-led individual house construction. Central funding is available for each vertical for a certain amount and the rest has to be organised by the state/ULB and the private developers.

In 2015, the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) Mission, a reform based programme akin to the erstwhile JNNURM was launched to provide basic services to households and build amenities in 500 cities. The central funding is Rs. 50,000 crores with matching contribution for states/UTs[2]. To address the challenges of urban infrastructure deficit, another initiative adopted during the Twelfth Plan is the Smart Cities Mission with an objective to promote cities that provide core infrastructure and give a decent quality of life to its citizens. With an estimated investment of Rs. 48,000 crores during 2015–2020, the core infrastructure elements to be provided in a Smart City include adequate water supply, electricity, sanitation, solid waste management, efficient urban mobility and public transport, affordable housing for the poor, robust IT connectivity and digitalisation, good governance and citizen participation, sustainable environment, safety and security of citizens, health and education. It is important to note that soft infrastructure like health and education was for the first time included. The implementation of Smart City Plans is entrusted to Special Purpose Vehicle (SPV), a limited company under the Companies Act, 2013. The SPV is supposed to plan, appraise, approve, release funds, implement, manage, operate, monitor and evaluate the Smart City development projects. Despite the launch of several programmes in mission mode, difficulties in housing and basic amenities still exist, although the share of slum population has declined from 18.3 per cent to 17.4 per cent during 2001–11. This is also reflected in the decline in urban poverty levels from 25.7 per cent in 2004–05 to 13.7 per cent in 2011–12.

With constraints of capacity at the ULB level and unclear devolution of functions and funds even after the 74th Constitutional Amendment Act, the urban sector faces a huge infrastructure financing challenge. Given the major risks involved, the private sector has also largely stayed away from urban infrastructure projects

[2] *http://amrut.gov.in/*

until very recently. It is thought that the newly launched mission mode programmes like SCM, AMRUT, SBM and PMAY (Urban), which are aimed at ensuring urban infrastructure, would be able to bring in INR 73,000 billion investment (PIB, 2016). The Twelfth Five Year Plan projects that cover roughly 12–23 per cent of the investment need in the urban sector can be met by taking projects on public private partnership (PPP), which has the added advantage of bringing in efficiency gains. As per the recommendations of the Working Group on Financing Urban Infrastructure (HPEC, 2011), resource mobilisation from instruments like PPP, borrowing and land-based instruments need to be scaled up to fund this magnitude of investment requirements and this would require concerted efforts from all tiers of the government.

SPATIAL PLANNING SYSTEMS AT NATIONAL, STATE AND LOCAL-LEVEL

Ancient India had a rich history of city planning. Kautilya's Artha Shastra (c. 300 BC—AD 300) defined principles of urban planning, rural urban relationships, and the spatial organisation of early Indian city-states. The structure of settlements was defined in a scientific manner wherein specific areas were earmarked for different uses. Currently, at the national level, NITI Aayog (erstwhile Planning Commission) and Ministry of Housing and Urban Affairs are responsible for preparation of strategic plans,[3] financing of specific urban development programmes, and providing technical guidance and advisory regarding urban planning and development. As mentioned earlier, urban planning and development is a state subject in India; therefore, it is largely the responsibility of state governments. Urban/metropolitan/regional development authorities undertake planning and development for major cities and urban regions. These authorities are set up under the State Town Planning Act, and are administered by the state government. In small cities and towns where specific authorities have not been established, the Town and Country Planning Organisation (TCPO), an apex body at state level, guides physical development through preparation of Master Plans, sector plans and schemes. At the local level, the ULB implements the development plan and urban development strategies that are approved by the state government.

Types of Plans and their Interrelationship

Until 2017, national level plans were formulated through Five Year Plans, which set forth the national strategic vision, goals and programmes on sectors like economy, financial administration, employment, education, social security, environment, industry, agriculture, transportation, urban development, energy etc. The erstwhile Planning Commission prepared national plans by coordinating and consolidating the plans proposed by the various ministries and state governments with a five year vision. In 2017, the Planning Commission was replaced by NITI Aayog[4] which replaced the FYPs by a three-year action agenda.

A perspective plan is a formulation of development strategy at the state level or at the regional level. It is further detailed out in the regional plan, sub-regional plan or development/Master Plan. The purpose of a perspective plan is to provide an overall framework and acts like a guide for development authorities and ULBs in preparation of Regional, Development/Master Plans (Table 8).

A regional plan is a statutory plan prepared at metropolitan region level. The region can encompass more than one district and even more than one state at times. This is a linkage for aggregation of plans for consolidation and integration of planning efforts spread in multiple districts and states (Table 8).

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[3] *This includes preparation of the Five Year Plans, three-year action plan, strategy for development of new cities along the national transport/industrial growth corridors, strategic densification of cities, framework to facilitate the process of urban regeneration/ renewal etc.*

[4] *The National Institution for Transforming India is the premier policy 'Think Tank' of the Government of India, providing both directional and policy inputs. While designing strategic and long term policies and programmes for the Government of India, NITI Aayog also provides relevant technical advice to the centre and states*

Table 8: Planning System in India

Plans	Scope and Purpose of the Plan	Time Frame	Various Forms of Plans				
Core Area of Planning							
Perspective Plan	To develop vision and provide a policy framework for urban & regional development for further detailing	20 years	Vision Document	Concept Plan	Mission Statement		
Regional Plan	To identify the region and regional resources for development within which the settlement (urban and rural) plan is to be prepared and regulated by Metropolitan/Regional Authority	20 years	Regional Plan	Sub-regional Plan			
Master Plan/ Develop-Tment Plan	To prepare a comprehensive Development Plan for urban areas, peri-urban areas under control of the development authority/ Metropolitan Planning Authority	20–30 years (review every 5 years)	District Development Plan	City Development Plan	Master Plan	Metropolitan Development Plan	Revised Development Plan
Local Area Plan	To detail the Sub-city Land Use Plan and its integration with urban infrastructure, mobility and services	5–20 years (review every 5 years)	Zonal Plan / Sub-city Plan	Coastal Zone Management Plan	Town Planning Schemes	Ward Committee Plan	Urban Redevelopment Plan
Specific and Investment Planning							
Special Purpose Plan	To identify the needs of the special areas which require a special plan within the framework of the Development Plan	5–20 years (within the city Master Plan)	City Development Plan (eg: in JNNURM)	Compreh-ensive Mobility Plan (eg: JNNURM)	City Sanitation Plan (eg: National Urban Sanitation Policy	Smart City Plan (eg: Smart City Mission	Service Level Improvement Plan (eg: AMRUT Mission)
			Slum Rede-velopment Plan (as per RAY)	Disaster Management Plan	Environmental Conservation Plan	Tourism Master Plan	Heritage Conservation Plan
Annual Plan	To translate Master /Development Plan in the context of annual physical & fiscal resource requirement To monitor plan implementation with performance milestones	1 year	Investment Plan	Audit and Monitoring Plan			
Project/ Research	To focus on project related invest-ments, costing and returns & for the studies required prior to plan formulation.	5 years	Pre-feasibility & Feasibility Study	Detailed Project Report	Schemes & Sub-projects	Surveys & Studies	Projects such as: Riverfront development projects

Source: Author's Compilation

A Development Plan/Master Plan is also a statutory plan prepared within the framework of an approved perspective plan for the time horizon of 20 years. The plan provides further details, actions and implementation strategies in the form of physical proposals. Once the plan is approved, it allows the ULBs to implement the plan proposals with the help of local area plans and projects (Table 8).

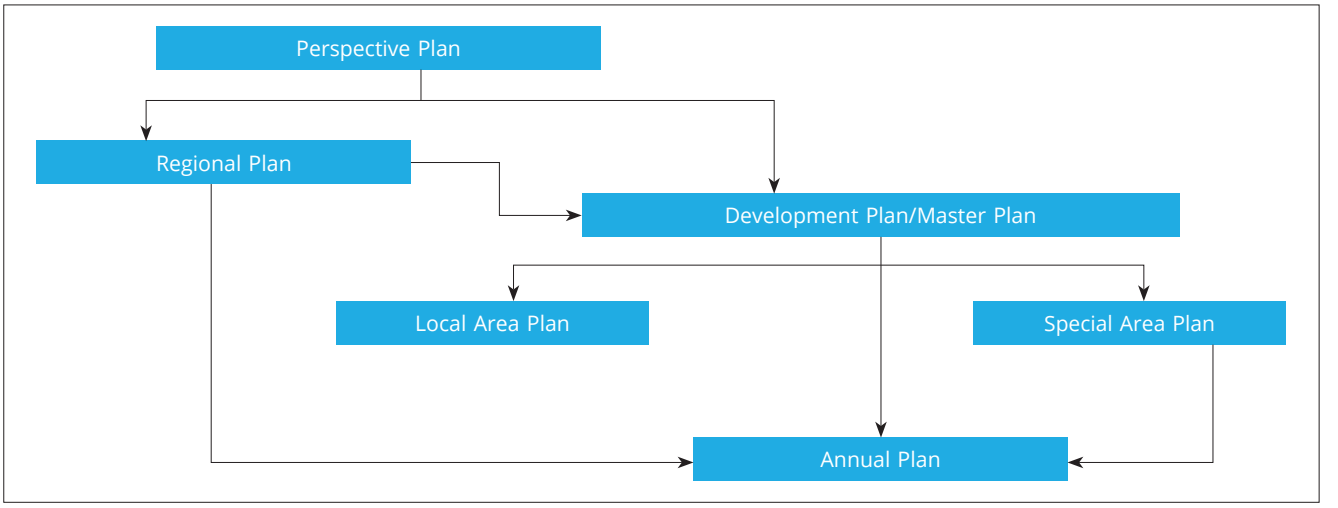
As the proposals of the Development Plan/Master Plan are broad in nature, it is to be followed by preparation of Local Area Plans, Zonal Development Plans, Development Schemes, Improvement Schemes, and Town Planning Schemes etc. These plans indicate details and specific location of various activities, facilities and services as suggested in the Development Plan/Master Plan, delineation of land for roads and other public purposes, compliance with government policies (rainwater harvesting, barrier-free environment for elderly etc.). At times, it also provides a framework for cost recovery of the projects. Such plans are the link between the Master Plans and detailed site development plans and are necessary for smooth enforcement and implementation of the Master Plan.

A Special Area Plan is prepared for a specific purpose depending on the priority of the sector. However, these plans have to be within the framework of the Development Plan/Master Plan or local area plan, e.g. city sanitation plan. At times, these plans are prepared to implement the schemes of the central or state government, e.g. City Development Plan under JNNURM, Smart City Plan under Smart City Mission.

The Annual Plan consists of details of new and ongoing projects that the ULB proposes to undertake during the financial year. These plans are prepared by ULBs and include the resource requirement, sources of funding, and mechanisms to monitoring the progress of the plan. The Annual Plan acts as a link between the budget and other plans.

Figure 7 shows the inter-relationship between different plans directly or indirectly related to land use planning and development at various levels of urban areas. In the post-Independence period, urban planning was focused on preparation of Master Plans or Development Plans with rigid land use, zoning and development controls. The legacy of the colonial period was carried over when formulating the regulations stipulated in the Master Plans which were based on the Town and Country Planning Law of the United Kingdom (1947). Master Pans in India are too detailed and this has stood in the way of preparation of zonal plans. It has resulted in unplanned growth of cities, and congestion and environmental degradation have become a rule rather than an exception. It has led to a static built environment, with little relevance to the changing socio-economic conditions. State governments allow frequent land use changes and building regularisation schemes to legalise buildings/uses which mushroom in violation of existing Master Plans.

Figure 7: Relationship Between Various Plans



Source: Authors' Compilation

Efficacy of Plans

Moreover, Master Plans are not connected to investment planning either at the city, state or national levels. This has resulted in most Master Plans largely remaining unimplemented. The disconnect between spatial and functional aspects has increased the skewed hierarchy of settlements and the benefits of economic planning and development schemes have not been fully realised. Finally, urban planning is male perspective driven which justifies it being called 'Master' Plan. The concerns of the elderly, women, children and differently abled have been largely ignored in the planning process. Of late, the current urban development missions have talked about inclusive planning. However, the scale is too limited and largely such interventions are cosmetic in nature.

The Development Plans/Master Plans of a city attempt to evolve scientific and rational policies to meet the functional needs of the city and aspirations in a perspective of 20 years. Such plan preparation has not been found very effective since it neither matches the pace of urban growth nor does it cope with the changing socio-economic conditions of urban areas. Development Plans/Master Plans have aimed to be too detailed and, therefore, even after years of plan preparation exercise, zonal plans/local area plans have not been completed in many cities. Development/Master planning has led to a static built environment, which is largely disconnected from the rapidly changing environment. In order to address the constantly transforming conditions in urban areas, state governments resort to frequent land use changes and building regularisation schemes to legalise buildings/uses in contravention of existing Master Plans. Although Master Plans are generally prepared for the planning areas identified, the implementation is mostly limited to the city limits and seldom reaches the urban fringes and adjoining peripheral areas due to statutory bottlenecks. Development Plans or Master Plans are not connected to investment planning in the city. As a result, these have largely remained unimplemented.

Urban development in India has remained isolated from planned national development. In the decades after Independence, urban was treated only as a budgetary item of social expenditure and accounted for a very small fraction of the total plan budget. Planning meant preparation of physical plans (Master Plans); and planning for provision of infrastructure facilities including various slum development schemes.

The colonial pattern of settlement hierarchy is still visible in the country. This may be attributed to the lack of mechanisms to integrate spatial (both regional and urban/rural) plans with sectoral investment plans in the Five-Year Plans. Urbanisation was never visualised as a cumulative effect of several programmes of economic development having an impact on settlement patterns. In addition, urban development was never treated as an important area of investment until the launch of the JNNURM in 2005.

TYPE OF LAND OWNERSHIP IN INDIA

Land is the most fundamental asset owned by individual and states and managed by states and cities. It is an important resource to generate revenues (Kundu and Sharma, 2018). As mentioned in the earlier section, India is currently only 31 per cent urban occupying 3.11 per cent of the total area. According to NSSO: "a plot of land was considered owned by the household if permanent heritable possession, with or without the right to transfer the title, was vested in a member or members of the household. Land held in owner-like possession under long term lease or assignment was also considered as land owned." (NSSO, 2013)

Two basic concepts were used in India to determine the ownership of a plot of land:

- Land owned by the household i.e., land on which the household had the right of permanent heritable possession with or without the right to transfer the title. This type of land might be leased out to others by the owner without losing his/her right of permanent heritable possession.
- Land held under special conditions such that the holder does not possess the title of ownership but the right for long-term possession of the land is vested to holder under perpetual lease, hereditary tenure and long-term lease for a certain number of years. (NSSO, 2013)

These two types of land ownership are generally known as 'private land ownership'. Another form of land ownership in India is 'public land ownership'. Central and state governments, as well as local bodies in India own large area of lands. It is one of the most significant tangible assets for the government at various levels (Annez and Gangopadhyay, 2013). The organisations and departments of the central government are the largest landowners in the country (GoI, 2011). The exact amount of landownership by organisations and departments of the central government can not be assessed in the absence of accurate data available in the public domain, but a study of published sources indicates that these landholdings are very large and potentially underutilised (Peterson and Thawakar, 2013).

Mishra and Suhag (2017) in their article explain the presumptive nature of land ownership in India:

> "In India, land ownership is primarily established through a registered sale deed (a record of the property transaction between the buyer and seller). Other documents used to establish ownership include the record of rights (document with details of the property), property tax receipts, and survey documents. However, these documents are not a government guaranteed title to the property, but only a record of the transfer of property. During such transactions, the onus of checking past ownership records of a property is on the buyer. Therefore, land ownership in India, as determined by such sale deeds, is presumptive in nature, and subject to challenge."

Non-agricultural users occupying towns and cities like industries, built-up area and infrastructure have so far accounted for a relatively small share of land use. This share is likely to rise in future, as the country modernises and rate of urbanisation improves. Much of the privately owned land in the country is used for cultivation and is recorded as agricultural land in rural India. Landowners are free to transfer land to other users but a change in use from agricultural to commercial, industrial or any other purpose usually requires permission of the revenue authorities on the payment of a conversion fee. On the other hand, when large parcels of land are needed for the construction of roads, railways, canals or other public infrastructure, establishment of industry, urban housing or any other public purpose, land is acquired compulsorily by the government on payment of compensation in accordance with the land acquisition laws.

Areal Expansion and Issue of Land

There is an increasing trend towards peripheralisation of the metropolitan regions. The core cities have grown at rates faster than their peripheries in cities above 5 million population; but for the cities of population ranging from 1–5 million, peripheralisation is seen to be much stronger. There is evidence of huge sprawls around these cities, with the population in the areas under core areas as a percentage of the total city, decreasing from 82.8 per cent in 2001 to 76.7 per cent in 2011. The share of population in the 5 million plus cities has remained constant over the last two decades (Table 9). The cities in the category of 100,000–1000,000 have registered high peripheral growth. Much of this peripheral growth is attributed to the mushrooming of new census towns in and around existing cities in the previous decade. The growth of population in the city peripheries has important implications on land governance. The city peripheries including the census towns, although urban by characteristic are not under city administration. The census towns are governed by gram panchayats and can be classified as rural areas despite having urban characteristics. The settlements in census towns do not comply with the building bye-laws and result in unplanned urbanisation. Conversion of land use from rural to urban is also ad hoc in these towns. The technical group on urban housing shortage (TG-12) has already identified a shortage of 18 million housing units in urban areas in 2012. As the inner cities are already crowded, in several cities new housing is being provided at the city peripheries. Unclear land titles mean several of these new housing projects getting into land ownership disputes. In Indian cities, a significant number of slums and unauthorised colonies exist , which also have unclear land titles and therefore, most of the times, building bye-laws are not applicable in these settlements (Kundu & Sharma, 2018). In this context, it is important to bring these areas under the urban administration at the earliest to arrest unplanned urban growth.

Table 9: Percentage Distribution of Population in Core and Periphery in Urban Centres

Size Class		Core to Total (%)		AEGR 2001–2011		
	UA/ City	2001	2011	Total	Core	Periphery
Metropolitan Cities	>5 million	65.1	65.4	2.12	2.33	1.73
	1 –5 million	82.8	76.6	3.62	2.85	6.67
	Total	72.7	71.2	2.79	2.59	3.33
Other Class I Cities*	100,000––1000,000	90.2	85.7	2.56	2.04	6.34
All Class I Cities	100,000 and above	79.7	76.9	2.70	2.34	3.99

Note: Other Class I Cities includes all Class I cities excluding metropolitan cities*
Source: Population Census of India data for various years

Therefore, India's urban planning is heavily dependent on the public acquisition of land for development purposes. Investors generally appropriate the value generation in the process of development through the land owned/acquired by the state and then developed with public/private funds for urban use. In the last decade, land acquisition in India has become a political issue and serious conflicts have emerged between farmers, private developers and government agencies. To develop a workable and transparent framework for the development of land in urban areas through public land acquisition and address the above issues, GoI has passed an Act, namely the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (LARR Act), 2013 (Ahluwalia, nd.). Scholars (Ahluwalia, nd; Mishra and Suhag, 2017; Kundu and Sharma, 2018) have discussed various land related issues in urban India, which could be listed as follows:

- Lack of clear property rights
- Difficult transaction process of purchase and sale of land
- Lack of transparent rules and regulations for redevelopment of land/property
- Ineffective enforcement of contracts to buy and sell developed properties
- Poor maintenance of land records (absence of modern digital land records)
- Inefficient system of property registration
- Difficult legal and procedural framework for conversion of land from agricultural to non-agricultural purpose
- Weak system of property taxation
- Low level of Floor Space Index in Indian cities as compared to international standards

To address these issues, GoI has taken several initiatives under JNNURM. The programme initiated eight land-related reforms in Indian cities to improve the land governance system, which include:

- Rent control reform
- Repeal of Urban Land (Ceiling and Regulation) Act, 1976
- Computerisation of the process of registration of land and property
- Simplification of the legal and procedural framework for conversion of agricultural land to non-agricultural land
- Property tax certification
- Rationalisation of stamp duty
- Earmark at least 20–25 per cent of developed land in all housing projects for economically weaker sections and lower income groups
- Improvement in the collection of property tax using GIS

The achievement of the reforms by the states has been mixed. Tamil Nadu is the only state which has implemented all the land related reforms in the stipulated timeframe under JNNURM. Chandigarh, Himachal

Pradesh, Jammu & Kashmir, Karnataka and Gujarat have implemented more than 90 per cent of the reforms. States including Puducherry, Assam, Uttarakhand, Uttar Pradesh, Rajasthan, Punjab, Chhattisgarh, Delhi, Andhra Pradesh, Goa and Arunachal Pradesh have complied with 80–90 per cent of the reforms. Sikkim, West Bengal, Kerala, Odisha, Jharkhand, Madhya Pradesh and Maharashtra complied with 70–80 per cent of the reforms. Haryana and Tripura implemented 60–70 per cent of the land related reforms, while Meghalaya, Bihar, Manipur implemented only 50–60 per cent. Nagaland implemented only 36 per cent of the total land related reforms. Introduction of the property title certification system in ULBs was found to be the most difficult reform followed by rent control reform and earmarking of 25 per cent developed land in all housing projects for EWS/LIG, as only few states have implemented these reforms (Kundu and Sharma, 2018).

The central government has implemented the National Land Records Modernisation Programme (now Digital India Land Records Modernisation Programme) to improve the quality of land records and make them more accessible. However, the pace of modernisation of records and bringing them to an online platform has been slow (Mishra and Suhag, 2017). Many states such as Karnataka and Andhra Pradesh have taken successful initiatives in this regard. The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (Land Acquisition Act), 2013 is another step towards resolving the land dispute for urban development. Under this Act, the government has included several good provisions such as: i) when government acquires the land for private companies, the consent of at least 80 per cent of the affected families is required through a prior informed process; ii) land acquisition is not allowed in multi-cropped areas except in a few extraordinary circumstances; iii) the compensation will be four times the market value of land in rural areas and twice in urban areas; and iv) before the acquisition of the land the government will conduct a 'social impact assessment' which involves all stakeholders etc. It can be concluded from the above discussion that India has to take concerted efforts to strengthen land governance and resolve land issues in urban development, but there are still various reforms under JNNURM which are essential for land governance and have not been implemented by the states.

CONCLUSION

India has witnessed a deceleration in the growth of population during the last three decades, dismissing the spectre of over-urbanisation or an urban explosion which was proposed by scholars based on the urban growth rate experienced by India in the 1970s. The level of urbanisation in India increased from 27.78 per cent in 2001 to 31.16 per cent in 2011 accounting for 377.11 million population. The decade 2001–11 registered a slight improvement in the growth rate of the urban population which is attributed to the emergence of new census towns, expansion of municipal limits and formation of new urban agglomerations. As compared to other developing countries such as China and Brazil, the pace and level of urbanisation in India is still very low, which is a major concern for policymakers. The Eleventh Plan admitted that "the degree of urbanisation in India is one of the lowest in the world" and considered planned urbanisation through new growth centres in the form of small and medium towns its major challenge. The Approach Paper to the Twelfth Plan also recognises the need to promote spatially balanced urbanisation.

The regional pattern of urbanisation shows that the states/UTs with a high level of economic development had a correspondingly high level of urbanisation in 2011. The urban hierarchy of towns by size-class shows that urbanisation in India is top-heavy with 70 per cent population living in Class I UAs/towns in 2011. The main reasons for a higher concentration of the urban population in Class I UAs/towns are upward mobility of settlements from low to higher order, areal expansion of the existing UAs/cities due to addition of new census towns, expansion of municipal boundaries, and formation of new UAs.

The components of urban growth in India show that the net rural-urban reclassification including jurisdictional changes was the single most important factor contributing to urban growth during 2001–11. This could be explained by the unprecedented increment in the number of census towns during this period.

Urbanisation in India is increasingly becoming exclusionary in nature. The past few decades have witnessed a systematic decline in the share of rural-urban migration. India's heavily protectionist trade policy regime until the 1990s had encouraged capital-intensive industrialisation in the country. This may be one of the reasons for the decline in the share of migrants. Rigid labour laws and reservation for small-scale units in production also encouraged capital-intensive industrialisation by restricting labour-intensive industrialisation. The low share of manufacturing, no sizeable shift in workers moving out of agriculture, and the phenomenon of jobless growth have serious implications for migration in India and partly account for the decline in the pace of migration. The service sector recorded a sharp increase in the share of total employment. Since growth took place in highly skilled services such as information technology (IT), telecom and banking, or in sophisticated manufacturing industries like engineered goods and pharmaceuticals, it did not draw much labour from rural areas (HPEC, 2010). Limited protection to rural-urban migrants under the Inter-State Migrants Workmen Act, 1979 has led to discrimination and deprivation and the lack of awareness about this Act among migrant workers and poor implementation of this legislation making migrants more vulnerable.

India does not have a comprehensive national urban policy. The central government provides guidelines and directives and funds to centrally sponsored programmes, since urban development in India is a state subject. The first two FYPs focused on institutional building. From the Third Plan period onwards, the Government of India launched several schemes to provide housing and basic amenities to the urban population.

The JNNURM was the first comprehensive urban development programme, which brought about huge investments for urban development in the country. It was the single largest initiative of the Government of India for planned urban development that integrates the two pressing needs of urban India: massive investments required for infrastructure development, and at the same time reforms that are required to sustain investments. This programme was effective in renewing the focus on the urban sector across the country with a priority on reforms. The mission was successful in getting the state and city governments to commit themselves to structural reforms. Despite these achievements, this programme was biased towards big cities. In recent years, several new missions such as Smart Cities, AMRUT, Swachh Bharat Mission (urban) were launched by the central government to improve the urban infrastructure. However, these programmes are biased towards big cities. Also, the reform conditionalities tied to these programmes restrict the weaker ULBs in accessing funds.

In 2018, the Government of India initiated the development of a National Urbanisation Policy Framework which will provide a holistic framework to states to formulate their own policies in a customised manner. This may signal a reversal of the top-down approach of policy formulation in the country which was one of the major reasons of policy paralysis in the Plan periods. Recognition of the importance of the principle of subsidiarity in urban governance would be an important step in improving urban infrastructure in the country. Decentralisation of 3Fs, namely, funds, functions and functionaries as per the 74th CAA, 1993, and strengthening of the economic bases of the urban centres would ensure balanced and sustainable economic development in the cities of India.

NATIONAL POLICY FRAMEWORK
Health in Urban India

HEALTH IN URBAN INDIA:
Overview of Policies, Programmes and Current Status

INTRODUCTION

The progress of a nation depends on a healthy and educated population. The importance of health indicators in the erstwhile Millennium Development Goals (2000–15) and the Sustainable Development Goals (SDGs) 2016–30 adopted by the United Nations indicate the recognition of the pivotal role of health in equitable and sustainable development (Reddy, 2016). Despite advancement in health technologies and coverage in the second half of the twentieth century, equity in the access to health care is still a major challenge for developing countries and India is no exception. In the last two decades, countries in the global south have experienced an unprecedented growth in urban population. Cities are facing epidemiological transition where deaths due to non-communicable diseases and injuries are on the rise. Unplanned urban growth and widening social determinants of health are making the city environment more adverse leading to a low quality of life. Of late, India has strengthened the health care infrastructure and increased the coverage of health facilities across regions. However, large-scale disparities still exist in the access of health care facilities between rural and urban areas. They also exist between and within big and small urban centres. Expenditure on the health sector in India is only 1.5 per cent of the GDP (Economic Survey, 2017–18), which is very low as compared to other developing countries (South Africa, Brazil, Maldives, Nepal, Afghanistan etc.)

Since Independence, India has formulated three National Health Policies in 1983, 2002 and 2017 respectively. But the National Health Policy (NHP), 2017 is the first policy which has given adequate attention to urban health. In last few decades, there is a significant improvement in the different parameters of health in India because of implementation of various health programmes but there has been little concerned effort at the national level for providing comprehensive health care to the urban population, especially the poor, vulnerable and marginal sections of urban society. In this context, it would be interesting to view the holistic picture of health care in India and the present section is an attempt to provide this overview. The section is divided into seven sub-sections, which include the institutional framework and organisational structure of the health care system in India; public-private provisioning of health care; public health expenditure in India; national health policies; and the current health scenario in India.

INSTITUTIONAL FRAMEWORK

The Constitution of India in its Directive Principles of State Policy clearly mentions that improving public health, nutrition and the standard of living of the citizens of India is one of the duties of the states. In the federal structure of India, legislative and financial responsibilities are divided between central and state governments (Kailthya and Kambhampati, 2016). Health is a state subject in India. However, the state governments seldom take any initiative in the health sector. The central government designs the guidelines of health policies and programmes, and state governments generally execute these programmes. The central government through its fiscal control over distribution of resources ensures the proper implementation of

the health policies and programmes at the state level. However, it is important to mention that the central government largely administers preventive and promotional programmes like disease control programmes and family planning which cover two-thirds to three-fourths of state budgets. Curative care i.e. managing hospitals and dispensaries is the area in which states have full autonomy and there is no central intervention. The investments in this domain mostly come from the revenue generated by state governments (Duggal, 2001).

Under the 74th Constitution Amendment Act (CAA), 1992 (12th Schedule), the Urban Local Bodies (ULBs) in India are empowered to improve access to health services in urban centres but only a few state governments have mandated the ULBs to improve public health services in cities. The social determinants of urban health such as provisioning of urban amenities including water supply and sanitation, urban poverty alleviation, slum improvement and upgradation and safeguarding the weaker sections of urban society including handicapped and mentally retarded etc. are also the major functions of ULBs (Yadav, Nikhil and Pandav, 2011).

The Ministry of Health and Family Welfare is the nodal agency to formulate and implement health and family welfare programmes along with the programmes related to prevention and control of major communicable diseases at the national level. It provides technical advice to the states' departments of health and family welfare on all public health matters and develops the training capacity of the states' health professionals. The ministry also has a separate department of health research to promote and co-ordinate basic and applied clinical research in the field of medical sciences. To promote the indigenous and traditional methods of treatment, the Government of India created a separate Ministry of AYUSH[5] in 2014, which was earlier a department under the Ministry of Health and Family Welfare. State governments also have departments of health and family welfare under the Ministry of Health and Family Welfare, which is responsible for implementation of national and state level health programmes.

The central and state governments in India have public health care facilities/institutions which comprise the All India Institute of Medical Sciences (AIIMS), Regional Institutes of Medical Sciences, Regional Cancer Centres, Government Medical Colleges, District and Sub-district hospitals, Community Health Centres and Primary Health Centres. AIIMS (funded by the central government) and Government Medical Colleges (funded by state governments) are referral hospitals. The basic health care units in India are Primary Health Centres (PHCs) and Community Health Centres (CHCs) but they mainly cover rural areas. Urban areas are served by government hospitals. However, recently the National Urban Health Mission in 2013 mandated the state governments to open PHCs and CHCs in urban areas but their numbers are still low as compared to rural areas.

India also has regulatory authorities in the health care sector at different levels. The role of the government in developing and enforcing regulation has increased over time especially in three areas of the health sector – medical practice, health facilities and drugs. Both national and state governments promulgate legislations and regulations related to the health sector (Bhat, 1996). At the national level, Medical Council of India regulates and maintains the standards of medical education. It also provides registration to health professionals for professional practice. Every state has a separate State Medical Council and their work is similar to the Medical Council of India. At the local level, ULBs are authorised to provide a license to set up a hospital/nursing home. They also regulate the functions of these health care facilities. In addition, at the national level there is a Food and Drug Administration which regulates the manufacturing and sales of pharmaceutical products (Duggal and Nandraj, 1991).

Organisational Structure of Health Care System in India

Public health care delivery in India is designed in a three-tier structure: primary, secondary and tertiary (Figure 8). The health sector in India comprises a network of public health care facilities and health programmes along with a dominant (Mackintosh et al., 2016) and unregulated private health sector (Patel et al., 2016)

[5] *Ayurveda, Yoga and Naturopathy, Unanni, Siddha, Homoeopathy system of health care (AYUSH).*

which ranges from a single doctor to multi-speciality hospitals. The details of primary, secondary and tertiary health care centres are as follows:

Primary Health Centres

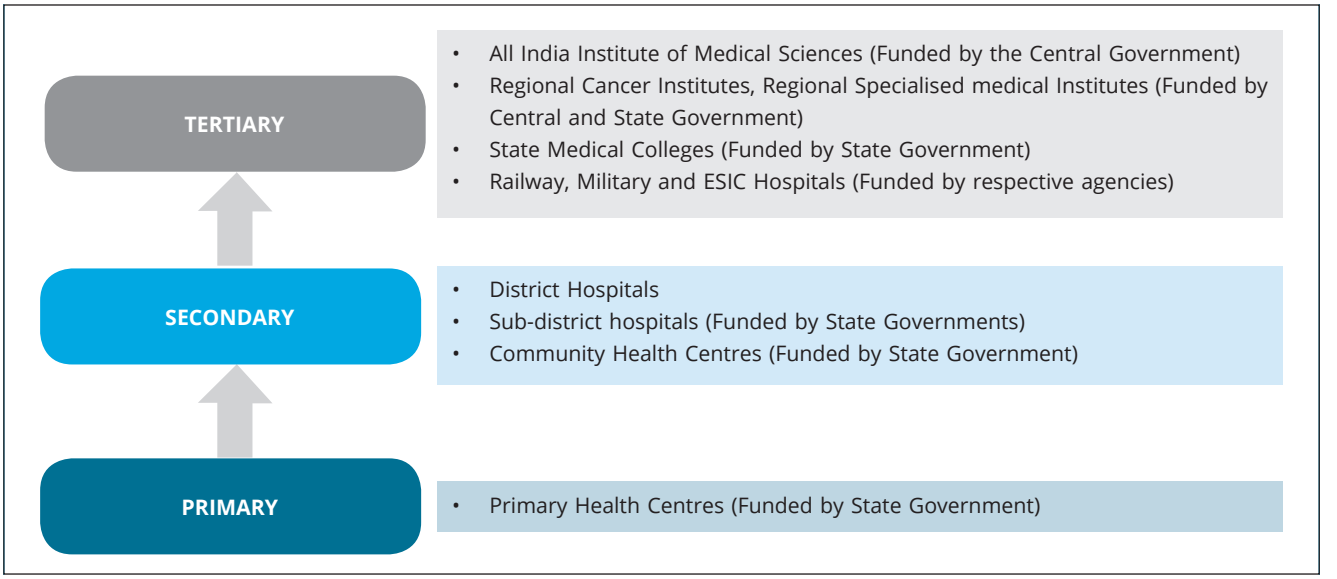
The primary health care sector in rural areas comprises a network of sub-centres and PHCs. Individuals and families in rural areas get curative health care services (first aid), maternal and child health care services, and family planning services through sub-centres. It is the first point of contact for individuals and families. A sub-centre should have at least one auxiliary nurse midwife (ANM) and one male health workers. It covers 5,000 population in plain areas and 3,000 population in hilly/tribal/difficult areas. In 2016, there were 155,353 functional sub-centres in India.

The sub-centres refer cases to PHCs. Each primary health centre acts as a referral centre to 5 or 6 sub-centres. It is the first point of health care where a rural community can access a qualified medical officer/physician. It provides integrated curative and preventive health care to the rural population. The coverage area of one PHC is 30,000 rural population in plain areas and 20,000 population in hilly/tribal and difficult areas. Every PHC should have at least one medical officer, 14 paramedical staffs and other supporting staff (Chokshi et al., 2016; Kailthaya and Kambhampati, 2016). There were 25,412 primary health centres in 2016.

Urban family welfare centres and health posts are the first point of contact for urban communities to avail health care facilities. Urban family welfare centres in India have been functioning since the launch of the first family planning programme in 1952. However, GoI started to open Urban Health Posts in 1980s on the recommendation of the Krishnan Committee, 1982 (Sharma et al., 2016). Both family welfare centres and health posts provide primary health care services to the urban poor and vulnerable population, including rickshaw pullers, vendors, construction workers, rag pickers etc.

The recent National Urban Health Mission, 2013 envisaged delivery of health care services in urban areas through a network of urban primary health centres (U-PHCs) and urban community health centres (U-CHCs). One U-PHC covers 50,000 to 60,000 population depending on the spatial distribution of slum population. It should have at least one full-time medical officer, 2 part-time medical officers, 9–11 paramedical staff and 5

Figure 8: Organisational Structure of Health Care System in India



Source: Authors' compilation

supporting staff. It should be located within a slum or within half a kilometre radius of the slum population (MoHFW, 2015). According to recent estimates (March, 2016)[6] there were 4,325 urban health centres (PHCs and CHCs) in India. The private sector also provides primary health care service both in rural and urban India. It comprises private clinics and dispensaries, which includes general physicians, registered medical practitioners and physiotherapists.

Secondary Health Centres

In India, CHCs, sub-district hospitals (SDHs) and district hospitals (DHs) act as secondary health centres. The community health centre acts as referral centre for an average of four PHCs in a block and provides specialist care to the 120,000 rural population in plain areas and 80,000 rural population in hill/tribal and difficult areas. The CHCs are 30-bed hospital with at least four medical specialists supported by 21 paramedical and other staff (Chokshi et al., 2016). It refers medical cases to sub-district hospitals and district hospitals. There are 5,513 functional CHCs in rural India (MoHFW, 2017). In urban areas, U-CHC covers 2,50,000 to 3,60,000 population and acts as referral centre for five to six U-PHCs (Sharma et al., 2016). In India, each district is divided into three or four sub-districts. Sub-district hospital covers around half million population and plays as an important link between SCs, PHCs, CHCs at one end and district hospitals at other end. These hospitals are playing an important role in bringing down the infant and maternal mortality by providing emergency services. The sub-district hospitals generally have 31 beds to 100 beds for providing specialised services including accidental and emergency services. In India, there were 1,065 sub-district hospitals in 2016 (MoHFW, 2016). The district hospital is the highest secondary level health care facility in India. It caters not only urban population living in a district headquarter town and its adjoining areas but also provides services to the rural population of the district. It comprises various specialists such as surgeon, physician, pediatrician, obstetrician, orthopedic surgeon, gynecologist, ENT specialist, anesthetist, eye surgeon etc. The bed strength of district hospitals in India varies according to the size, terrain and population of the district and ranges from 75 to 500 beds. There were 773 district hospitals in India in 2016.

The public health care system in India up to district level is almost free or with a nominal fee. Sub-district and district hospitals in India suffer from overcrowding, lack of sophisticated and advance technologies in diagnosis and therapies and lack of human resources. There is lack of ownership and community participation among the public about the management of district and sub-district hospital and therefore the environment of these hospitals is very filthy.

Tertiary Health Centres

Tertiary health care facilities in India provide specialised consultative health care and attend referral cases from PHCs, CHCs, sub-district hospitals and district hospitals. These facilities generally have high skilled health professionals, advance lab technology with a specialised team for clinical management. It includes medical colleges, super-speciality hospitals such as cancer research centres, TB hospitals etc. Apart from the government facilities, private sector plays significant role in tertiary health care (Chatterjee et al., 2013). Private hospitals attend 58 per cent hospitalisation cases in rural areas and 68 per cent hospitalisation cases in urban areas (NSSO, 2014).

PUBLIC-PRIVATE PROVISIONING OF HEALTH CARE IN INDIA

In the health care sector of India, both public and private sector play an important role. Their contribution is essential to achieve sustainable development goal-3, which includes universal health coverage and other targets to ensure healthy lives and well-being for all. India has well-established networks of public health infrastructure including sub-centres, PHCs, CHCs and district hospitals. The health scenario in India has changed significantly since Independence. The mortality (including infant, neonatal and maternal mortality)

[6] *http://pib.nic.in/newsite/PrintRelease.aspx?relid=137443*

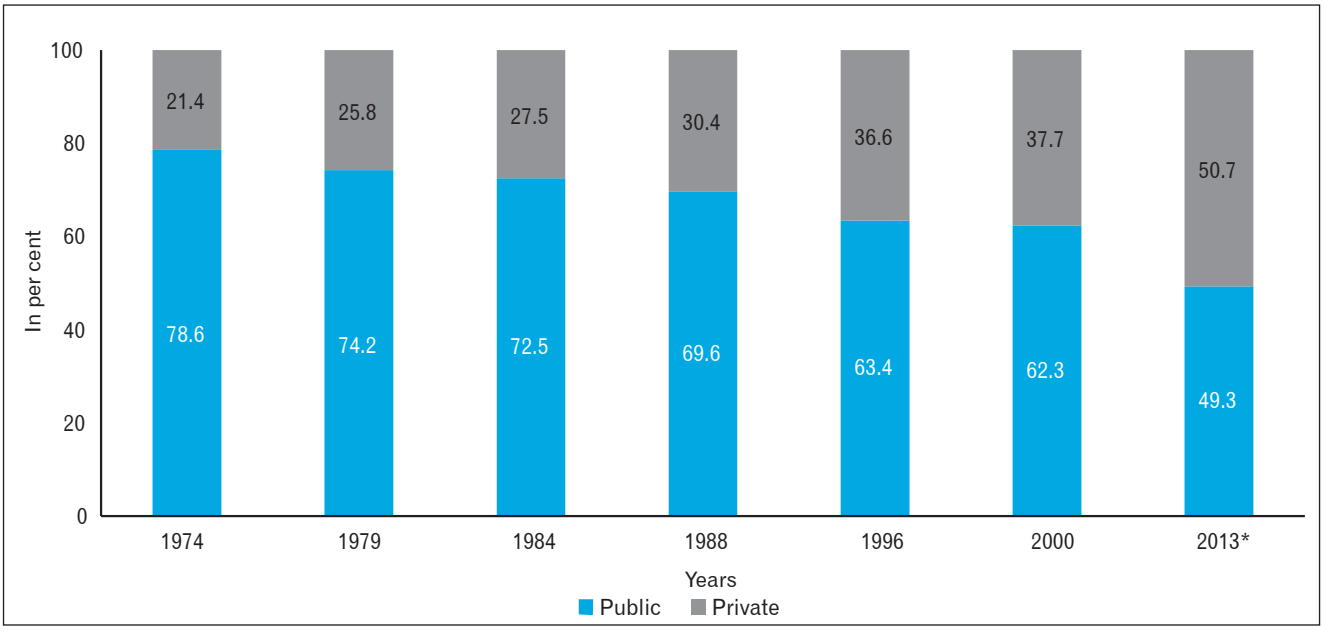
rates have declined dramatically (Ali, 1999; NIPCCD, 2014) and life expectancy at birth has increased from 32.7 in 1947 to 67.9 in 2014. One of the major reasons for this change is the development of public health infrastructure especially in rural areas, which has played an important role in successfully eradicating polio, smallpox, guineaworm etc. from India. These are indisputably major achievements in the health sector in India in the post-Independence period. Moreover, there has been control in the incidence of measles, tetanus and whooping cough, which could be attributed to the large-scale implementation of immunisation programmes in India (Nanda & Ali, 2006).

Despite these achievements the public sector health infrastructure is facing major deficiencies in terms of human resources and modern technologies. The quality of health care facilities provided by primary health care centres (sub-centres, PHCs and CHCs) is poor and due to this the dependency on secondary and tertiary level hospitals located in bigger cities is increasing. These hospitals are therefore, overcrowded and face challenges of providing quality health care (Bajpai, 2014). The role of private health care facilities was limited in first two decades after independence but since 1970s, the private sector has emerged as a major player in the health care provisioning especially to the urban dwellers.

Public-private Health Infrastructure

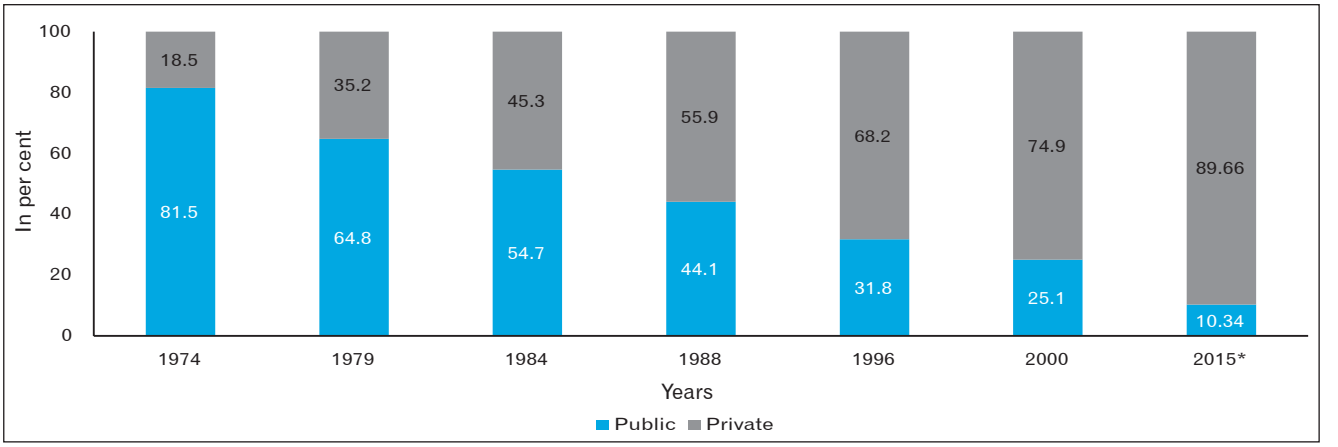
Figure 10 shows that the percentage share of private hospitals in India has increased sharply during 1974–2015 with a corresponding decline in the percentage share of public hospitals. The percentage share of private hospitals was only 18.5 per cent in 1974 which increased five times more (89.66 per cent) in 2015. In total hospital beds, the share of private hospitals increased twice from 21.4 per cent in 1974 to 50.7 per cent in 2013 (Hooda, 2015) (Figure 9). This clearly indicates that the dominance of private sector hospitals has increased over time. The recent National Health Policy, 2017 recognizes the importance of private sector and one of the objectives of this policy is to align the growth of the private sector with public health goals for making health care system more effective, safe, efficient and affordable (MoHFW, 2017a). There was dominance of public medical institutes till 1990s. The subsequent decades have maintained a consistent decline in them (Figure 11). In contrast, the share of private medical institutes increased consistently during 1970–2014. The available data shows that 54.3 per cent medical institutions were private in 2014.

Figure 9: Public-Private Share in Total Number of Hospital Beds



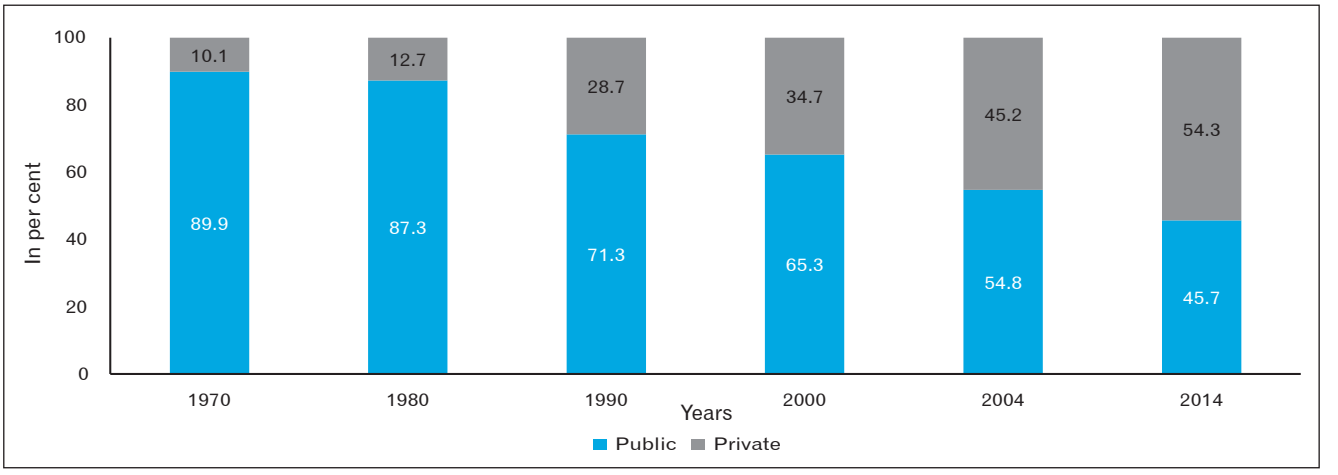
Note: Information for 2013 is only for hospital beds in medical institutes
Source: Hooda, 2015

Figure 10: Share of Public and Private Sector in Total Hospitals



Note: The figure of 2015 is derived from IBEF, 2017 & MoHFW, 2017
Source: Hooda, 2015; IBEF, 2017; MoHFW, 2017b.

Figure 11: Public-Private Share in Total Number of Medical Institutions



Source: Hooda, 2015

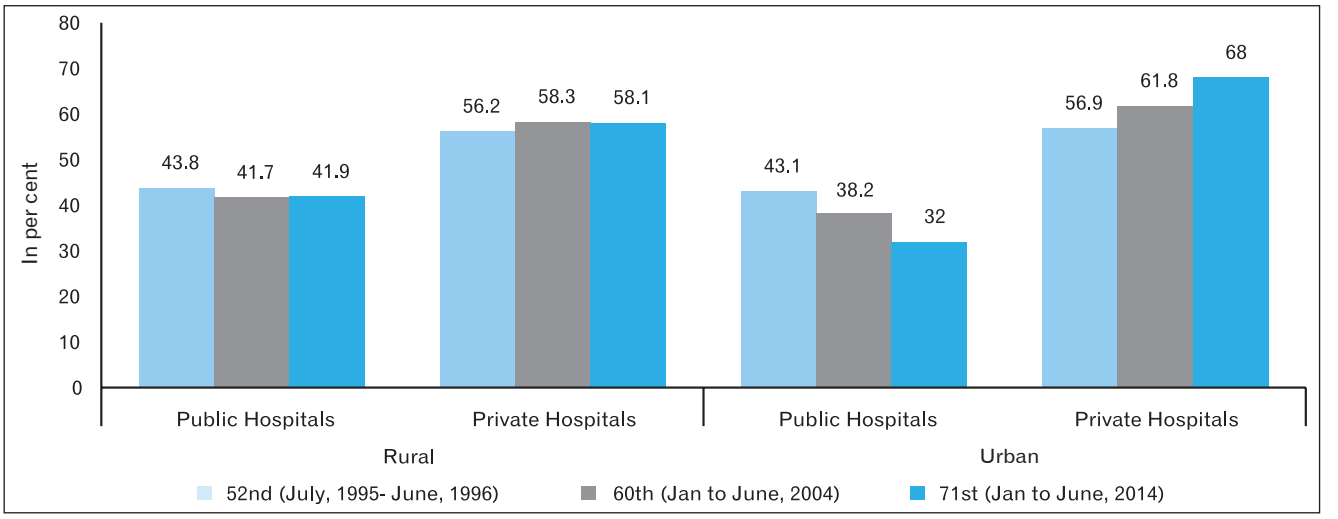
Utilisation of Public-Private Health Care Services

The National Sample Surveys in India provide detailed information on health and morbidity conditions in India. The utilisation of public and private health care services can be assessed through the hospitalisation cases in public and private hospitals during the last 365 days provided in the last three rounds of NSSO (52nd, 60th and 71st). Figure 12 shows that both in rural and urban areas the percentage share of the hospitalisation cases in private hospitals is higher as compared to public hospitals. In comparison to rural areas, the utilisation of private hospitals has increased significantly in urban areas during 1995–2014. However, the share of hospitalisation cases in public hospitals has declined. The decline is more in urban areas as compared to rural.

The dominance of the private sector in utilisation of health care services is evident from the above analysis. Due to the increasing presence of the private sector in urban areas, NHP, 2017 recommends exploring the possibilities of developing sustainable models of partnership with the 'for profit' and 'not for profit' private sector health care institutions for providing better services in urban areas (MoFHW, 2017a).

In rural areas, people from lower income groups (Q1 & Q2) are more dependent on public hospitals (Table10). But with increasing income, the dependency on public hospitals reduces as more than 70 per cent hospitalisation cases in the highest quintile group are reported in private hospitals. In contrast to rural areas, the poor in urban areas are more dependent on private hospitals. The utilisation of private hospitals is higher in urban

Figure 12: Hospitalisation Cases by Public-Private Hospitals During Last 365 Days



Source: Various rounds of National Sample Survey (NSSO), MoSPI, GoI

areas for each quintile class than their rural counterparts. Like rural areas, the utilisation of private hospitals has been increasing in urban areas with increase in the income groups. The analysis of the utilisation patterns indicates that the private sector is providing a higher proportion of health services both in rural and urban areas despite a wide network of public facilities available across regions (Chatterjee, 1988; Gupta and Bhatia, 2016). It has grown significantly with increasing demands of better health care facilities (Bhat, 1996; MoHFW, 2014).

Table 10: Percentage Share of Hospitalisation Cases by Type of Hospitals, 2014

Quintile Classes	Rural		Urban	
	Public Hospitals	Private Hospitals	Public Hospitals	Private Hospitals
Q1	57.5	42.5	48.0	52.0
Q2	52.9	47.1	43.5	56.5
Q3	47.1	52.9	32.7	67.3
Q4	42.8	57.2	28.3	71.7
Q5	28.9	71.1	18.7	81.3
All	41.9	58.1	32.0	68.0

Source: 71st round of National Sample Survey (NSSO), MoSPI, GoI

Role of Public and Private Health Care Facilities in Health Expenditure (Average Health Expenditure in India by Type of Hospitals)

The private health care sector in India is unregulated (Duggal and Nandraj, 1991; Gupta and Bhatia, 2016) and, therefore, the cases of superfluous and excessive cost of health care services provided by private hospitals and doctors are frequent. The dominance of the private sector in health care delivery has resulted in higher health expenditure in rural as well as urban India. The cost of health care services in India has increased manifold (Hooda, 2015). The NSSO data of various rounds show that the total expenditure per hospitalisation case in private hospitals is much higher in comparison to public hospitals at any point of time. In 1995–96, the expenditure per hospitalisation case in rural and urban private hospitals was two times higher than that in public hospitals (Table 11). In 2014, it has increased to more than three times. This clearly exhibits that in the last two decades, the cost of private hospitalisation has increased in India.

The disease-wise average medical expenditure per hospitalisation case indicates that in case of certain diseases such as obstetric-neonatal and eye related disease, the average medical expenditure in private hospitals is

8.16 and 7.52 times higher as compared to public hospitals (Table 12). For other diseases also, the average medical expenditure per hospitalisation case in private hospitals is three to five times higher as compared to public hospitals.

Table 11: Total Expenditure per Hospitalisation Case by Public and Private Hospitals

Years	Location	Public	Private	Private-Public Ratio
1995–96	Rural	USD 30.15 (2,080.32)	USD 62.32 (4,300.00)	2.1
	Urban	USD 31.82 (2,195.43)	USD 77.45 (5,343.89)	2.4
2004	Rural	USD 54.84 (3,783.71)	USD 114.90 (7,928.07)	2.1
	Urban	USD 63.07 (4,351.86)	USD 175.41 (12,103.05)	2.8
2014	Rural	USD 104.25 (7,193.01)	USD 347.72 (23,992.40)	3.3
	Urban	USD 131.05 (9,042.65)	USD 502.35 (34,662.29)	3.8

Note: Figures in parenthesis are in Indian rupees
Source: Various rounds of National Sample Survey (NSSO), MoSPI, GoI

It is evident from the above analysis that the private sector in India has dominance in health care provisions. Unfortunately, the private sector is not very cost-effective and therefore the total health expenditure in India is increasing over time both in rural as well as in urban areas. To make this sector more affordable, efficient and effective the government should regulate the private health care sector and increase the number of beds for free treatment of the poor. At the same time, the central along with state governments should make efforts to improve public health services by increasing infrastructure, human resources and investing more in research and development.

Table 12: Average Medical Expenditure on per Hospitalisation Case by Type of Ailments, 2014

Broad Ailment Category	Average Medical Expenditure (in USD) per hospitalisation			Private- Public Ratio
	Public	Private	All	
Obstetric and Neonatal	38.42 (2,651)	313.42 (21,626)	169.67 (11,707)	8.16
Eye	25.77 (1,778)	193.83 (13,374)	134.88 (9,307)	7.52
Injuries	97.52 (6,729)	525.43 (36,255)	340.45 (23,491)	5.39
Skin	45.54 (3,142)	212.52 (14,664)	151.28 (10,438)	4.67
Infections	43.58 (3,007)	171.16 (11,810)	117.88 (8,134)	3.93
Respiratory	69.72 (4,811)	271.09 (18,705)	185.80 (12,820)	3.89
Cardio-vascular	167.38 (11,549)	626.99 (43,262)	458.65 (31,647)	3.75
Blood Diseases (including Anaemia)	68.87 (4,752)	255.17 (17,607)	192.94 (13,313)	3.71
Genito-urinary	134.71 (9,295)	429.10 (29,608)	355.43 (24,525)	3.19
Cancers	355.45 (24,526)	1131.16 (78,050)	821.91 (56,712)	3.18
Ear	96.03 (6,626)	277.65 (19,158)	221.52 (15,285)	2.89
Other	203.33 (14,030)	515.54 (35,572)	405.84 (28,003)	2.54
All	88.70 (6,120)	374.64 (25,850)	264.75 (18,268)	4.22

Note: Figures in parenthesis are in Indian rupees
Source: NSSO, 71st round, 2014, MoSPI, GoI

PUBLIC HEALTH EXPENDITURE IN INDIA

It has been argued by scholars (Farahani et al., 2010) that spending on health positively affects the health outcomes of a country. The impact is more visible in the poor and less developed countries. The health expenditure as percentage of GDP is one of the indicators of the level of spending by a country on health. The World Health Organization provides the estimates on health expenditure for different countries. An analysis of the health expenditure data of the different partner countries (GCRF-SHLC) provided by WHO reveals that the total health expenditure as a percentage of GDP (in 2012) is low in India as compared to the United Kingdom, China, Rwanda and Tanzania (Table 13). The per capita health expenditure is also very low in India in comparison to the United Kingdom, China and Philippines. However, it is higher than Bangladesh, Rwanda and Tanzania.

The Government of India initiated economic reforms in 1991 due to the balance of payment crisis. In the post reform period, the share of public health expenditure in total expenditure of the central government increased, especially in the first one and half decade (till 2007–08). However, the share of health expenditure in the total expenditure of state governments declined during the same period due to measures taken by governments for fiscal consolidation such as implementation of the Fiscal Responsibility and Budget Management (FRBM) Act, 2003. After implementation of this Act, the state governments reduced/curtailed the spending on various services including health (Hooda, 2015) and became more conservative (Bhattacharya & Kundu, 2017). GoI launched the National Rural Health Mission in 2005 with a set of ambitious goals to improve the health outcomes in India. After the implementation of this programme, the share of health expenditure in the total expenditure of state governments became stable till 2013–14 (Figure 13). However, the share of the central government increased during this period. Since 2014–15, the state governments' spending has surpassed that of the central government. Compliance with the recommendations of the 14th Finance Commission since 2015 explains this trend as more funds are being devoted to the states from the centre.

Table 13: Health Expenditure as Percentage of GDP and Per Capita Total Expenditure on Health

Countries	Total Expenditure on Health as Percentage of GDP		Per Capita Total Expenditure on Health (PPP in $)	
	2000	2012	2000	2012
Bangladesh	2.6	3.5	29 (2,001)	85 (5,865)
China	4.6	5.4	130 (8,970)	578 (39,882)
India	4.3	3.8	89 (6,141)	196 (13,524)
Philippines	3.2	4.4	108 (7,452)	271 (18,699)
Rwanda	4.2	11.2	26 (1,794)	158 (10,902)
United Kingdom	6.9	9.3	1,833 (1,26,478)	3,235 (2,23, 217)
United Republic of Tanzania	3.4	7.1	27 (1,863)	117 (8,073)

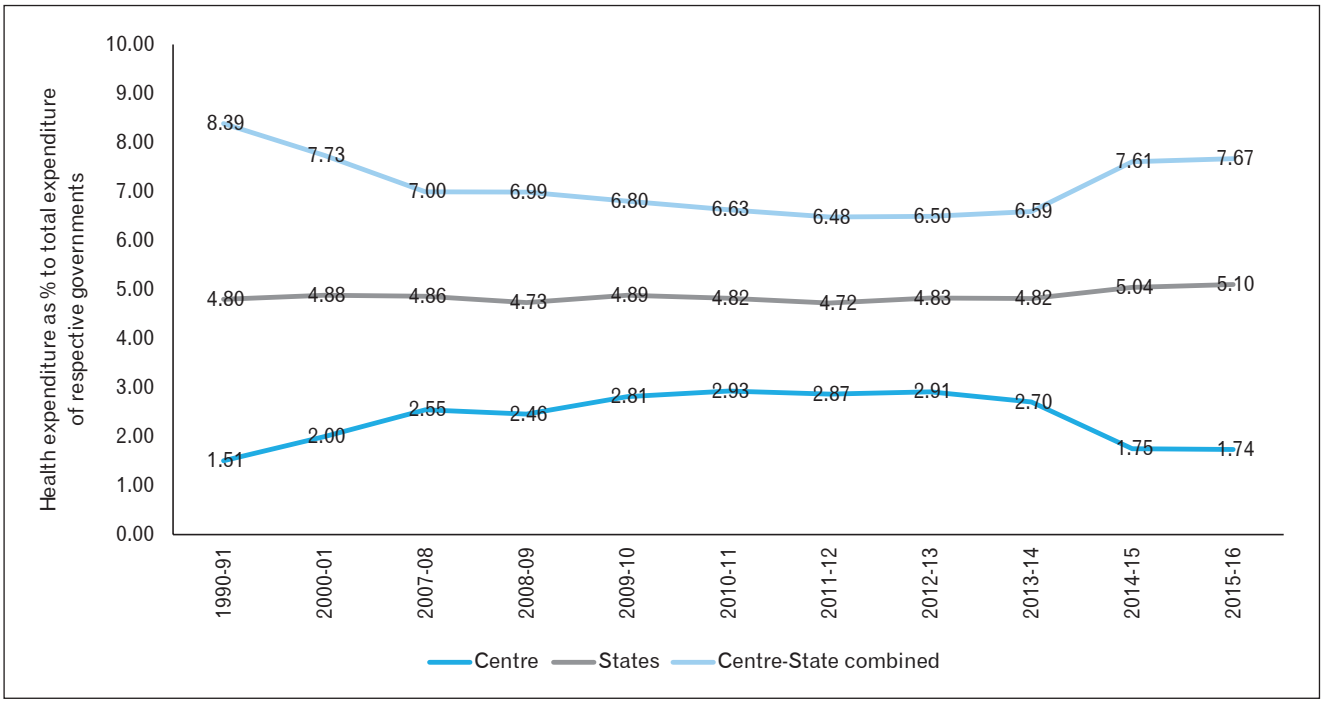
Note: Figures in parenthesis are in INR
Source: WHO (2015), World Health Statistics,
http://apps.who.int/iris/bitstream/handle/10665/170250/9789240694439_eng.pdf;jsessionid=2F507B508FD2378D04DAE3E5D051CFD5?sequence=1

In the last decade, the per capita public expenditure on health increased from USD 9 in 2009–10 to USD 24 in 2017–18. However, the public health expenditure as percentage of GDP remained the same (1% of GDP) with an increase in the last two years only at decimal points (Figure 14).

The percentage distribution of total public expenditure on health shows that the state governments in India have a higher share in the total public health expenditure as compared to the centre. The share of state governments in total public health expenditure increased from 64 per cent in 2009–10 to 71 per cent in 2016–17 (Figure 15).

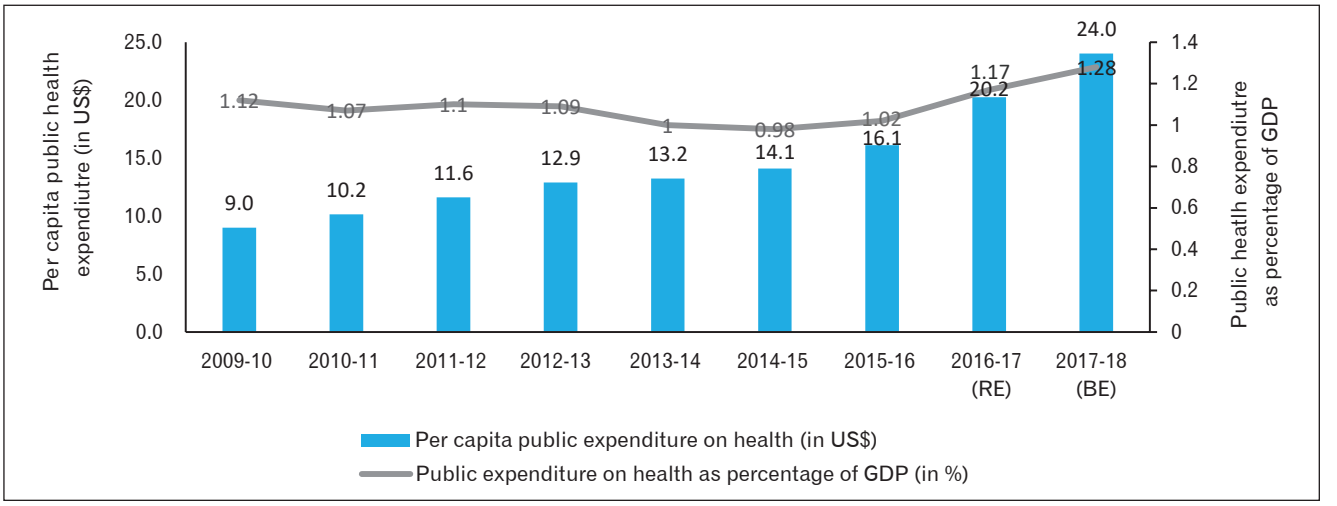
The National Sample Survey data on health expenditure (2013) shows that during 2004–05 and 2014, the out-of-pocket health expenditure (OOPE) in India reduced from 69.4 per cent to 64.21 per cent of the total health expenditure. In 2014, the OOPE in India was 2.58 per cent of GDP (MoHFW, 2016).

Figure 13: Health Expenditure as Percentage of Total Expenditure



Source: Author's computation based on Indian Public Finance Statistics, 2015–16

Figure 14: Public Health Expenditure in India: Per Capita Public Health Expenditure

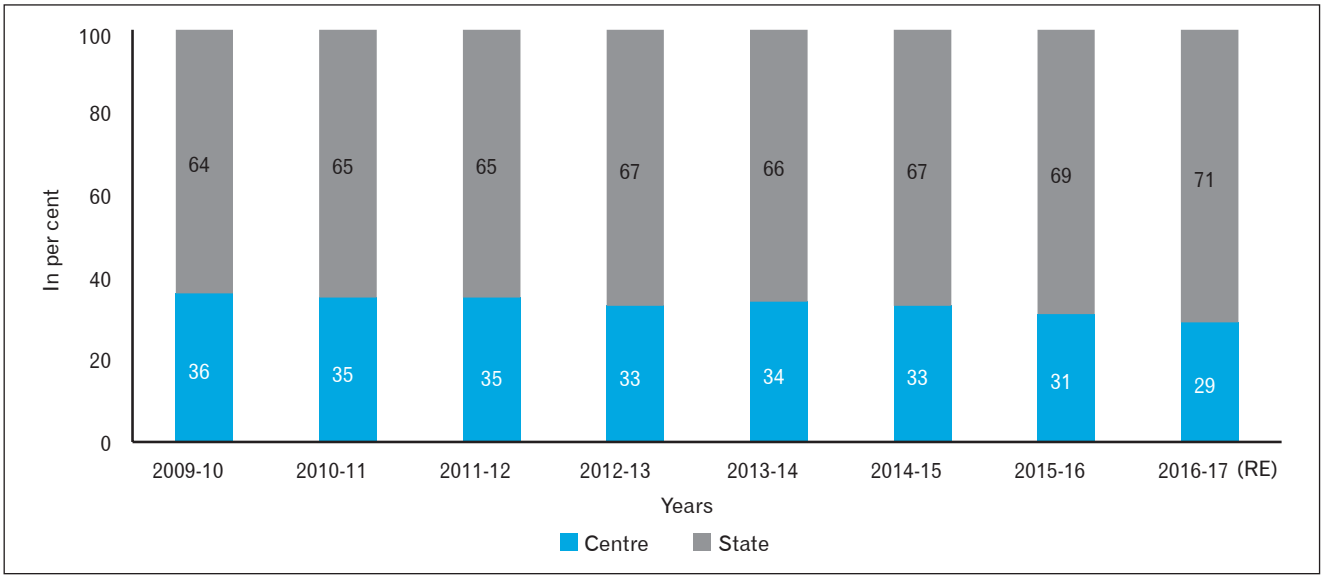


Source: National Health Profile, 2018, MoH&FW, GoI (http://www.cbhidghs.nic.in/WriteReadData/l892s/Chapter%204.pdf)

HEALTH POLICIES IN INDIA

The analysis of health expenditure clearly indicates that development of the health sector has never been a priority in the country. The first official health policy came into existence in 1983, after the Alma Ata declaration of the World Health Assembly, 'Health for all by 2000 AD' in 1978. Evidently, it took 35 years after

Figure 15: Trends in Centre-State Share in Total Public Health Expenditure on Health



Source: National Health Profile, 2018, MoH&FW, GoI (http://www.cbhidghs.nic.in/WriteReadData/l892s/Chapter%204.pdf)

Independence for the GoI to formulate its first comprehensive health policy statements in terms of a National Health Policy (Duggal, 2001). In 2002, India framed its second National Health Policy and in 2017, a new national health policy was announced by GoI to meet the changing health priorities and challenges. A brief overview of these policies are as follows:

National Health Policy, 1983

The framing of the first National Health Policy (NHP) in 1983 was a significant action taken by GoI to fulfil its commitments towards achieving universal health coverage as a follow-up action of the Alma Ata declaration of the World Health Assembly, 'Health for all by 2000 AD' in 1978. The main objective of this policy was "to provide universal and comprehensive primary health services, relevant to the actual needs and priorities of the community at a cost which people can afford" (MoHFW, 1983). This policy was very critical about the curative oriented colonial model of health care and emphasised the preventive, promotive and rehabilitative aspects of primary health care provisions (Duggal, 2001; MoHFW, 1983). A low-cost decentralised system of health care with community participation was recommended by this policy. It also recommended integrating the traditional/indigenous systems of medicine with the modern system. The policy called for the the private sector to provide curative health care services so that the burden on public health services could be reduced. This policy stressed establishing a nationwide network of sanitary-cum-epidemiological stations at primary health care centres to execute the integrated action plans for eradication and control of various diseases and tackle the health problems induced by the local environment (MoHFW, 1983).

The development in India's health care sector in the post NHP, 1983 period was largely influenced by recommendations. A massive expansion of primary health care facilities in rural areas was initiated during the Sixth and Seventh Five Year Plans. In post NHP, 1983, the private health care sector in India has increased largely due to government subsidies provided to it in the form of soft loans to establish medical facilities and colleges (MoHFW, 1983). The phenomenal expansion of this sector during the 1980s and 1990s is a fall-out of NHP, 1983. However, since it is highly unregulated, it becomes unaffordable for the poor and is exclusionary in nature. A major success of this policy was eradication of smallpox and guineaworm from India and decline in the cases of leprosy, kala azar and polio. Except for life expectancy and crude birth rate, most of the targets

set by NHP,1983 have not been achieved. It could be concluded that India is far from achieving the universal and comprehensive primary health care for all which was the prime goal of NHP, 1983.

National Health Policy, 2002

Despite notable achievement in the eradication of major communicable diseases and improvement in health infrastructure, NHP, 1983 was not successful in achieving most of its targets. In the post reforms period, the aspirational changes of the communities, rapid change in the demographic structure of the country, advancement of medical technologies and emergence of new diseases forced policymakers to devise a new NHP. To address these new challenges, GoI announced the second NHP in 2002. The main objective of this policy was "to achieve an acceptable standard of good health among the general population of the country" (MoHFW, 2002). The policy emphasised the supervision and effective implementation of public health care programmes through the local governments and highlighted the role of civil society and NGOs in supplementing the public health care sector. NHP, 2002 emphasised reducing the inequality in access to health care facilities and recommended increase in public spending in this sector.

The policy highlighted the need to generate an accurate data base on the health sector and suggested the establishment of a national health account. It was the first policy which mentioned the challenges of mental health in India and suggested improving human resources and infrastructure to address the rising incidence of mental health.[7] It also stressed the need to set up an organised urban health care structure at primary level particularly to address the needs of slum dwellers. It suggested a two-tiered structure of primary health centres: the first tier to cover 100,000 population with a dispensary equipped with OPD facility and essential medicines, and the second tier to include public hospitals that could deal with referral cases sent by urban primary health centres. This policy also set some time-bound goals to be achieved, among which increasing the share of health expenditure in GDP from 0.9 per cent in 2002 to 2 per cent by 2010 was the most important.

National Rural Health Mission, 2005

In the post NHP, 2002 period, GoI launched the National Rural Health Mission (NRHM) in 2005 to improve the health conditions in rural areas, increase the rural health infrastructure and reduce rural-urban health inequality. Under this programme, a dedicated cadre of Accredited Social Health Activists (ASHA) were employed in rural areas to improve maternal and child health. Several programmes such as Janani Suraksha Yojana and Janani Shishu Surakhsa Karyakram were started under this mission.

The outcomes of all these interventions have been positive. The infant mortality rate in India has declined from 58 per 1,000 live births to 37 per 1,000 live births during 2005–15. In rural India, it has declined from 64 per 1,000 live births to 41 per 1000 live births during the same period (MoHFW, 2017b). The target year for polio eradication was 2005 but India achieved this target in 2014 when no polio cases were recorded for the preceding three years and WHO declared India as a 'polio free country'. The maternal mortality rate in India has declined from 254 per 100,000 live births in 2004–06 to 130 per 100,000 live births in 2014–16 (MoHFW, 2017; SRS, 2018). It is evident from the above statistics that there is improvement in the health indicators in India during the last decade. But the financial resource allocation by states and centre on health is still not matched with the recommendation of NHP, 2002 and the concerns regarding social and rural-urban inequalities in access of health care has also not been addressed (CBGA, 2017).

National Urban Health Mission, 2013

There is persistence of rural-urban inequality in terms of concentration of secondary and tertiary health care facilities in India. A large number of secondary and tertiary health care facilities are concentrated in urban areas. However, the first referral points i.e. urban primary health care centres are not available adequately

[7] *http://egyankosh.ac.in/bitstream/123456789/10209/1/Unit-4.pdf*

to provide better services especially for the urban poor and migrants. They are largely dependent on private clinics and dispensaries. To address these issues, India launched a National Urban Health Mission (NUHM) in 2013. The aim of this mission was to provide essential primary health care services to the urban poor particularly to slum dwellers and reduce their out-of- pocket health expenditure. The coverage of this mission was 779 cities with a population above 50,000 and all district headquarters and state capitals (MoHFW, 2013). The mission proposed the opening of urban primary health centres (U-PHC) for every 50,000 population and urban community health centres (U-CHC) in cities with more than 500,000 population. The policy also envisaged establishing a dedicated team of Urban Accredited Social Health Activists (USHA) and Mahila Arogya Committees to provide targeted interventions to the slum population, rag pickers, street vendors, homeless population and street children etc. (PIB, 2015; MoHFW, 2013). In 2013, the above two missions have been merged under the National Health Mission (NHM).

National Health Policy, 2017

The first two national health policies in India (NHP, 1983 and NHP, 2002) have been instrumental in guiding the approach adopted by GoI in formulating different health programmes. However, in the last 14 years after announcement of NHP, 2002, several new challenges have emerged in India's health sector such as increasing burden of non-communicable and some infectious diseases and growing catastrophic health expenditure etc. (MoFHW, 2017a). In 2017, GoI announced a new National Health Policy which aims to achieve universal health coverage for all by delivering quality health care services at affordable cost (PIB, 2017). This policy proposes to institutionalise inter-sectoral coordination between various ministries and departments of the central and state governments in order to optimise the health outcomes. It recommends increasing public spending on health to 2.5 per cent of GDP in a time-bound manner. The policy envisages providing assured comprehensive care at primary health centres as well as free drugs, diagnostic and emergency care facilities to all in public hospitals. It stresses allocating a major proportion of resources (up to two-thirds or more) to the primary health sector followed by the secondary and tertiary sector.

NHP, 2017 has a special focus on urban health with special emphasis on the primary health care needs of the urban poor living in notified and non-notified slums and other populations covered under the National Urban Health Mission. This policy advocates a proactive and positive engagement with the private sector for filling critical gaps in the health care sector in India. (MoHFW, 2017a)

It is too early to assess any outcomes related to NHP, 2017 but the policy is being criticised on the grounds that in the draft policy the right to health was proposed as a fundamental right but in the final document it has been deleted. The role of the state in strengthening the public health care system in India and the provisioning of equitable, affordable and quality health care has not been clearly defined in NHP, 2017. In contrast, the policy heavily relies on the private sector for the provisioning of health care services (Shajahan, Afroz and Menachery, 2017). The increasing role of the private sector would promote an exclusionary health care system in the country. Apart from the above major national health policies, there were health initiatives taken in different Five Year Plans which are listed in Table 14.

STATUS OF HEALTH IN INDIA

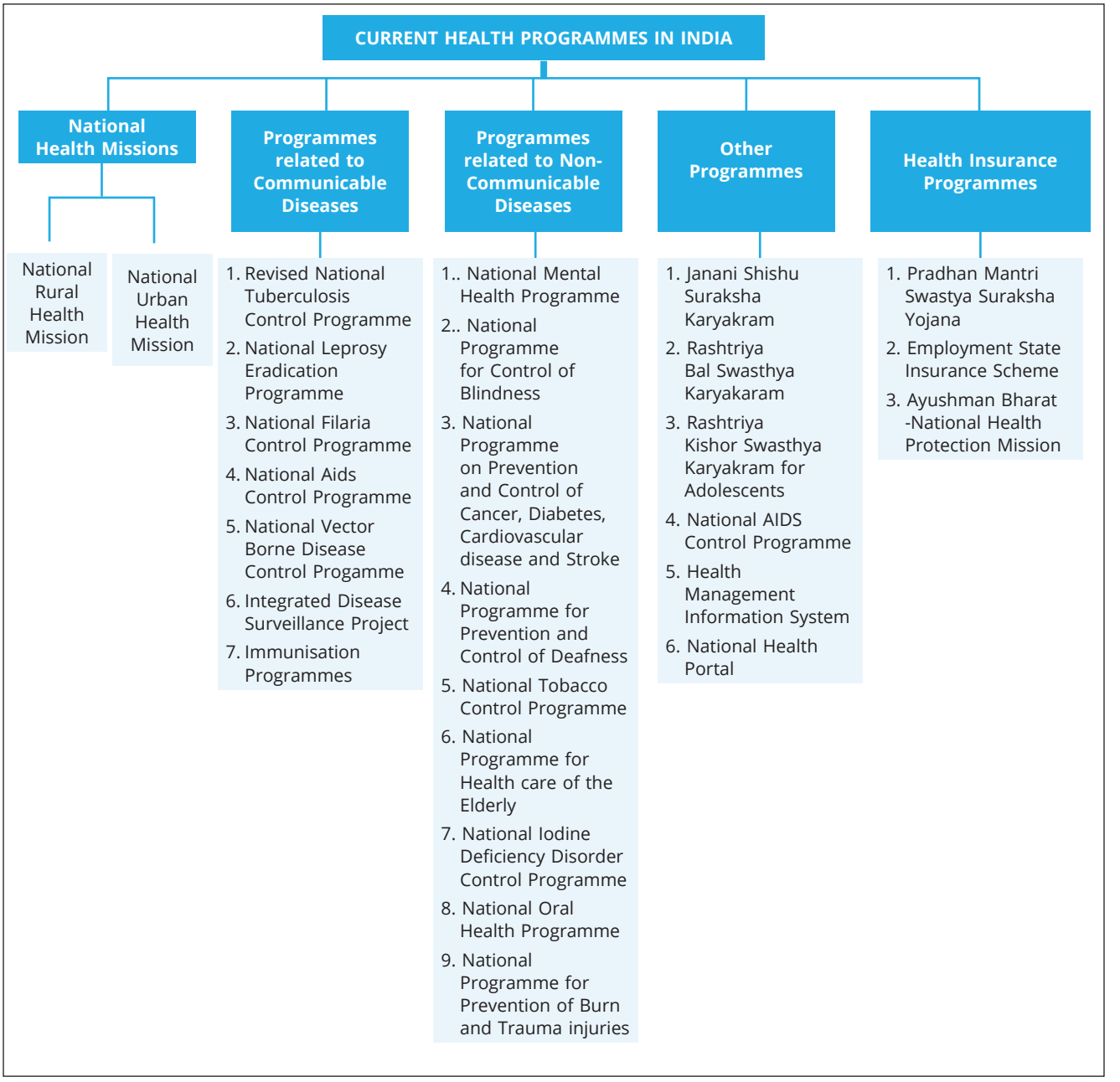
There has been a significant improvement in the vital indicators of health in India. This can be explained by the economic and social progress of the country in the last two decades, which has had a significant impact on the health infrastructure and increased the level of awareness among people about their personal health. The indicators related to fertility such as total fertility rate and birth rate show a consistent decline.

Table 14: Health Policies/Programmes initiated during various Five Year Plans

Five Year Plans	Policy/Programme Initiatives
First (1951–1956) and Second (1956–1961) Five Year Plans	Emphasis on family planning; control of communicable diseases; setting up health infrastructure Launch of world's first Family Planning Programme (1952)
Third Five Year Plan (1961–1966)	Focus on increasing the number of Health Professionals in India Establishment of a separate Department of Family Planning at central government level to take measures for population control
Fourth Five Year Plan (1969–1974)	Focus on Disease Control Programmes Separate budget allocation for Primary Health Centres to strengthen them Creation of Family Planning corps at central level
Fifth Five Year Plan (1974–1978)	Integration of Family Planning Programmes with nutrition and immunisation of children Proclamation of National Emergency in the middle of the plan and launch of a forced population control programme First National Population Policy to control population Launch of Integrated Child Development Scheme (1975) and Community Health Workers (1977) scheme
Rolling Plans (1978–1980) and Sixth Five Year Plan (1980–1985)	First National Health Policy (1983)
Seventh Five Year Plan (1985–1990)	Greater emphasis on decentralisation of health planning with greater people participation Focus on urban health with extension of primary urban health facilities for urban poor and other marginalised sections of urban society
Eighth Five Year Plan (1992–1997)	Shift in the health care approach from Health for All by AD 2000 to Health for Underprivileged Promotion of private sector in health care Introduction of user fees; privatisation of public institutions and promotion of public-private partnerships
Ninth Five Year Plan (1997–2002)	Launch of National Population Policy (2000) and National Health Policy (2002) Resource allocation to create Education Commission for Health Sciences Few states opened university level institutions for health sciences
Tenth Five Year Plan (2002–2007)	Launch of National Rural Health Mission (2005) Emphasis to reorganise and restructure the existing government health care system including the traditional system of medicine Proposal to build a fully functional Health Management Information System and system of Disease Surveillance
Eleventh Five Year Plan (2007–2012)	Launch of an insurance scheme for the poor – Rashtriya Swasthya Bima Yojana (2009) for population below poverty line and workers in unorganised sector The National Urban Health Mission proposed
Twelfth Five Year Plan (2012–2017)	Launch of National Health Mission (2013) – merging the National Rural Health Mission and National Urban Health Mission Launch of Mission Indradhanush (2014) for immunisation of children against Polio, Hepatitis B, Tetanus, Tuberculosis, Diphtheria, Pertussis and Measles Launch of National Health Policy, 2017

Source: Various Five Year Plans, Duggal (2001), and Ministry of Health and Family Welfare, GoI

Figure 16: Health Programmes in India



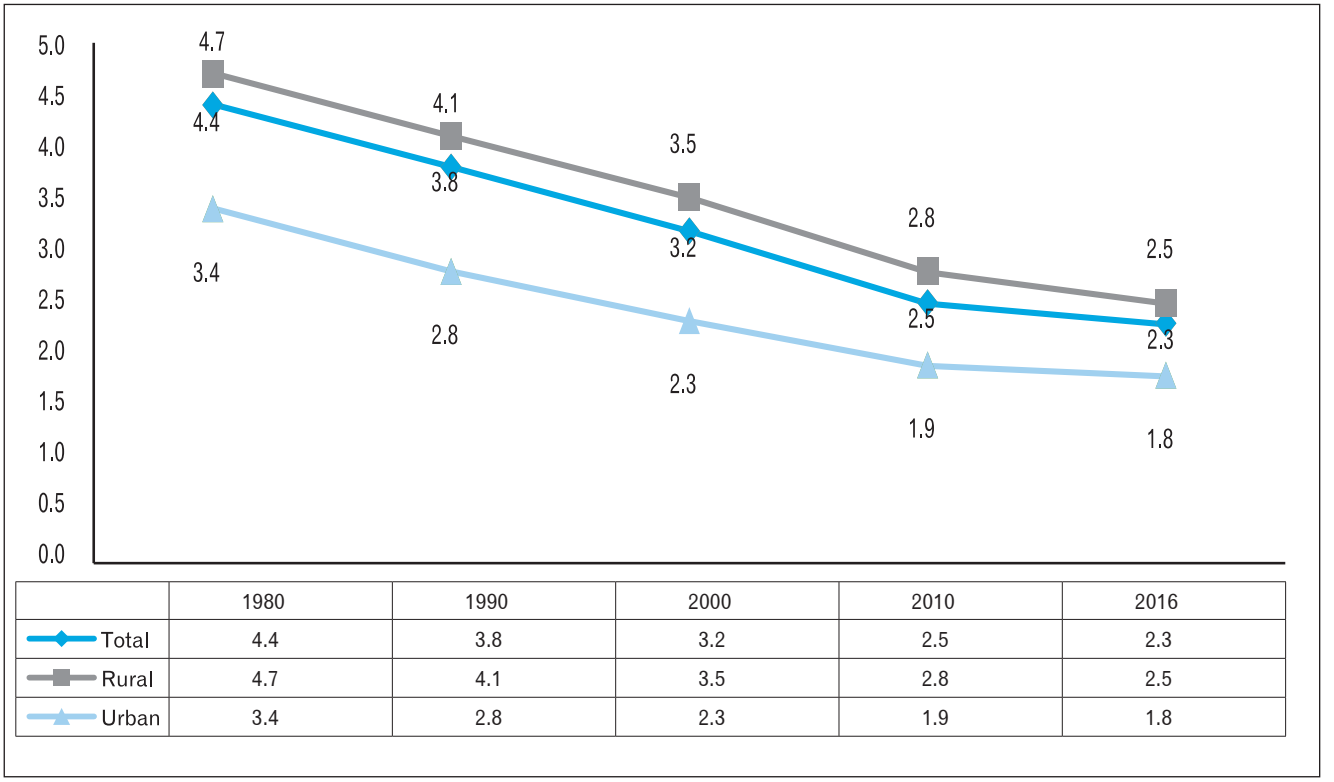
Source: Authors' Compilation

Vital Statistics in India

Total Fertility Rate

India was the first country in the world to start an official family planning programme in 1952. In every successive Five Year Plan, the Indian government made efforts to promote the adoptation of modern family planning methods through a 'cafeteria approach' with a 'basket of choices' such as contraceptives, Intrauterine

Figure 17: Total Fertility Rates in India



	1980	1990	2000	2010	2016
Total	4.4	3.8	3.2	2.5	2.3
Rural	4.7	4.1	3.5	2.8	2.5
Urban	3.4	2.8	2.3	1.9	1.8

Source: Sample Registration System, various years, Census of India

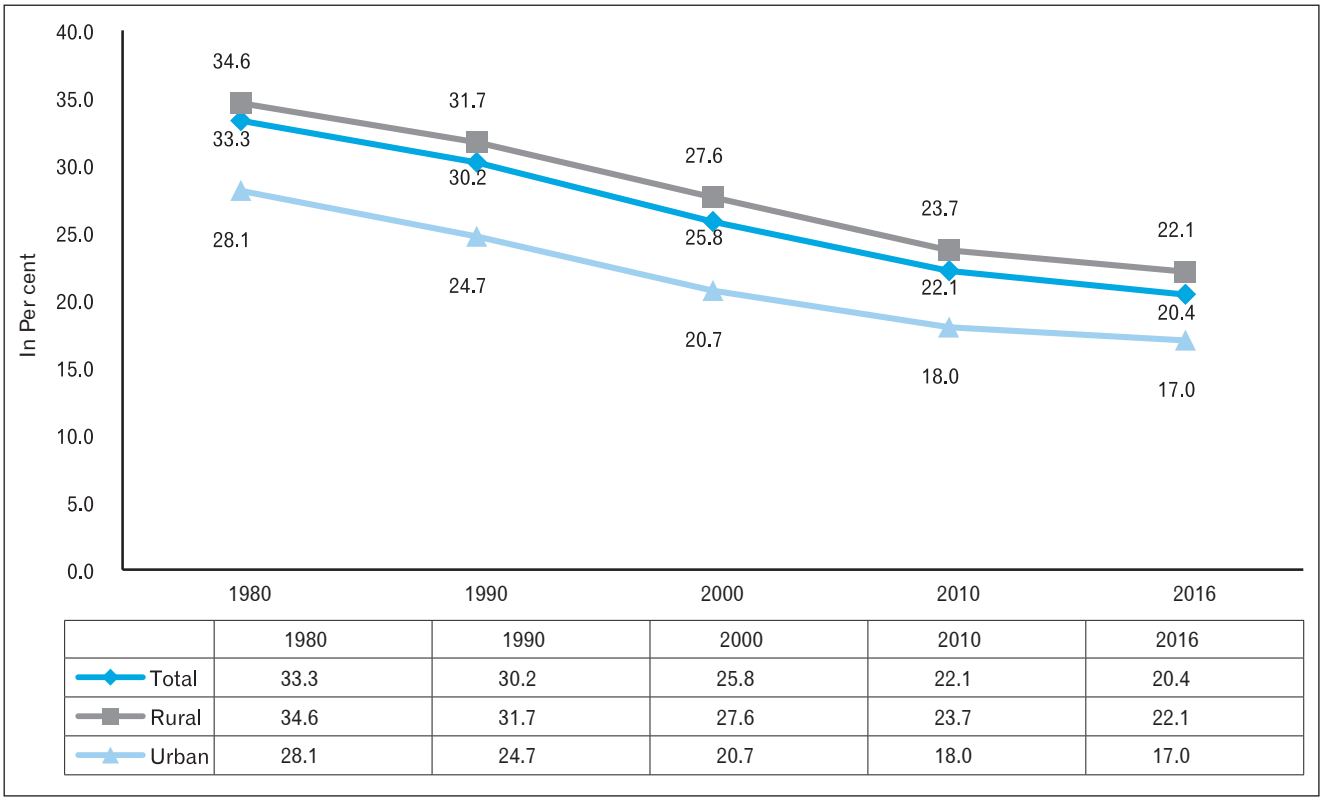
devices (IUDs), female and male sterilisation etc. (Pachauri, 2014). The reproductive and child health care programme and National Rural Health Mission have made significant differences in the fertility trend in India. The total fertility rate in India has declined from 4.4 to 2.3 during 1980–2016 (Figure 17).

In 2016, most of the states in south India had total fertility rates (TFR) less than replacement level (2.1). Only a few states such as Uttar Pradesh and Bihar still have a high TFR (more than 3). The decline in the TFR in India is mainly because of the decline of fertility rates in rural India. Although the total fertility rate in India has declined both in rural and urban areas the rate of decline is more in rural areas as compared to urban.

Birth Rate

The birth rate in India has declined from 33.3 per cent in 1980 to 20.4 per cent in 2016 (Figure 18). This decline can be attributed to the decline in the birth rate in rural India which is slightly higher than in urban areas during the same period. Apart from the implementation of above mentioned family planning programmes, the societal and behavioural changes in rural as well as urban India are the main cause of decline in the birth rate in India. The increasing level of education among females, delay in age at marriage, better availability, accessibility and utilisation of family planning methods, emergence of nuclear families and increasing level of female autonomy in decision making are some of the factors cited by scholars for the decline in fertility and birth rates in India (see Basu, 1999; Dev, James and Sen, 2002).

Figure 18: Birth Rates in India



	1980	1990	2000	2010	2016
Total	33.3	30.2	25.8	22.1	20.4
Rural	34.6	31.7	27.6	23.7	22.1
Urban	28.1	24.7	20.7	18.0	17.0

Source: Sample Registration System, various years, Census of India

Death Rate

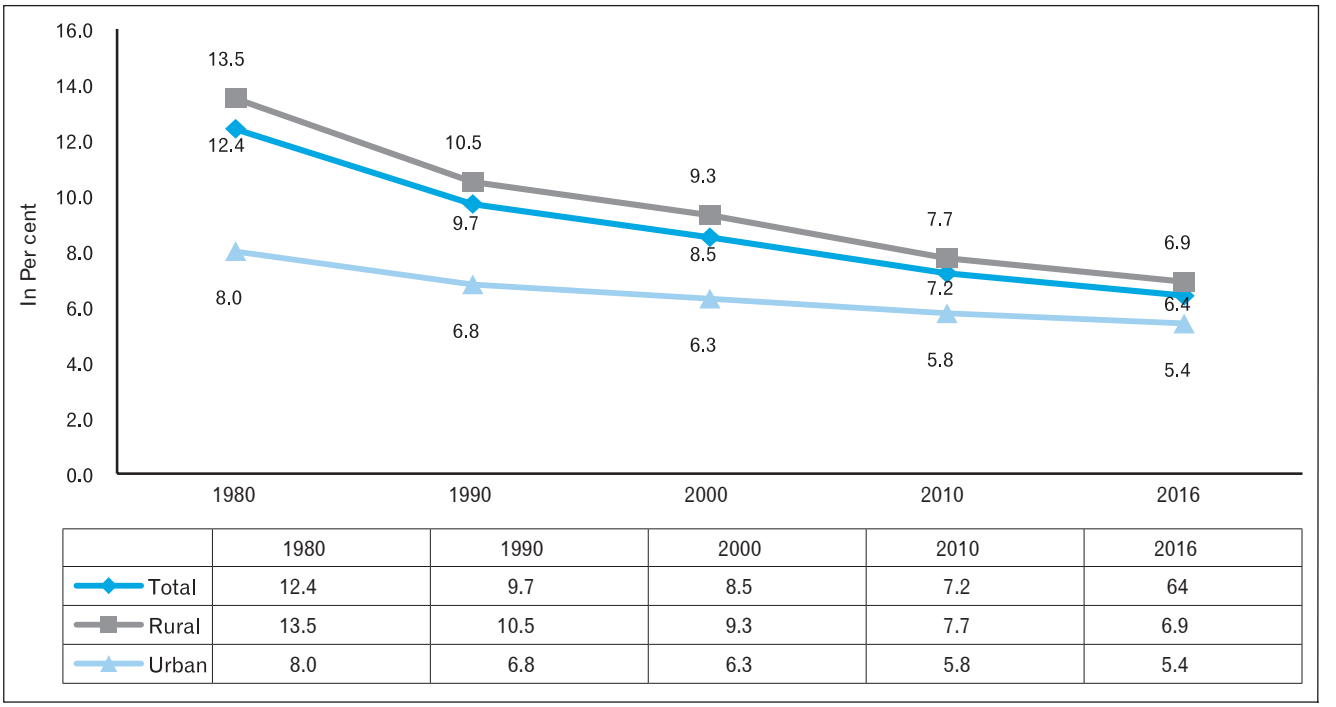
The death rate in India declined from 12.4 per cent in 1980 to 6.4 per cent in 2016 (Figure 19). During this period, the decline was more in rural areas as compared to urban. In rural areas, the death rate reached 6.9 per cent in 2016 which was half of the death rate reported in 1980. However, in urban areas the death rate has declined from 8 per cent to 5.4 per cent (Figure 19) In spite of slow decline in urban death rates, there is a difference between rural and urban death rates. Rural death rates are higher as compared to urban at any point of time. The significant decline in the death rate in rural areas can be explained by the increase in health infrastructure in rural areas.

Infant Mortality Rate and Under Five Mortality Rate

The infant mortality rate in India has sharply declined from 114 per thousand live births to 34 per thousand live births during 1980–2016 (Figure 20). In this period, rural India has witnessed an unprecedented decline in infant mortality rates. Moreover, the decline in the rural infant mortality rate has been much sharper than in urban India.

The effective implementation of different programmes for maternal and child health in the last few decades, such as Universal Immunisation Programme (1985), Child Survival and Safe Motherhood Programme (1992), Reproductive and Child Health Programme Phase-I (1997–98) and Phase-II (2005) and Janani Shishu Suraksha Karyakram (2011) played very important roles in achieving the low infant mortality rates in rural as well as urban India.

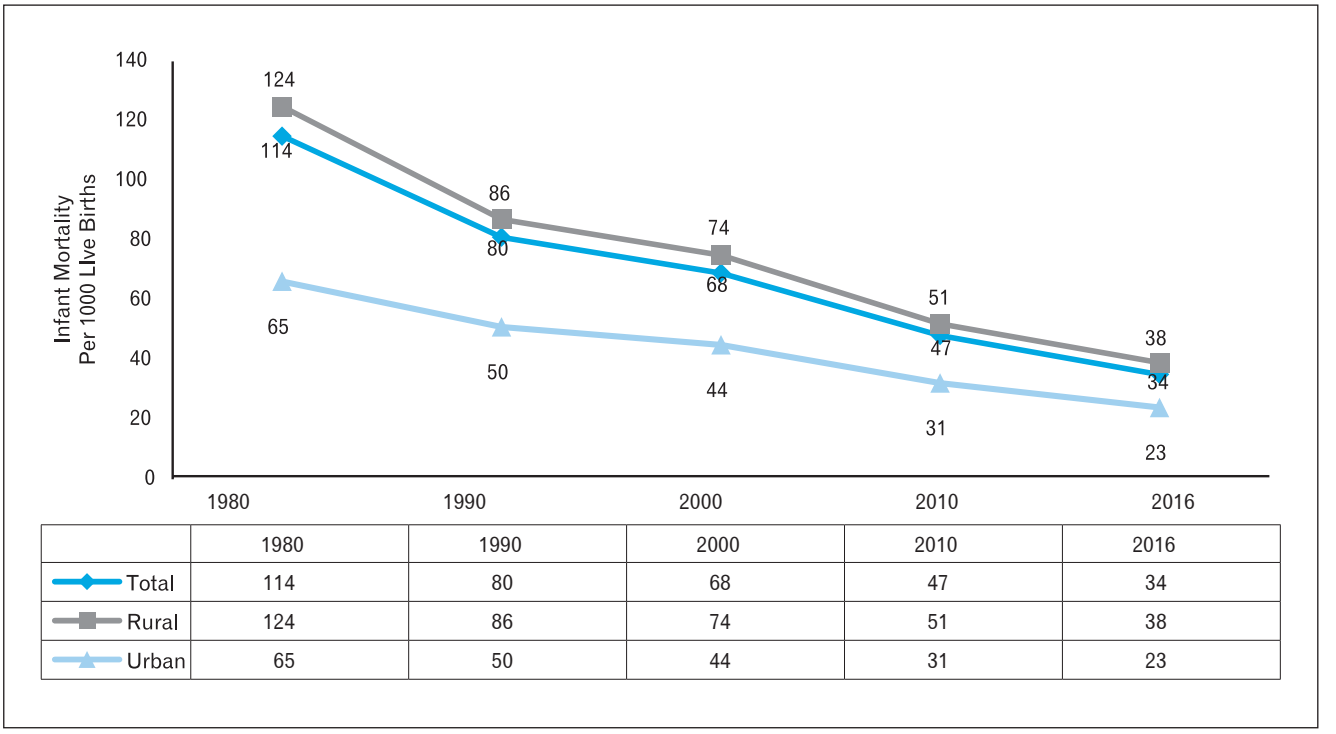
Figure 19: Death Rates in India



	1980	1990	2000	2010	2016
Total	12.4	9.7	8.5	7.2	64
Rural	13.5	10.5	9.3	7.7	6.9
Urban	8.0	6.8	6.3	5.8	5.4

Source: Sample Registration System, various years, Census of India

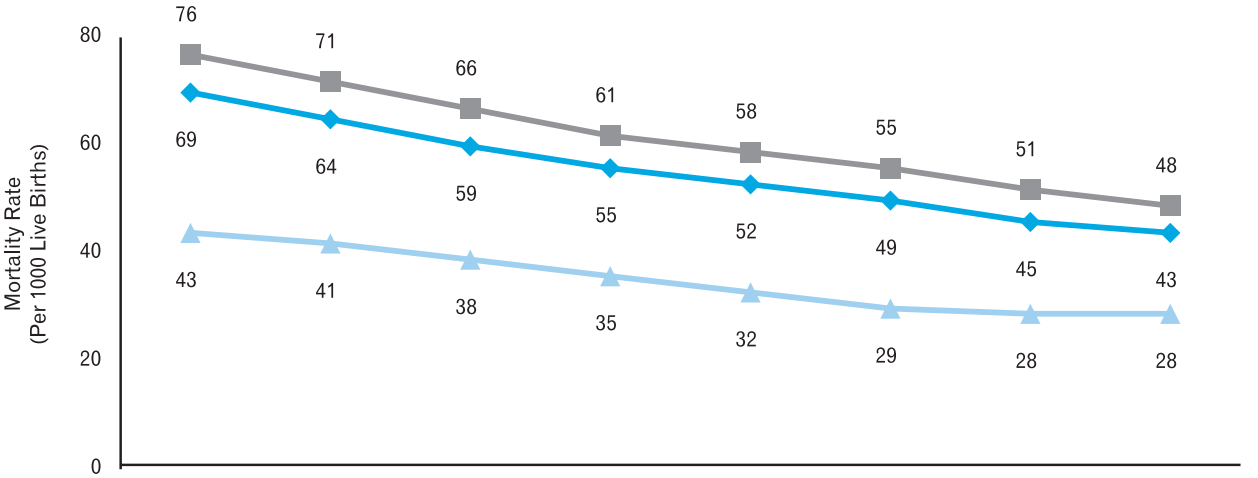
Figure 20: Infant Mortality Rates in India



	1980	1990	2000	2010	2016
Total	114	80	68	47	34
Rural	124	86	74	51	38
Urban	65	50	44	31	23

Source: Sample Registration System, various years, Census of India

Figure 21: Under-Five Mortality Rates in India



	2008	2009	2010	2011	2012	2013	2014	2015
Total	69	64	59	55	52	49	45	43
Rural	76	71	66	61	58	55	51	48
Urban	43	41	38	35	32	29	28	28

Source: Sample Registration System, various years, Census of India

The under-five mortality rate in India has also declined in the last decade. During 2008–2016, it declined from 69 per thousand live births to 43 per thousand live births (Figure 21). Similar to the declining trend of infant mortality rates, the decline in under-five mortality rates in India is because of a sharp decline in under-five mortality rates in rural areas. Here, the rates declined from 76 per thousand live births to 48 per thousand live births during 2008–16. In the same period, the under-five mortality rate also declined in urban India, but more slowly.

Although India has made progress in controlling the infant mortality rate and under-five mortality rate by implementing the above mentioned schemes and increasing health infrastructure under the National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM), the programmes in the health sector are far from achieving the targets set in SDG-3.

Maternal Mortality Ratio

The target set by Millennium Development Goals to reduce the maternal mortality ratio to 109 per 100,000 live births during 1990 and 2015 was not achieved. Although there was a substantial decline in the maternal mortality ratio during 1997–98 to 2014–16, it was still 21 points less than the target set by MDG-Five (Figure 22). The improvement in the maternal mortality ratio can be attributed to the increasing number of institutional deliveries in India in the last two decades, because of the introduction of Janani Suraksha Yojana and ASHA under NRHM, which have contributed significantly to the reduction of life expectancy at birth in India

Figure 22: Maternal Mortality Ratio (Per 100,000 Live Births) in India

Source: Sample Registration System, various years, Census of India

Life Expectancy at Birth in India

The social development of a country can be determined by the status of health and longevity of its citizens. Good health care not only improves the quality of life but also ensures that the people have more time to pursue the goals of their life (Zheng et al., 2014). In this context, it is very important to highlight the status of life expectancy at birth in India. The table 15 shows that during 1981–85 to 2012–16, there was an improvement in the status of life expectancy in India. It increased from 55.5 years to 68.7 years during this period. The increment in life expectancy at birth is usually more for females than males. In India, life expectancy at birth is higher in urban areas than rural and it has increased for both males and females. However, the increase is more in females as compared to males. In the last few decades, health infrastructure has improved both in rural and urban areas and several programmes to reduce maternal and child mortality have been launched and implemented. These developments in the health sector have led to better life expectancy in India during 1981–85 to 2012–16.

Table 15: Life Expectancy at Birth by Sex and Residence

(Age)

Years	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1981–1985	55.5	55.4	55.7	53.7	54.0	53.6	62.8	61.6	64.1
1986–1990	57.7	57.7	58.1	56.1	56.1	56.2	63.4	62.0	64.9
1991–1995	60.3	59.7	60.9	58.9	58.5	59.3	65.9	64.5	67.3
1996–2000	61.9	61.2	62.7	60.7	60.1	61.3	66.7	65.4	68.3
2001–2005	64.3	63.1	65.6	63.0	61.9	64.2	68.6	67.2	70.3
2006–2010	66.1	64.6	67.7	64.9	63.5	66.5	69.6	68.0	71.4
2009–2013	67.5	65.8	69.3	66.3	64.6	68.1	71.2	69.6	73.0
2012–2016	68.7	67.4	70.2	67.4	66.0	68.9	72.2	70.9	73.5

Source: Sample Registration System, various years, Census of India

Box 3: Do Social and Economic Groups affect Health Outcomes? The analysis of Infant Mortality Rate (IMR) and Under-5 Mortality Rate

In India, social exclusion is an outcome directly linked to the historical disadvantage of certain caste groups in accessing human and economic capital. Although Government of India has taken many affirmative actions to improve the condition of scheduled castes (SCs) and scheduled tribes (STs) in India, still a major section of the population from these social groups is very poor and suffers from deprivation and exclusion. The national family health survey–IV shows that in 2015–16, the infant mortality rate was highest among other backward castes (OBCs) followed by scheduled castes) and scheduled tribes in urban India (Table 16). In comparison to OBCs and SCs, the infant mortality rate among others was much better. A similar pattern was found in the under-5 mortality rates (Table 16).

In India, religious customs also determine the knowledge, practice and attitude towards health. It is evident from Table 17 that in 2015–16, the infant mortality rate and under-five mortality rate were highest among the Muslim population followed by Hindus in urban India. This could be explained by the fact that the level of education and economic condition among other religious groups such as Christians and Sikhs is much better as compared to Muslims and Hindus and, therefore, it reflects in their health outcomes.

The income group-wise IMR and under-5 mortality rate in urban India show that in 2015–16, with increasing levels of income, the infant mortality rate and under-5 mortality rate declined (Table 18). This indicates that income is also a determining factor of better health outcomes. Due to high health expenditure, only the upper income group of urban society can avail better health care facilities. The lower strata is still dependent on public health care facilities where conditions are still very poor

Table 16: Infant and Under Five Mortality Rate in Urban India by Social Groups, 2015–2016

(in per cent)

Indicators	Infant Mortality Rate	Under-five Mortality Rate
Social Groups		
Scheduled Castes	31.1	38.9
Scheduled Tribes	23.5	27.8
Other Backward Castes	32.1	37.7
Others	22.7	27.8

Source: NFHS-4, 2015–16, MoH&FW, GoI

Table 17: Infant and Under Five Mortality Rate in Urban India by Religious Groups, 2015–2016

(in per cent)

Indicators	Infant Mortality Rate	Under-five Mortality Rate
Religious Groups		
Hindu	28.2	33.9
Muslim	32.1	39.3
Christian	12.3	14.4
Sikh	17.5	19.6
Buddhist	28.4	29.3
Others	25.4	25.4

Source: NFHS-4, 2015–16, MoH&FW, GoI

Table 18: Infant and Under Five Mortality Rate in Urban India by Wealth Quintiles, 2015–2016

(in per cent)

Income Categories	Infant Mortality Rate	Under-five mortality rate
Wealth Index		
First (Lowest)	46.7	59.3
Second	39.0	51.2
Middle	40.0	49.7
Fourth	27.8	32.6
Fifth (Highest)	18.7	21.1

Source: NFHS-4, 2015–16, MoH&FW, GoI

Indicators Related to Health and Family Welfare and Child Nutrition

Since Independence, India has focused on improving the health outcome of mothers and children by implementing programmes related to family welfare, reproductive health, children's health and nutrition, and health infrastructure. The analysis given below of the few selected indicators based on National Family Health Surveys corroborates the above argument.

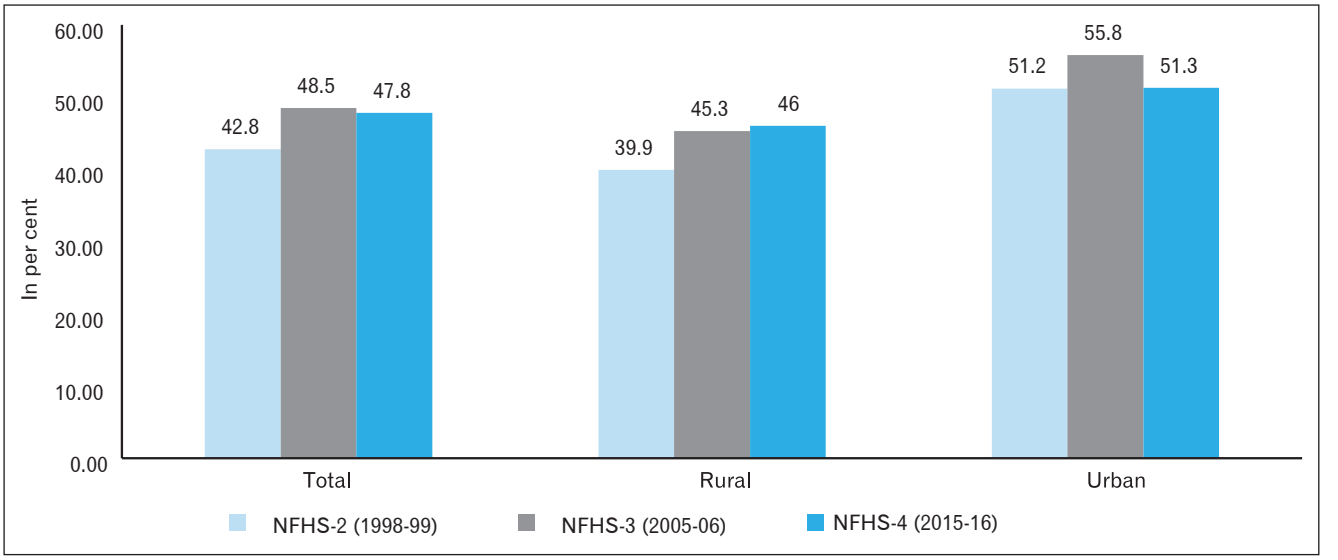
Current Use of Family Planning Methods

The National Family Health Survey provides a very comprehensive data base on health and family welfare in India. In the last three rounds of NFHS, the information related to current use of any modern family planning methods was collected from the currently married women in the 15–49 year age groups. The results show that in the last two decades, the use of any modern family planning methods increased among currently married women (Figure 23). The use of any modern family planning method is higher in urban areas. However, in the period 1998–99 to 2015–16, rural areas have shown a higher increase in the current use of any family planning methods as compared to urban. In urban areas, the current use of any modern family planning methods has been stable over time.

Unmet Need of Family Planning

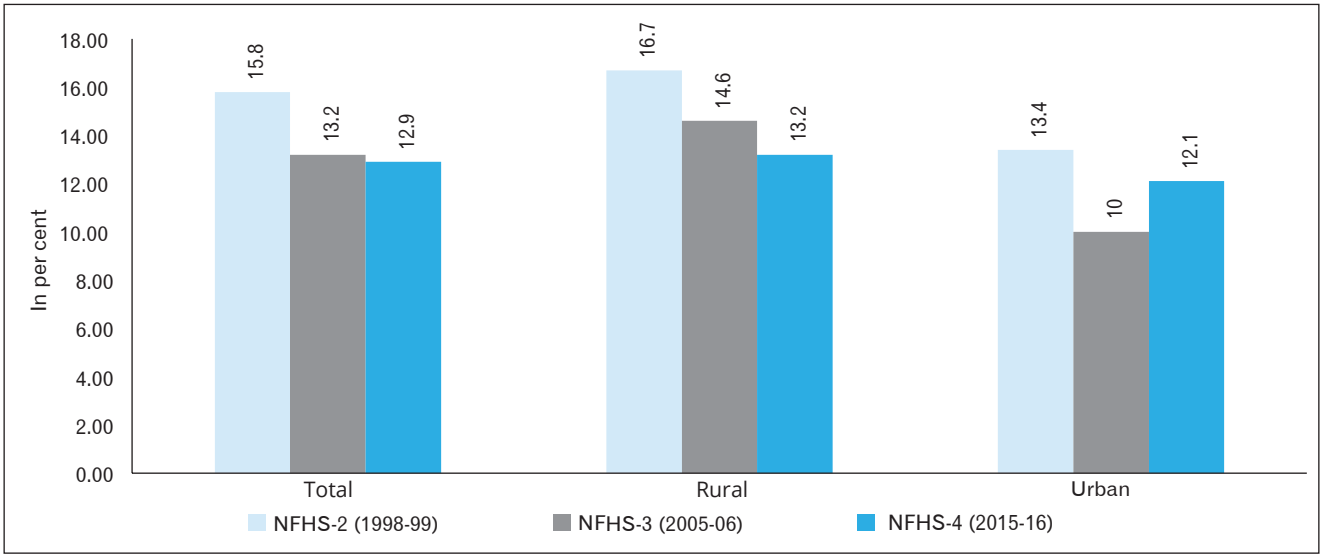
Despite the launch and implementation of several programmes on reproductive health in the last two decades, 12.9 per cent currently married women in the reproductive age-groups (15–49) eported the unmet need of family planning in 2015–16. Over time the percentage of currently married women who have reported an unmet need of family planning is reducing, which is a positive outcome of the RCH-I, RCH-II and National Rural Health Mission (Figure 24). In both the rural and urban areas, the percentage share of unmet need of

Figure 23: Current Use of any Modern Family Planning Methods in India



Source: Various rounds of NFHS, MoH&FW, GoI

Figure 24: Unmet Need of Family Planning in India



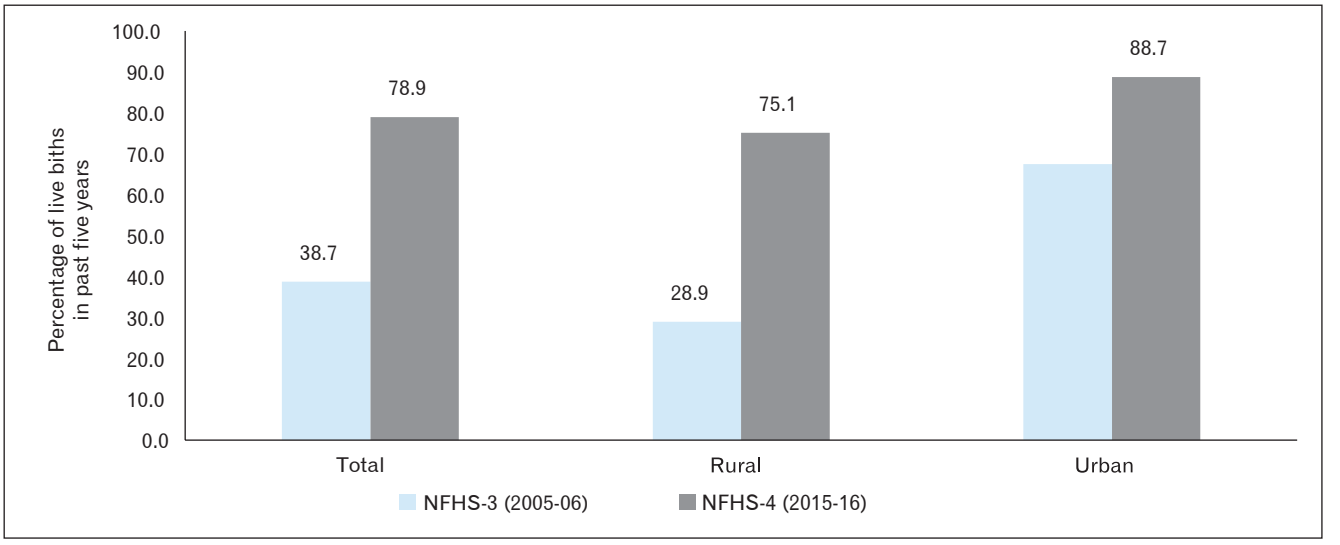
Source: Various rounds of NFHS, MoH&FW, GoI

family planning has declined in the last two decades and the decline is more in rural areas as compared to urban, which is a positive sign of effective implementation of the above mentioned programmes.

Institutional Delivery in India

India has significantly improved the percentage of institutional deliveries over time, which include the births taking place in public/private hospitals under a trained medical professional. The National Family Health Survey collects the data of institutional births in the past five years preceding the survey. The data of institutional deliveries from two rounds of NFHS shows that during 2005–06 and 2015–16, the percentage of institutional births in India almost doubled. This was because of the unprecedented increase in births taking place in public/private hospitals in rural areas. Although the percentage of institutional deliveries is high in urban areas as compared to rural, during the last decade the percentage share of institutional deliveries in rural areas increase by two and half times (Figure 25). The monetary assistance under Janani Suraksha Yojana

Figure 25: Institutional Deliveries in India



Source: NFHS-3 (2005–06), and NFHS-4 (2014–15), MoH&FW, GoI

and recruitment of Accredited Social Health Activist (ASHA) under National Rural Health Mission given to pregnant women in rural areas for institutional delivery are some of the major initiatives taken by GoI, which have significantly contributed to improving institutional deliveries in India.

Nutritional Status of Children in India

The table 19 shows that during the 2005–06 to 2015–16 period, there was a decline in the percentage of stunted and underweight children in India while increase in wasted children. However, a very high percentage of children in the under 5 years age group are still stunted (38.4 per cent), wasted (21 per cent) and underweight (35.7 per cent) (Table 19). In comparison to rural areas, the decline in the percentage share of stunted, wasted and underweight children in the under 5 year age group is high (Table 19).

Table 19: Nutritional Status of Children in India

(in per cent)

Children under 5 years who are stunted (height-for-age)		
Place of Residence	**NFHS-3 (2005–06)**	**NFHS-4 (2015–16)**
Total	48.0	38.4
Rural	51.0	41.2
Urban	40.0	31.0
Children under 5 years who are wasted (weight-for-height)		
Total	19.8	21.0
Rural	21.0	21.5
Urban	17.0	20.0
Children under 5 years who are underweight (weight-for-age)		
Total	42.5	35.7
Rural	46.0	38.3
Urban	33.0	29.1

Note- The stunted, wasted and underweight figures are below-2 standard deviations as per WHO standards
Source: NFHS-3 (2005–06), and NFHS-4 (2015–16), MoH&FW, GoI

There are several centrally sponsored schemes to improve the nutritional status of children in India. Integrated Child Development Services is one of the oldest programmes in India providing nutritional security to children. This programme is implemented through a network of *Anganwadi* centres (Government Child Care Centres). In public schools, the government provides Mid-Day Meals to the children, which has improved the nutritional status and enrolment rates of children and reduced their share of drop-outs. Inspite of these interventions, India continues to struggle to improve the nutritional status of children because of poor targeting of benefits especially to the girl child, leakages of food to the non-needy, infrastructure constraints in *Aganwadi* centres, and lack of training to the Anganwadi workers etc. (Ravi and Singh, 2016). There are large-scale disparities in the effectiveness of the nutrition programmes related to children across states and regions and, therefore, the children from some states such as Uttar Pradesh, Bihar, Odisha, and Jharkhand are more malnourished as compared to others (Raykar et al., 2015).

CONCLUSION

It is evident from the above analysis that India has reached several milestones in the health sector since Independence through the formulation of national health policies and implementation of programmes under Five Year Plans. It has successfully eradicated polio, smallpox and guineaworm etc. The incidence of measles, tetanus and whooping cough has been significantly lowered. The infant mortality rate and maternal mortality ratio has also declined. These achievements could be attributed to the improvement in the health infrastructure, larger coverage of immunisation and other programmes related to maternal and child health. The fertility rate in India is also declining which is because of better outreach of the family welfare programmes and increasing awareness among married couples. Despite these achievements, India is facing several challenges in the health sector. The spending on public health is very low (below 2 per cent). There is limited integration of ministries dealing with health which impacts adversely on the health outcomes of the masses. The urban health sector in India suffers from a lack of holistic and concerted approach to make an efficient and effective health care system which can address the needs of the urban population. The health infrastructure and number of health professionals including doctors, para-medical staff etc. are better in urban than in rural areas. However, the urban health system in India still faces multiple challenges such as overcrowding in tertiary public hospitals, lack of adequate number of urban PHCs and CHCs. These challenges are high for persons with special needs such as the mentally disabled, elderly and transgenders. However, of late, awareness and sensitivity towards these groups has become slightly more noticeable among policy makers and practitioners.

An analysis of the health care facilities in the country suggests that there has been an increasing dependency on the private sector. This can be attributed to the lack of adequate and quality health care in the public sector. The inefficiency of the public health care system has adversely impacted the urban poor. The out-of-pocket expenditure has increased for this section of the population, as private health care is very expensive. The government and private sectors have been viewed as distinct compartments in the provisioning of health in India. The National Health Policy, 2017 has recognised this fact and stressed the development of a framework in which both the government and private sector can find common ground and work in a mutually supportive manner to address the challenges in the health sector.

To ensure equity in the access to better health care and to achieve the goals set by SDG-3, GoI should increase public spending on health. Budgetary allocation should be improved to meet the deficits in health infrastructure. Policy makers should be aware of the fact that the current economic growth of the country may not be sustainable in the long run in the absence of adequate investment in the health sector. Various ministries and departments related to the health care sector should draw synergies and aim towards holistic improvement of the health of the masses. A concerted effort should be undertaken to improve the accessibility of quality health care to the poor and vulnerable sections of society.

NATIONAL POLICY FRAMEWORK
Education in Urban India

EDUCATION IN URBAN INDIA:
Overview of Policies, Programmes and Current Status

INTRODUCTION

Education and health are crucial determinants of the social infrastructure of any nation. India is no exception. In India, education has not only been accorded a special thrust in the Constitution but also in the policy pronouncements in different plan periods. The national policies laid stress on the promotion of education especially through eradication of illiteracy, provision of universal elementary education, and improvement in the quality and relevance of vocational and technical education at higher levels (Tilak, 2006). About one-fourth (24.1 per cent) of the budget for developmental activities in India is spent on education (Reserve Bank of India, 2015–16). The government of India is committed to achieving its Sustainable Development Goal (SDG-4) ensuring inclusive and quality education for all and promoting lifelong learning by 2030 (UNDP, 2015).

INSTITUTIONAL MAPPING OF EDUCATION IN INDIA

Originally, the Constitution had devolved the basic responsibility of education to the state governments. In 1976, with the enactment of the 42nd Amendment Act, it was brought under the Concurrent[8] List which empowered the central government to formulate policies and implement laws and schemes related to education in the country. All these are currently included in the Union List. The states, on the other hand, have powers to incorporate, regulate and wind up universities as a subject under the State List. The Ministry of Human Resource Development (MHRD) is the nodal ministry for this sector and there are other institutions[9] at the central level involved in regulating and maintaining standards in the sector.

Moreover, there are 15 professional councils which regulate various professional courses. These are statutory bodies established by Acts of Parliament such as the Medical Council of India, Bar Council of India, Council of Architecture, etc. At the state level, the Department of Education and the State Council of Educational Research and Training (SCERT) play a crucial role in the education sector.

The education system at present comprises mainly school education including elementary, secondary and higher secondary levels, higher education comprising university level and technical education and vocational education. Though completion of school education requires 10 years, the break-up varies across states. While some follow the 5+3+2+2 years pattern, others follow the 4+3+3+2 or 5+2+3+2 or even the 4+4+2+2 pattern. Similarly, higher education comprises 3+2+5 years of training but the structure again varies spatially. Importantly, in 2014, the Department of Higher Education came up with the Indian Standard Classification of Education to make it comparable within the nation and also at the international level (MHRD, 2014).

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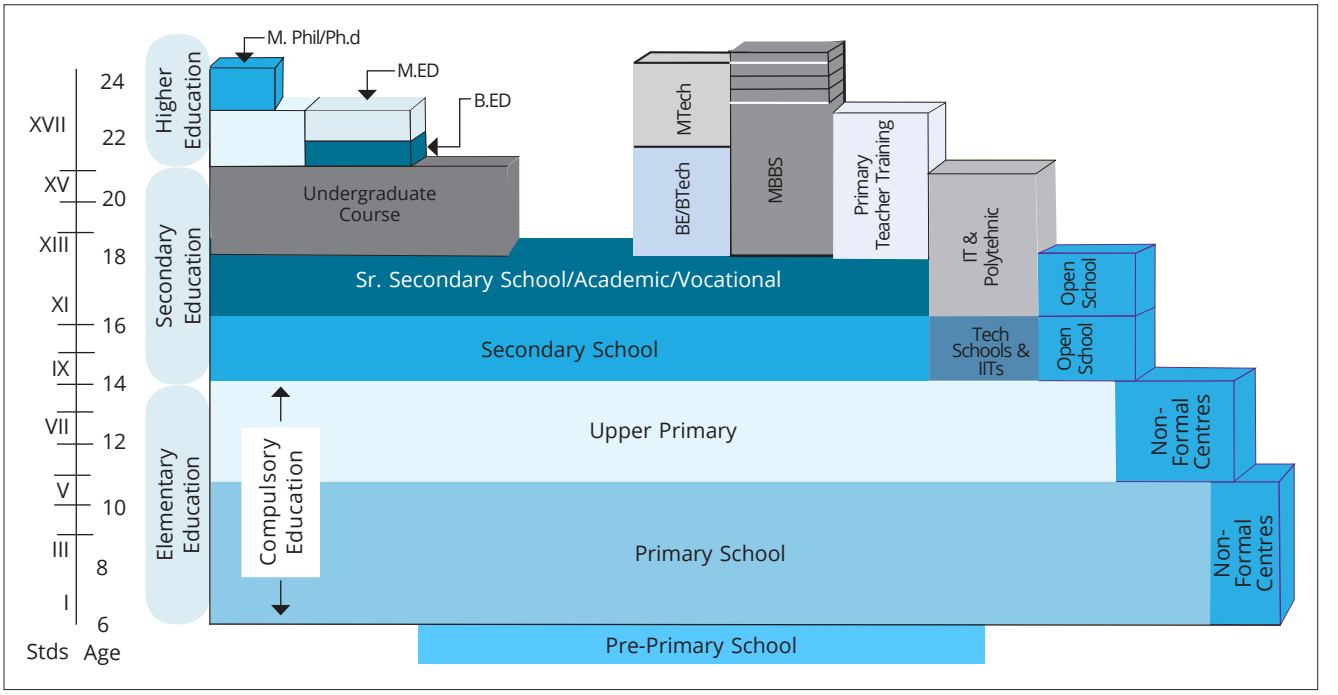
[8] *Concurrent list in the Indian Constitution enables both the centre and states to enact laws*

[9] *The National Council of Educational Research and Training (NCERT), University Grants Commission (UGC), All India Council of Technical Education (AICTE) and the National Council for Teacher Education (NCTE) also serve the education sector*

The pre-primary level of school education commences from childhood, but there is no fixed lower limit for the age of enrolment (Figure 26). Education at this level is offered through nurseries, kindergartens, *anganwadis*[10] and playschools. The primary level of school education includes classes I to V and usually children of age group 6 to 10 years get enrolled for this level. It is imparted through general education in schools, education guarantee schemes and non-formal education. Upper primary level is meant for children of 11 to 13 years age, and includes classes VI to VIII and is imparted through school and non-formal education. At the secondary level of school education, children of 14 to 15 years are generally enrolled in classes IX and X and are imparted education through formal education in schools, and vocational education with entry qualification of class VIII, and the distance mode of education. The senior secondary level of education (classes XI and XII) requires entry qualification of class X and is imparted through regular and distance modes to children of 16 to 17 years of age. Vocational training is also available at this level. The undergraduate level caters to the 18–20 year age group and can be pursued through both regular and distance modes. The duration of course work usually spans three years or more. The post-graduate level can be pursued through regular and distance modes and spans usually about two years (Figure 26). Higher education including M.Phil and Ph.D degrees usually consist of 2+5 years curriculum and can also be pursued through regular and distance modes. Both of these require the entry level qualification of post-graduation. Apart from the above mentioned systems, one can also go for diploma of varying durations and entry level qualifications, certificate courses, in-service training and adult education. Ideally the concept of age-grade is age-inclusive (6–11 years for primary, 11–14 years from upper primary, 14–16 years for secondary, 16–18 for higher secondary and 18–23 for higher education), but for the ease of computation, the age-exclusive age-grade division has been attempted below.

Figure 26: Age-Grade Division of Education in India



Source: Adopted from Annual Report, NUEPA, 2009–10

[10] *These are child care centres in the rural areas that were started by the government in 1975 with the initiation of the Integrated Child Development Services Programme*

CONSTITUTIONAL PROVISIONS AND POLICY FOCUS IN PLAN PERIODS

The structure of present day education owes its origin to colonial times when the Shimla Conference (1901) was convened by Lord Curzon through which 156 resolutions evolved. These focused mainly on formalising and structuring the education system in India and improvising the sector of technical education (Chaudhari, 2017). As early as 1906, the Indian National Congress adopted a resolution on the need for national education "for both boys and girls and organise a system of education (literary, scientific and technical) suited to the requirements of the country towards the realisation of the national destiny." (Ayyar, 2017)

The post-Independence period in India felt the need for a large cadre of technically skilled persons who could envision a prosperous India for the future. It was further realised that the legacy of colonial rule was not only deficient but also culturally alien. With these issues in mind, concerted efforts were made in the different plan periods to make elementary education free and compulsory (Jha and Parvati, 2014; Nawani, 2013), reform the status of education at the secondary and university levels, and encourage women's education.

Efforts were also made to increase the social and economic accessibility of education and bring a structure to the existing education system (Planning Commission, accessed on 21st June, 2018, www.planningcommission.gov.in). To make the Indian education system inclusive, accessible and adaptable, the Constitution of India in its Preamble has given the framework of policy on education whereas the Fundamental Rights and Directive Principles outlines the major contours of a plan of action for education in India (Ray and Satpathy, 2013). Box 4 summarises the constitutional provisions.

Box 4: Constitutional Provisions for Education in India

Article	Provisions
15, 17 and 46	Safeguards the educational interests of the weaker sections of the Indian community (socially and educationally backward classes of citizens and scheduled castes and scheduled tribes)
21A	Provides for free and compulsory elementary education
25 and 28	Allows freedom of conscience and free profession, practice and propagation of religion, thereby promoting secular education
29 and 30	Protects language, script, and culture of minorities and their right to establish and administer educational institutions
45	Provides for free and compulsory education
350 A	Provides for instruction in mother tongue at primary level for children belonging to linguistic minority groups

Source: Adapted from Ray and Satpathy, 2013

Major Educational Policies

Following the guidelines laid in the Indian Constitution, the Planning Commission set up the following three broad targets to be achieved by the end of the first Five Year Plan namely, (i) 60 per cent of all children in 6–11 years age group should be provided education facilities, (ii) 15 per cent children in the relevant age group should be in secondary education, and (iii) 30 per cent population should socially benefit from education (Planning Commission, accessed on 21st June, 2018, www.planningcommission.gov.in). Similarly, the thrust of the Second Five Year Plan was on expansion of primary and secondary education whereas the Third Plan focused on teachers' training, vocational and technical education. During this period, under the chairmanship of D.S. Kothari, the Kothari Commission (1964) was constituted which emphasised the fact that the shortfall in the progress in Indian education was mainly because of the lack of a comprehensive and rational educational policy at the national level. This led to the formulation of the first National Policy on Education (NEP) in 1968 (Box 5).

The NEP, on the basis of the recommendation of the Education Commission, identified the need for radical restructuring of Indian education and a national schooling system. This was expected to ensure free access irrespective of caste and gender to attain a comparable quality of education up to a certain level. Further, a 10+2+3 structure of education was envisaged and emphasis was given on the use of a mother tongue as a medium of instruction in early school years. Recommendations were also formulated to strengthen research at the university level. However, not much could be achieved out of this policy because of shortage of funds and the inability of the government to chalk out a comprehensive Plan of Action.

Following this, a new National Policy of Education was announced in 1986. It envisaged the need for expanding the opportunities for the masses and called for a consolidation of the existing system of higher and technical education. It identified the requirement of free education up to 14 years of age, focused on the role of information technology in education and paid more attention to the restructuring of teachers' education, early childhood care, adult literacy and women empowerment.

The NEP of 1986 was further modified in the National Education Policy of 1992 which emphasised the eradication of illiteracy in the 15 to 35 years age group and strengthening of vocational education. It laid special focus on girls' education. It focused on need-based vocational courses and non-formal education. It also voiced the need for bringing down gender disparity especially in vocational and technical education and improving social access to education. A thrust was given to science and mathematics in education.

A landmark achievement in the education sector is the enactment of the Right to Free and Compulsory Education Act of 2009 which notifies education as a free right for children. It ensures that all children in the 6 to 14 years age group be given free education in government schools or aided schools. Children who have dropped out or have never visited schools can get back to school in a class suitable to their age. It also lays down rules on the ideal pupil-teacher ratio, vacancies for teachers, and penalties (Sadgopal, 2010) (Box 5).

Of the various schemes that have impacted educational outcomes, the Mid-Day Meal scheme (1995) launched during the Eighth Plan deserves special mention. It was formulated to curb the drop-out rates in school and ensure a basic nutritional status of children in schools. This scheme has proved to be effective in encouraging children to continue their schooling.

STATUS OF EDUCATION IN INDIA

The academically eligible population in the age group of 6 to 29 years in urban areas is 170 million which is more than double the total population of Germany and close to three times the total population of the United Kingdom. Moreover, more than 47 per cent of the population in the same age group have reported not having attended any educational institutions. This may be attributed to either to the lack of accessibility or affordability to academic institutions as well as instances of dropping out.

Role of Public and Private Players in Education

The following section analyses the current status of education in the country based on the available official data. In India, both public and private players are responsible for delivering education. However, their dominance varies greatly at different levels. While the public schools are established, funded and managed by the central, state or the local governments, the aided ones are privately funded and managed. Public schools are mandated to provide free education to all their students, whereas the private schools have 25 per cent seats reserved for the socially and economically weaker sections (NCPCR, 2009). The private schools are mandated to operate as not-for profit organisations and in case profit is generated, the same has to be used for development of the institute.

Box 5: Focus on Education in the Five Year Plans

First FYP 1951–56	• Review of education by the University Education Commission and the Secondary Education Commission (1953) • Major focus was on reorientation of education system, devising a need-based higher education, expansion of facilities for women's education, training of teachers and pulling up backward states by providing grants • Mudaliar Commission (1952–53) was constituted to assess the problems of secondary education and its relation with primary and higher education
Second FYP 1956–61	• Major investments were made on new institutions and expansion of the existing ones
Third FYP 1961–66	• Major thrust was to expand and intensify the educational coverage • Provision of educational facilities for children in 6–11 years age group and improving science education at secondary and university levels with the aim of developing skills and generating a creative outlook • Kothari Commission was constituted (1964) to give guidelines and policies on education and generate a comparable framework for education in India
Fourth FYP 1966–69	• The need for universal education was felt • The National Policy for Education was adopted in 1968
Fifth FYP 1969–74	• The Minimum Needs Programme (1969) identified elementary education and adult education as one of the basic needs of human beings
Sixth FYP 1974–79	• Aimed at promoting dynamic and beneficial linkages between education, employment and development • Focused on promoting cultural education along with continuation of the other previously defined goals
Seventh FYP 1980–85	• The need for pushing secondary and vocational education was felt • The focus areas were on universal education, eradication of illiteracy in the 15–35 years age group, vocational and skills training, modernisation of education
Eight FYP 1992–97	• The National Policy on Education from 1968 was reviewed in 1990 and revised in 1992 • Operation Blackboard was intended to be completed in this plan period • Mid-Day Meal Scheme was launched in 1995 • The National Council for Higher Education (NCHE) was envisaged
Ninth FYP 1997–2002	• The Special Action Plan (SAP) identified that it is crucial to expand social infrastructure in education • The major focus was on primary education and the private players were empowered to provide services at higher education level especially in technical education • Free education for girls up to college level was proposed
Tenth FYP 2002-2007	• Thrust was given on vocational education to strike a balance between demand and supply for skills • The major programmes were Sarva Siksha Aviyan, District Primary Education Programme, Teacher-Education Scheme and Kasturba Gandhi Balika Vidyalaya
Eleventh FYP 2007–2012	• Major target was to achieve 80 per cent literacy rate, reduce gender gap in literacy to 10 per cent and also reduce regional and spatial disparities • Focus was on SCs, STs and other minority groups and adolescents • Saakshar Bharat was proposed (2009) and the Right to Education Act was passed in 2009
Twelfth Plan 2012–2017	• National Education Policy (2016) was reframed with the vision of nation building through social, economic and political transformation • Samagra Siksha was proposed (2018) bringing together the existing plans of Sarva Siksha Abhiyan, Rashtriya Madhyamik Siksha Abhiyan, Beti Bachao Beti Padhao and Teacher Education • Scheme for Infrastructure Development in Minority Institutions (IDMI) in 2018 was proposed

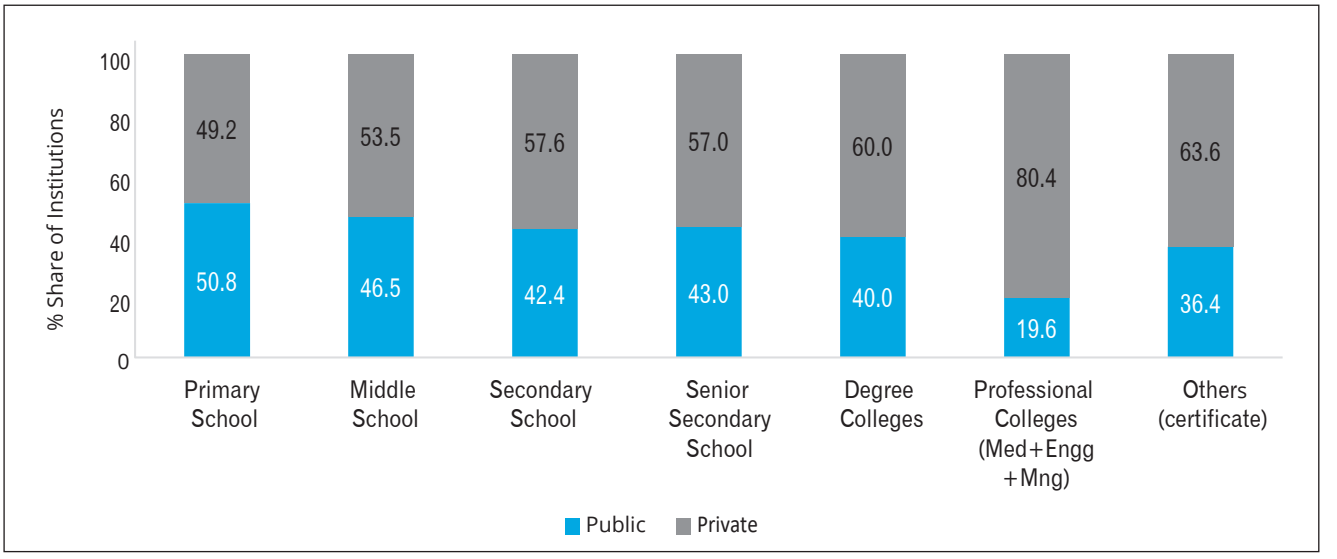
Source: http://planningcommission.gov.in accessed on 14th May, 2018

The Census of India 2011 gives the number of educational institutions at different levels by management types. It is evident from the data that at the elementary level, public and private players have a similar contribution in terms of the number of schools. However, with the increase in the level of education, the distribution of public-private management becomes skewed. Notably, 80.4 per cent of the professional colleges are privately owned (Figure 27). This indicates that public-owned institutions greatly decline in number at higher levels of education and the sector is unable to meet the institutional demand for higher education (Shiji, 2014).

However, it may be highlighted that providing sufficient and high quality education is indeed a challenge for the government, though there have been repeated attempts to find remedial solutions. It has also been noticed that in the past years, there has been a proliferation of private institutions catering to the growing demand in the education sector. In order to fulfil the target of raising gross enrolment by 30 per cent by 2020, it is necessary that 14 million more educational institutes are established. Further, a stringent Indian law prohibits foreign institutions setting up their campuses in the country independently as the foreign degree systems are not recognised in India, and foreign faculties are denied full-time employment in the country (UK India Business Council, 2018). There is, therefore, an urgent need for formulating liberal policies to address these issues.

In recent years, non-governmental organisations have emerged as important service providers in this sector. They cater to the educational requirement of children and adults, especially those belonging to the weaker segments in society. A host of them such as Save the Children, CRY, Smile, Pratham, Care India, Make a Difference, Azim Premji Foundation (Sahni, 2015) have already been able to establish their footprint.

Figure 27: Share of Public and Private Educational Institutions in India, 2011



Source: Town Directory, Population Census of India, 2011

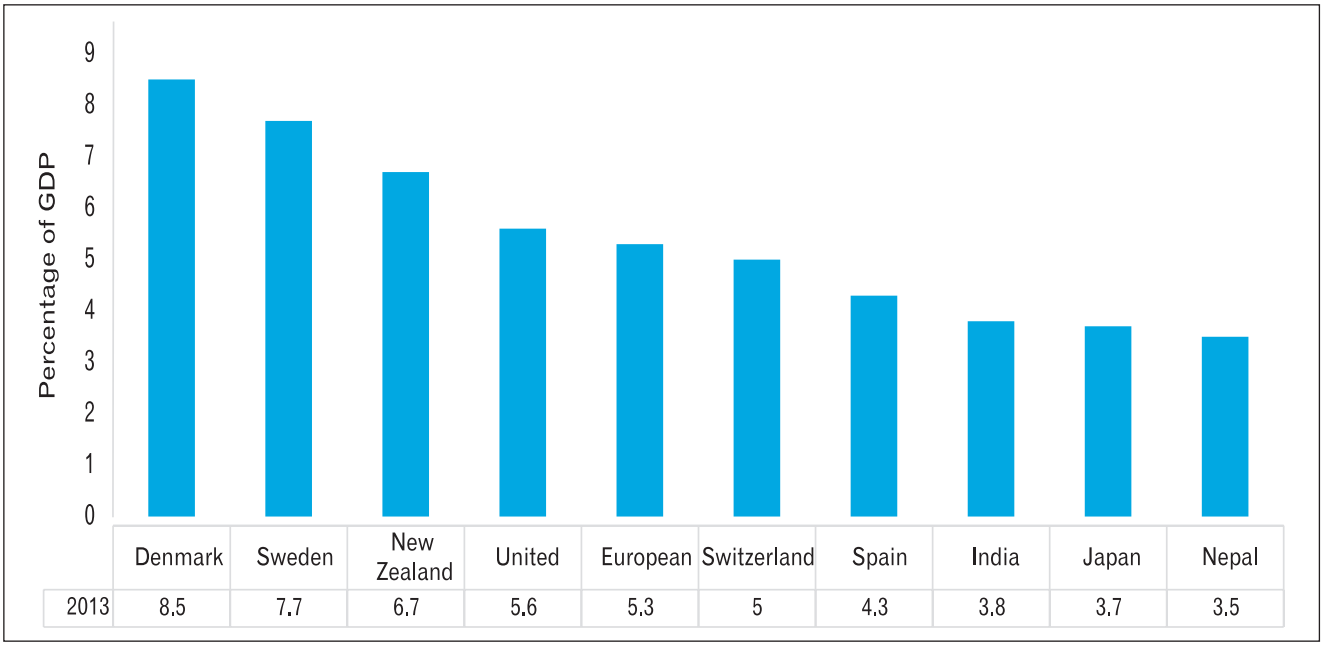
Expenditure on Education

This section attempts to compare the allocation made in the education sector in 2013 by India vis-à-vis other select countries. India was spending less than 4 per cent of GDP on this sector as per the latest (2018) data provided by the World Bank (Figure 28).

As evident from Figure 28, countries like Denmark and Sweden were spending about 8 per cent of their GDP on education, as compared to countries like United Kingdom, European Union, Switzerland which were spending about 5 per cent of GDP.

Of the partner countries of the GCRF project, Bangladesh and Philippines were spending less than 3 per cent of their GDP on education whereas South Africa was spending about 6 per cent. Countries like China, India, Rwanda and Tanzania were spending between 4 to 5 per cent of their GDP on the education sector (World Bank Data, 2013).

Figure 28: Expenditure on Education in Select Countries, 2013



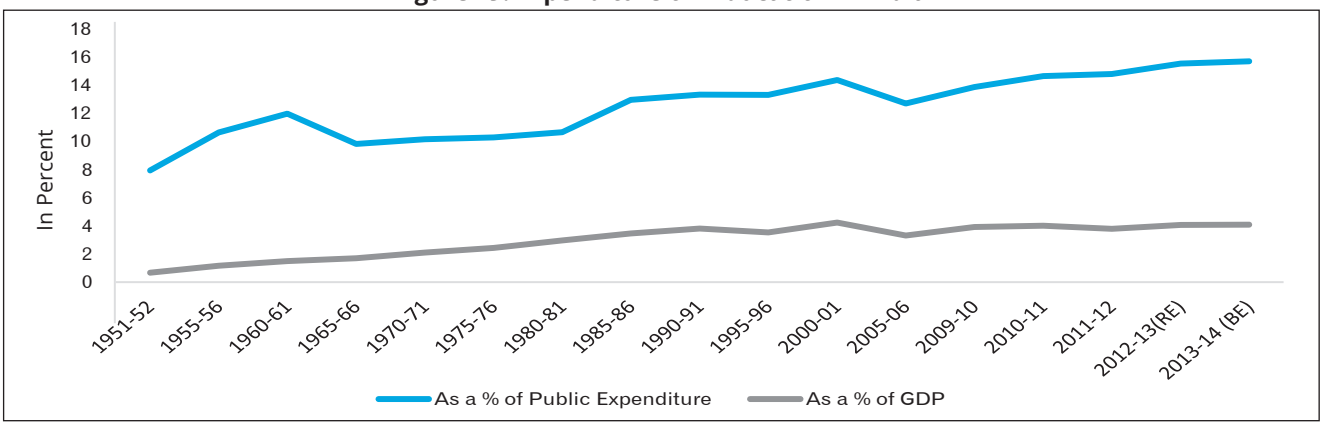
	Denmark	Sweden	New Zealand	United	European	Switzerland	Spain	India	Japan	Nepal
2013	8.5	7.7	6.7	5.6	5.3	5	4.3	3.8	3.7	3.5

Source: World Bank Data, 2013

In India, education was a focus in the all Plan periods and the main thrust was to make it socially and economically accessible. It is evident that out of the total public expenditure on developmental and non-developmental activities, 15 per cent or more has dedicated to education. Moreover, the expenditure on education as a percentage of public expenditure has almost doubled from 7.9 per cent to 15.6 per cent during 1951–2014 (Figure 29).

The following section looks at the expenditure pattern of the centre and the states made on the different levels of education during 2012–13 for which the latest data was available. About three-fourths of the expenditure on education was made by states, whereas the centre spent the remaining one-fourth, irrespective of the level of education (Table 20). Moreover, about 75 per cent of the investment by state was made to improve the situation of school level education whereas 13.23 per cent was spent on university and higher education. To bridge the gap between education and employability, more than 10 per cent of the total expenditure was dedicated to technical education by states as compared to 26.17 per cent by the central government. It clearly emerges that elementary education was a key area of overall expenditure by the centre and the states. In addition, while the state focused on secondary education the centre's focus was on technical education.

Figure 29: Expenditure on Education in India



Source: Central Statistical Organisation (CSO)

Table 20: Expenditure on Education by the State and Centre in India, 2012–2013

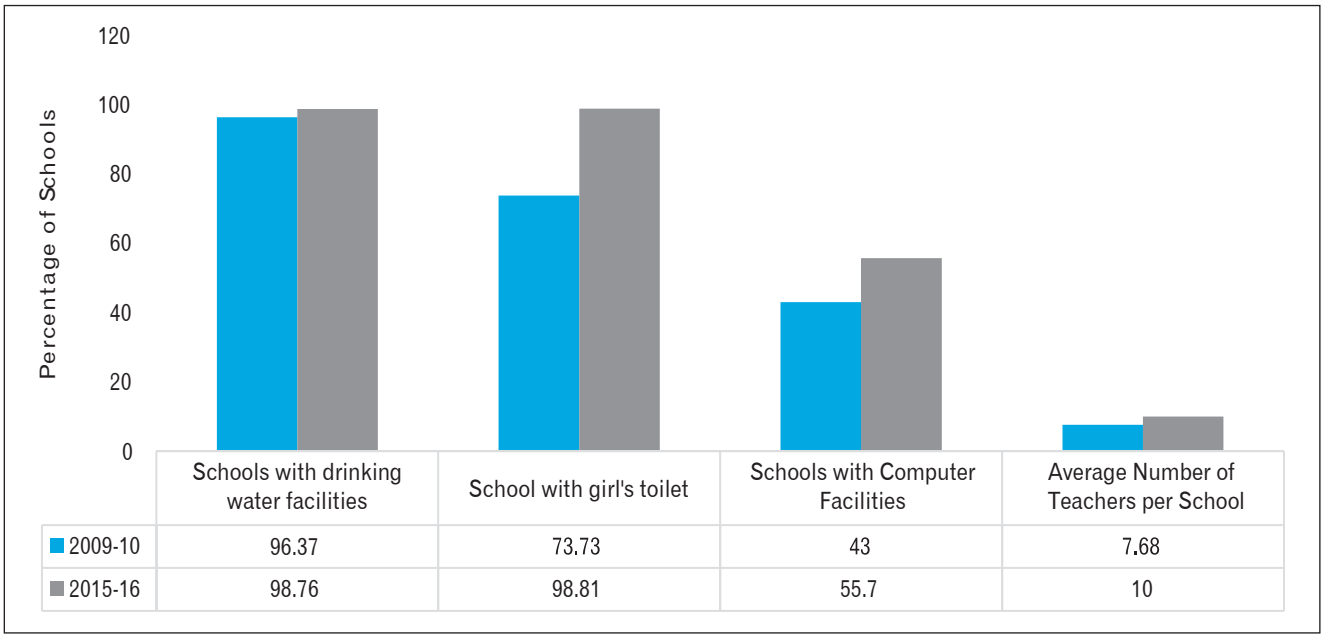
Sector	Amount	Expenditure on Education (USD million)		
		Total	Centre	States/ UTs
Elementary Education	USD Percentage	29,310 (18,46,506) 45.2	7,064 (4,45,047) 43.1	22,245 (14,01,459) 45.9
Secondary Education	USD Percentage	16,335 (10,29,074) 25.2	1,839 (1,15,830) 11.2	14,496 (9,13,234) 29.9
University & Higher Education	USD Percentage	9,531 (6,00,439) 14.7	3,123 (1,96,731) 19.0	6,408 (4,03,707) 13.2
Adult Education	USD Percentage	172 (10,842) 0.3	81 (5,093) 0.5	91 (5,749) 6.2
Technical Education	USD Percentage	9,482 (5,97,355) 14.6	4,292 (2,70,415) 26.2	5,190 (3,26,939) 10.7
Total (Education)	USD Percentage	64,829 (40,84,217) 100.00	16,399 (10,33,118) 100.00	48,430 (30,51,098) 100.00

Note: Figures in parenthesis indicate expenditure in million rupees
Source: Educational Statistics at a Glance, 2016, MoHRD, GoI

Educational Infrastructure

It is evident that the proportion of expenditure on education as a percentage of total public expenditure increased by almost 3 percentage points between 2005–06 and 2013–14 (Figure 29). This was associated with a corresponding improvement in the level of infrastructure availability in schools. The data available from District Information System for Education confirms that in 2015–16, 98.76 per cent of the schools had drinking water facilities, 2 per cent more than in 2009–10, and 98.81 per cent of the schools had an exclusive girls' toilet, approximately 25 per cent more than in 2009–10 (Figure 30). In addition, the percentage of schools having computer facilities increased by 12 percentage points in the same period with a slight improvement in the average number of teachers per school. In this regard, it may be stated that the share of girls in the total enrolment remained constant in the years of reference. However, learning outcomes in government run schools still remain a challenge. To substantiate, according to a study by Pratham on Annual Status of Education (2013), more than 50 per cent of the students in Classes III and V were unable to read texts of Class II. Similarly, performance in arithmetic was also very poor as only 26 per cent of the students in Class V could do division (Sahni, 2015).

Figure 30: Amenities Available at School Level in Urban India



	Schools with drinking water facilities	School with girl's toilet	Schools with Computer Facilities	Average Number of Teachers per School
2009-10	96.37	73.73	43	7.68
2015-16	98.76	98.81	55.7	10

Source: DISE Report, 2009-10 and 2015-16

Pupil Teacher Ratio

The qualitative aspect of education is greatly determined by a host of factors of which the pupil teacher ratio (PTR)[11] is an important one. Lesser The fewer the number of students per teacher is a good indicator of education. The PTR has been fixed at 30:1 at the primary and secondary levels and 35:1 at the upper primary level by the MHRD[12] (MHRD, 2017). Further, the PTR is high in the private schools than in the schools managed by the government because of the high enrolment of students in private institutions (Sarangpani and Vidya, 2011). Studies conducted in Karnataka have revealed that schools with PTR of 10 to 20 have better learning outcomes (Aggrawal, 2017). India has a better pupil-teacher ratio in comparison to a few countries in the world like Bangladesh, Pakistan and Nepal (Table 21).

The PTR has improved in India in the recent past (Table 22). At the primary level it has improved from 43:1 during the 1990s to 24:1 in 2014–15. Similarly, at the upper primary level, the pupil-teacher ratio has improved from 37:1 in 1990–91 to 17:1 in 2014–15 (Table 22). However, at the senior secondary level, the PTR has slightly declined from 31:1 in 1990–91 to 38 in 2014–15. Recent years have seen an increase in the number of contractual teachers which in turn may have been reflected in the improved PTR. But to what extent these contractual teachers are committed to the overall improvement in the quality of education is indeed an area of concern (Chakrabarty, 2011). Pandey (2009) in her study has noted that contract teachers or teaching assistants in different states are of very poor quality and their terms of employment do not encourage them to invest on teaching skills and focus on the learning outcomes of the children. In this regard, UNESCO's report (1996) may be cited as a way forward which highlights that "improving the quality of education depends on first improving the recruitment, training, social status and conditions of work of teachers; they need appropriate knowledge and skills, personal characteristics, professional prospects and motivation if they are to meet the expectations placed upon them."

[11] *The number of students who attend a school or university divided by the number of teachers in the institution. For example, a student–teacher ratio of 10:1 indicates that there are 10 students for every one teacher*

[12] *http://mhrd.gov.in/sites/upload_files/mhrd/files/Student-Teacher%20Ratio.pdf accessed on 28th September , 2018*

Table 21: Pupil-Teacher Ratio in Selected Countries, 2014

Countries	Pupil Teacher Ratio		
	Primary (I–V)	Lower Secondary (VI–VIII)	Upper Secondary (IX–XII)
Bangladesh	40.2[-3]	36.9[-1]	33.2[-1]
Brazil	21.2[-1]	18.5[-1]	15.7[-1]
China	16.2	12.6	16.5
Germany	12.3	11.2	14.3
India	25	17	38.0
Nepal	24	35.4	23.0
Pakistan	46.5	17.7[-2]	21.7[-2]
Russia	19.8	NA	NA
Sri Lanka	23.7	17.3[-1]	18.2[-1]
UK	17.4	15.3	16.2
USA	14.5	14.8	14.8

Note: A-x: x years back data, the value was A
Source: Source: Educational Statistics at a Glance, 2016, MoHRD, GoI

Table 22: Changes in Pupil-Teacher Ratio in Different Levels of Education in India,

Years	School Education				Higher Education
	Primary	Upper Primary	Secondary	Senior Secondary	
1990-–91	43	37	NA	31	NA
2000–01	43	38	31	35	NA
2005–06	46	34	32	34	26
2006–07	44	34	31	34	NA
2007–08	47	35	33	37	20
2008–09	45	34	32	38	21
2009–10	41	33	30	39	24
2010–11	43	33	30	34	26#
2011–12	41	34	32	33	24#
2012–13*	28	25	NA	NA	23#
2013–14*	25	17	26	41	25#
2014–15*	24	17	27	38	24#

Note: #Standalone Institutions have not been taken into account in PTR: NA; Not available for the year
Source: Educational Statistics at a Glance, 2016, MoHRD, GoI

Status of Literacy and Enrolment in School Education

Though causal relationships may not be established directly, improvement in the supply side variables have found their reflection in the improvement in literacy rates.[13] Urban India saw a 17 percentage points rise between 1981 and 2011 from 67.30 per cent in the former to 84.15 per cent in the latter year. The male literacy rate for 7+ years in urban India registered a rise from 76.80 per cent in 1981 to 88.81 per cent in 2011. Also, considerable improvement was evident in the female literacy rate which increased from 56.40 per cent to 79.16 per cent (Table 23) during the same period. Table 24 makes it evident that there was an improvement

[13] *Literacy Rate is defined as the percentage of population of an area at a particular time – a ge 7 years or above, who can read and write with understanding.*

Table 23: Literacy Rates in Urban India

(in per cent)

Urban Literacy Rate	1981	1991	2001	2011
Total	67.30	73.10	79.92	84.15
Male	76.80	81.00	86.27	88.81
Female	56.40	63.90	72.86	79.16

Source: Population Census of India, 1981–2011

in the percentage of children in different age groups who attained age-specific levels of education during 2001–11. Enrollment in the primary level of education was close to universal coverage for both male and female literate[14] children in the age group of 6 to 10 years.

About 60 per cent of the males and females in the age group of 14 to 15 years reported having completed the upper primary or middle levels of education in 2011 and the situation had improved for both as compared to 2001. However, in terms of level of completed education, the percentage of females seemed to be higher than males from the secondary level onwards. Notably, 9 per cent more females in the age group of 25 to 29 years had completed graduation in 2011 than in 2001 and were still continuing to pursue education. In comparison, 73.68 per cent of the males in the same age group had attained education up to the graduation level and were still continuing with education in 2011 in comparison to 69.77 per cent in 2001. The share of females at various levels of school and higher education was higher than the males. It would be important to assess whether there exists any mismatch between the demand and supply in the educational sector. For ease of understanding, the literates in different age groups have been computed and demand supply mismatch interpreted by looking at the population in each age group and the incidence of their attending or not attending educational institutions (Table 24).

It is evident from Table 24 that more than 80 per cent of the children in the 6 to 15 years age group were attending educational institutions irrespective of gender. Also, the percentage of males and females attending educational institutions was found to decrease with increasing age. Moreover, of the 170 million academically eligible population (in the age group of 7 to 29 years) 45.04 per cent of the males and 48 per cent of the females reported not attending any educational institutions. The situation was more severe at the higher levels. Furthermore, of the population who had not reported to be attending any academic institutions in 2011, 78 per cent reported having attended before, which is indicative of the fact that they must have dropped out in their academic tenure (Table 25). The remaining 22 per cent had never attended any educational institutions which reflects either a gap between the demand and supply of educational infrastructure or a situation induced by a host of socio-economic and psychological factors. These may be poverty, lack of interest and awareness, inability to cope with the curriculum, marriage etc. This is corroborated by the fact that of the population in the 6–19 years age group who were not attending any educational institutions, many had joined the labour market (Table 26).

14Literate is defined by the Office of the Registrar General of India as a person aged 7 years or above who can both read and write with understanding in any language. A person who can only read but cannot write, is not literate. It is not necessary that to be treated as literate, a person should have received any formal education or passed any minimum educational standard. Literacy could also have been achieved through adult literacy classes or through any non-formal educational system. People who are blind and can read in Braille were also treated as literates. All children of age 6 years or less were treated as illiterate by definition, irrespective of their status of school attendance and the capability to read and write

Table 24: Percentage Distribution of Population Attending Educational Institutions, 2001 and 2011

(in per cent)

Age Group (Years)	School Education								Higher Education	
	Below Primary and Primary		Middle		Secondary		Higher Secondary		Graduate & Above	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
6–10	98.66 (99.67)	98.83 (99.71)								
11–13			–	–						
14–15			58.98 (55.50)	59.83 (57.09)						
16–17					67.56 (59.92)	71.07 (65.71)				
18–24							47.84 (46.22)	51.42 (53.68		
25–29									73.68 (69.77)	78.03 (69.77)

Note: Figures in parenthesis represent the situation for 2001
Source: C-11 table, Population Census of India, 2001 and 2011

Table 25: Age-Specific Attendance to Educational Institutions by Completed Level of Education, 2011

(in per cent)

Age Group (Years)	Male			Female		
	Attending	Attended Before	Never Attended	Attending	Attended Before	Never Attended
6–10	81.18	2.17	16.65	80.69	2.23	17.08
11–13	89.79	4.97	5.24	89.35	5.01	5.65
14–15	83.06	11.00	5.94	82.82	10.70	6.48
16–17	73.43	20.30	6.28	73.41	19.77	6.82
18–24	42.17	50.26	7.57	36.99	52.61	10.40
25–29	7.44	83.77	8.79	5.10	80.20	14.69

Source: C-10 table, Population Census of India, 2011

Table 26: Work Status of the Population (6-19 Years) who are not Attending Educational Institutions, 2011

(in per cent)

Type of Work	Percentage of Population (6–19 years) Not Attending Any Educational Institution			
	Attended Before		Never Attended	
	Male	Female	Male	Female
Main	47.26	12.14	13.99	5.52
Marginal	9.85	5.10	4.70	3.21
Non-worker	42.89	82.75	81.32	91.27

Source: C-12A table, Population Census of India, 2011

[15] *Those workers who had worked for the major part of the reference period (i.e. 6 months or more) are termed as Main Workers in the population census*

[16] *A person who did not work at all during the reference period is termed as 'non-worker' in the population census*

Close to half of the males (47.26 per cent) in the 6 to 19 years age group who attended some educational institutions before were engaged as main workers[15] in 2011 and about 10 per centof males in the same age group were reported to be non-workers.[16] For the females who had attended some educational institutions before, in the same age group, more than 80 per cent were reported to be non-workers. Similarly, for the children who had never attended any educational institutions, more than 80 per cent of both males and females were reported to be non-workers. This is surely indicative of the fact that severe socio-economic constraints keep these children out of school and therefore calls for attention of planners and policy makers.

The annual drop-out[17] rate at primary level came down by 1.28 percentage points (from 5.62 per cent in 2011–12 to 4.34 per cent in 2013–14) for all categories of students (Table 27). At this level, the drop-out rates for boys and girls decreased by 1.36 (from 5.89 per cent to 4.53 per cent) and 1.2 (from 5.34 per cent to 4.14 per cent) percentage point respectively, during this period (MHRD, 2016). However, the drop-out rates at the upper primary level marginally increased during the same period.

Table 27: Average Annual Drop-Out Rates in Schools in India

(in per cent)

Classes/Year	Primary			Upper Primary		
	Boys	Girls	Total	Boys	Girls	Total
2011–12	5.89	5.34	5.62	2.13	3.20	2.65
2012–13	4.68	4.66	4.67	2.30	4.01	3.13
2013–14	4.53	4.14	4.34	3.09	4.49	3.77

Source: Educational Statistics at a Glance, 2016, MoHRD, GoI

Table 28: Reasons Cited by Students for not Continuing Education

(in per cent)

Major Reasons for Non-enrolment or Dropping Out	2007-08		2014–15	
	Male	Female	Male	Female
Parents not interested in education	22.50	32.80	32.03	22.23
Financial constraints	37.70	25.30	23.97	18.84
Domestic chores	0.40	2.00	3.13	21.96
Long distance	0.90	1.10	0.19	1.63
Economic engagement	5.70	0.12	20.61	3.30
Marriage (girl students)	NA	NA	0.00	13.56
Others	32.80	38.68	20.07	18.49

Source: NSSO, 2007–08 and 2014

Factors like parents' reluctance to educate children, financial constraints leading to early entry into labour market, compulsive responsibility of domestic chores and early marriage (especially for girls) have emerged as the significant reasons for which children usually drop out from school. 32.03 per cent males and 22.23 per cent females are not enrolled because of their parents' disinterest in studies (NSSO, 2014). 20.6 per cent of the boys in urban India in 2014 have been estimated to be out of school mainly to enter the labour market as wage earners and other economic activities. However, for girls in the age group of 5–29 years, not going to school is mainly because they are required to participate in domestic work (21.9 per cent in 2014), or because of financial constraints (23.9 per cent) or early marriage (13.6 per cent). The other reasons such as inability to cope up with the curriculum, inadequacy in terms of quality and number of teachers, unfamiliarity with the medium of instruction etc. are also reasons for children to be out of school (Table 28).

[17]*A drop-out is a pupil who leaves school before the completion of a school stage or leaves at some intermediate or non-terminal point of a given level of education (school stage)*

Scenario of Higher Education

India is prominently placed on the global higher education map with reputed institutions, significant student and faculty mobility and presence of collaborations with quality international institutions. Evidently, of the 160.2 million population (2011) in the age group of 18 to 24 years, more than 80 per cent are reported to be literate with educational attainment relevant to their age. Therefore, it is quite imperative to seek the availability of educational institutions catering to the demand of higher education for these youths. The availability of higher educational institutions is summed up in Table 29. There are about four institutions for higher education available for every 10,000 population bringing out the mismatch between the demand and supply in higher education. Furthermore, the choice of subjects, accessibility and affordability are other issues which hinder enrolment at this level of education and often force students to drop out or discontinue pursuing higher education.

It is evident from Table 30, that social science is the most preferred discipline at the under graduate level followed by engineering and science. This is reflected in the enrolment rates of 40.24 per cent for social sciences, 15.89 per cent for engineering and 15.38 per cent for science at the under-graduate level in India during 2014–15. However, enrolment in Indian and foreign languages and home science (captured in the 'Others' category) absorb close to a quarter of the students at the post-graduate level. At the doctorate level, students are mainly enrolled in disciplines like science, engineering and technology, languages and social sciences in descending order of the percentage of enrolled students.

Table 29: Distribution of Higher Educational Institutions in India, 2014–2015

	Institutions	Number
University	Central University	43
	State Public University	316
	Deemed University	122
	State Private University	181
	Central Open University	1
	State Open University	13
	Institution of National Importance	75
	State Private Open University	1
	Institutions under State Legislature Act	5
	Others	3
	Total	760
College		38,498
Stand alone Institution	Diploma Level Technical	3,845
	PGDM	431
	Diploma Level Nursing	3,114
	Diploma Level Teacher Training	4,730
	Institute under Ministries	156
	Total	12,276

Source: Educational Statistics at a Glance, 2016, MoHRD, GoI

Table 30: Enrolment Rates in Higher Education in India, 2014–2015

(in per cent)

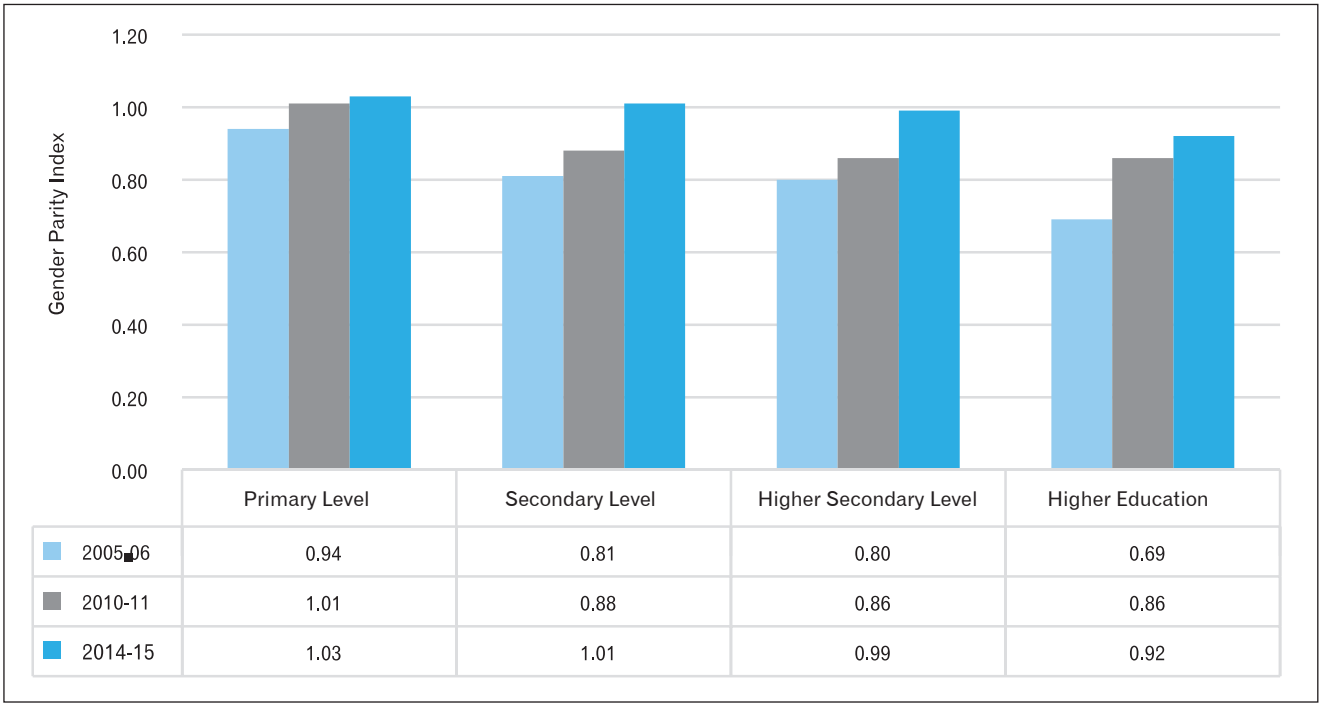
Discipline	Under-Graduate	Post-Graduate	Ph.D.
Social Science	40.24	17.35	12.13
Medical Science	3.05	3.06	3.99
IT & Computer	2.57	7.48	1.69
Engineering & Technology	15.89	7.6	23.42
Science	15.38	12.51	25.88
Commerce	13.98	9.61	3.09
Management	1.93	15.7	5.31
Others	1.58	25.44	19.66
Law	1.13	0.67	0.99
Agriculture & Allied	0.61	0.58	3.84

Source: Educational Statistics at a Glance, 2016, MoHRD, GoI

It emerges from the above analysis that the thrust of education in India had been to make it accessible to all irrespective of their socio-economic and demographic background. In this respect, it is interesting to note that the Gender Parity Index[18] (GPI) at the various levels of education has witnessed marked improvement in recent years (Figure 31). This is also a reflection of the universalisation of elementary education and improving the socio-economic accessibility of education, which have been thrust areas in almost all the Plan periods.

Having discussed the prevalent situation in the education sector in terms of the overall literacy rates, enrolment by age groups in the different levels of education (school and higher education), and the drop-out rates, it would be important to note how far India has succeeded in making education socially inclusive (Box 6).

Figure 31: Gender Parity Index by Levels of Education in India



Source: Educational Statistics at a Glance, 2016, MoHRD, GoI

[18] *Gender Parity Index is calculated as the number of females by the number of males enrolled in a given level of education*

Box 6: How Inclusive is the Education System in India?

Literacy Rates by Social Groups

There has been a persistent improvement in the levels of literacy in the country during 2001 and 2011. The SC and the ST had a lower literacy rate in comparison with the general category (other than SC/ST) during 2001 and 2011. However, the gaps in literacy rates between the general castes and SCs and STs have decreased in recent years. Additionally, both SCs and STs had reported close to 8 percentage points improvement in the literacy rates during 2001 and 2011 as compared to 5 percentage points for the other castes (Table 31).

Literacy Rates by Religious Groups

There has been an overall improvement of literacy rates across religious groups since Independence. In 2011, highest literacy rate was found amongst the Jains (96%) followed by Christians (93%) (Table 32). The Muslims and the 'other religious groups' had literacy rates lower than the national average of 84.1 per cent, whereas the Hindus, Buddhists, Christians and Jains had literacy rates much higher than the national average.

Enrolment by Social Groups

In terms of enrolment by social groups, the enrolment of SCs in the primary schools has more than doubled from 110 in 1980–81 to 260 in 2014–15 (Figure 32). At the upper primary level, the enrolment has increased six-fold whereas in the senior secondary level, it increased almost four times. For the STs, enrolment has increased by more than three times at the primary level and about 10 times at the upper primary level. Yet, India is far from achieving universal access to education at all levels. Social and religious groups, which are at the lower levels of economic development also have lower levels of social development. However, various government programmes and policies have tried to address their concerns.

Drop-out Rates by Social Groups, 2013–14

The annual average drop-out rate is much higher for the ST in comparison with the SC irrespective of their gender (Table 33). It may therefore be inferred that despite concerted efforts to do away with social discrimination, caste-dynamics till date play a vital role in determining the access to education even though the availability of the educational infrastructure has greatly improved over time.

Level of Education and Economic Condition

Evidently, the level of education also varies with the economic condition of the households. The highest percentage of illiterates (35%) is found in the lowest quintile category of households with monthly per capita expenditure (MPCE) less than Rs.1,200, whereas households with MPCE more than Rs. 3,333 have only 8 per cent illiterates in them (Table 34). On the other hand, more than 35 per cent of the population in the 5th quintile are graduates and above against a little more than 2 per cent in the 1st quintile, indicating that better economic conditions foster better educational attainment. This is reflected in the lower levels of education in the lowest quintile class, which is predominated by the backward classes and poor religious groups.

Table 31: Literacy Rates by Social Groups

(in per cent)

Social Groups	2001	2011
Scheduled Castes	68.1	76.2
Scheduled Tribes	69.1	76.8
Other than SC/ST	81.8	85.5
Total	79.9	84.1

Source: Population Census of India, 2001 and 2011

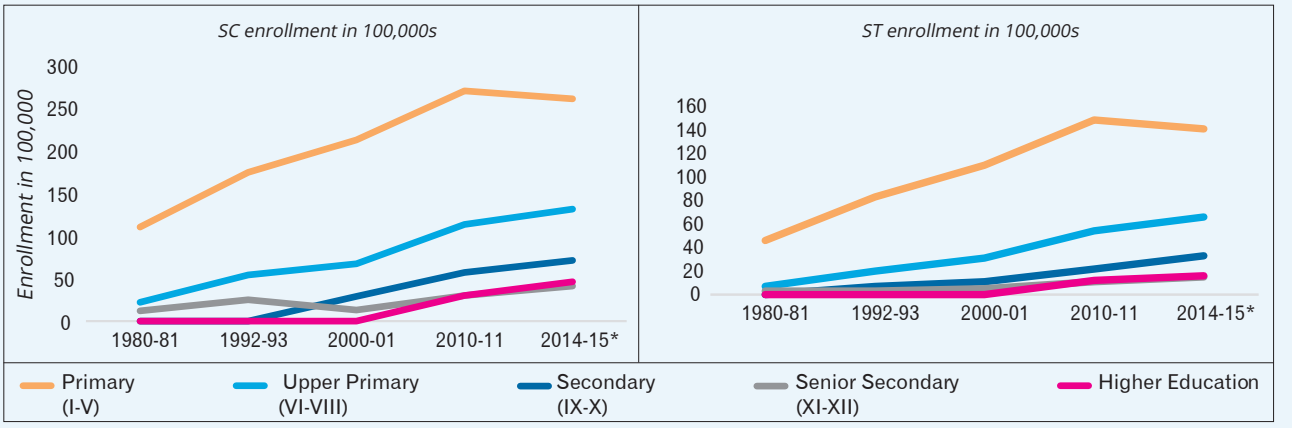
Table 32: Literacy Rate by Religious Groups

(in per cent)

Religious Groups	2001	2011
Jain	96.1	96.5
Christian	90.9	92.9
Buddhist	81.6	87.3
Sikh	83.6	86.5
Hindu	81.3	85.3
Other Religions	75.3	79.7
Muslim	70.1	76.5
Total	79.9	84.1

Source: Population Census of India, 2001 and 2011

Figure 32: Enrolment Rate by Social Groups



Source: Population Census of India, 2001 and 2011 and MHRD website http://mhrd.gov.in/statist accessed on 7th May, 2018, NSSO, 71st round (January–June, 2014)

Table 33: Drop-Out Rates by Social Groups, 2014

(in per cent)

Social Groups	Primary		Upper Primary		Secondary		Senior Secondary	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
SC	4.42	3.85	3.75	5.04	18.96	18.32	2.20	1.38
ST	7.97	7.98	8.03	8.85	27.42	26.96	3.09	2.77

Source: Population Census of India, 2001 and 2011 and MHRD website http://mhrd.gov.in/statist accessed on 7th May, 2018, NSSO, 71st round (January–June, 2014)

Table 34: Levels of Education by Economic Condition, 2014

(in per cent)

Quintile	Illiterate	Upto Primary	Upper or Middle School	Secondary	Higher Secondary	Graduation	Post-Graduation and Above
Q1 (< Rs.1200)	34.8	35.3	13.3	8.1	4.6	2.2	.5
Q2	26.3	31.4	16.2	12.2	7.6	4.4	1.1
Q3	18.9	28.5	15.6	15.2	11.0	8.0	1.9
Q4	14.4	23.0	13.8	17.4	14.4	12.8	3.7
Q5(>Rs. 3333)	7.6	14.5	9.8	15.6	16.4	25.4	10.2

Source: Population Census of India, 2001 and 2011 and MHRD , website http://mhrd.gov.in/statist accessed on 7th May, 2018, NSSO, 71st round (January–June, 2014)

CONCLUSION

India has made considerable progress in educational attainment for its masses through various policies and programmes since Independence. The improvement in literacy rates is evidence of this. However, the universal coverage of elementary education is still an important challenge and there are several issues which need to be addressed to achieve this goal.

It is important to note that enrolment in schools and other educational institutes has increased over the decades. However, improvement in the learning outcomes is a major issue. The quality of learning and class appropriate learning levels are also inadequate. At the school level, the accountability of teachers is also a huge concern. Absenteeism and non-academic burden have frequently been cited as reasons for their poor performance.

It may be noted that, in all plans, one of the focus points had been on promoting employability through education. However, a glaring mismatch still persists between skill development and employment opportunities. Also, with the growing concern of universalisation of education, the issue of inclusive physical space for different types of learners often goes unnoticed. Therefore, learners with special needs often suffer the brunt of an unwelcoming physical space in the institutes, which in turn hinders their learning outcomes and attendance.

It has been highlighted in different studies that adult literacy has been 'criminally neglected' since the beginning, which is reflected through the budget allocation for adult education (Naik, 1965; Tilak, 2006). Importantly, the data brought out by MHRD (2012–13) shows that less than 0.5 per cent of the total expenditure has gone towards adult education. Non-governmental organisations have initiated the education of adults through alternative systems of education in a piecemeal manner. The imbalance in educational enrolment and performance may, however, be addressed by promoting inclusiveness and providing special facilities for backward regions, communities and the vulnerable social groups. All these could be achieved by prioritising education in the future action agendas of the country.

Of the various formal and non-formal institutions of education, madrassas need a special mention. Stuck between the paradox of maintaining their exclusive identity and catering to the market requirements of the minority group they serve, these institutions in the different states of the country lack internal coordination to negotiate with the state to maintain their own terms (Khan, 2016). Therefore, students receiving education from such institutions lack skills and proper educational attainments to enter the job market in urban areas.

Though there has been overall improvement in the literacy rates in India, if the performance of different religious groups is considered, Muslims continue to have a lower literacy rate (for both males and females) compared to the other groups as brought out by the Sachar Committee Report (2006). The report clearly indicates "the educational deprivation experienced by the Muslim Community. From lower levels of enrolment to a sharp decline in participation at higher levels of education, the situation of Indian Muslims is indeed very depressing as compared to most other Social and Religious Communities (SRCs)."

Though efforts have been put in to strengthen the universal coverage of elementary education, the retention rate to higher levels is quite low especially for poorer social and minority groups. It may also be mentioned in this context, that poverty escalates the burden and, therefore, poor households often prefer to keep their children out of school to save expenses and contribute to the household income by allowing their entry into the labour market at a very early age.

The education sector was shifted from the State List to the Concurrent List in 1976 by the 42nd Amendment Act considering the fact that this sector requires greater attention. It emerges that elementary education remains the prime focus in terms of investment. Expenditure data on education shows that the state governments

focus on secondary education whereas the centre's focus is on technical education (in addition to their prime focus on elementary education). In 2014, the MHRD came up with the Indian Classification of Education to document the different types of educational practices prevalent in the country in a bid to make the educational system globally comparable. However, the country needs to bridge a huge gap to attain international standards of education for its masses.

Since Independence, several policies were formulated and programmes designed following the policy guidelines to improvise the structure of education. The basic tenets of the modern education system in India include making elementary education free and compulsory, encouraging the girl child's participation in education, increasing social and economic accessibility to education, and reframing the structure so that it leads to employment generation. In this respect, National Educational Policies have been formulated in 1968, 1986 and 1992 and the Right to Education Act has been passed in 2009. All these aim to provide the basic framework of the modern education system in India.

There has been an improvement in the enrolment and literacy rates at the national level in the post-Independence era. This is a direct fall-out of the various policies that have been formulated in the country. Schemes for providing mid-day meals in schools have seen great success in responding to the issues of absenteeism of both the teachers and the students, reducing the drop-out rates, increasing the retention rates at different levels, and to some extent ensuring some measure of basic nutrition to children in the elementary stage in different states of the country (Sarma et.al, 1995; Singh and Gupta, 2015). Though the scheme has been able to hold students back in school, yet its impact on the learning outcomes and the performance of the students and teachers still remains a challenge.

There has been an increase in expenditure, and improvement in the availability of amenities at the elementary level in the education sector. All these are reflected in the increase in enrolment at different levels of school education and the changes in literacy rates over the years. However, challenges like absenteeism and drop-outs continue to plague the sector. Though there has been repeated emphasis on social and economic inclusion there still exists a huge gap in the vision and the actual scenario.

The education sector is plagued by a host of problems such as absenteeism, broken link between educational attainment and employability, and lack of accountability regarding the quality of education imparted. Recent years have seen a substantial improvement in the pupil teacher ratio. However, most of the teachers are contractual and therefore, their accountability and commitment in improving the existing scenario is greatly questionable.

To fulfil the growth potential and achieve employment outcomes, the Indian Education Policy needs to be linked to excellence, equal access, expansion and employability (UK India Business Council, 2018). Also in light of the commitment to achieve the Sustainable Development Goals and universalisation in education, the country needs to scale up public spending on the sector, and especially for adults, and make 'education for all' a reality in the coming years.

City Profile:
Delhi

DELHI

INTRODUCTION

Delhi, the capital city of India, has multiple layers of historicity because of its centuries old existence. It is the main administrative and political centre of India. Delhi is the second largest urban agglomeration in the world after Tokyo and the projected estimates show that by 2030, it will be the world's largest urban conglomeration comprising 39 million population. The city has developed in multiple phases. This conglomeration of old and new settlements, each having a distinctive character make Delhi a unique city. Therefore, a high level of urbanisation, political and administrative centrality and multiple and very complex nature of settlements make Delhi an important case for study.

As part of the national capital region (NCR), Delhi is one of the major service centres in north India and provides services to the adjoining districts of Uttar Pradesh, Haryana and Rajasthan (Figure 33). It is landlocked by the states of Haryana in the north, west and south and by Uttar Pradesh in the east, with a territorial spread over 1,488 sq. km. The two prominent geographical features of Delhi are the Yamuna river and Aravalli hills. The Yamuna river flows from the northwest to the northeast of Delhi. The Aravalli hills start from south Delhi and encircle the west, northeast and northwest parts of the city. The city has two central business districts – one in Old Delhi and other in New Delhi. The settlement pattern of Delhi is a conglomeration of old and new settlements each having a distinctive character (Datta, 1983). The old walled city is a juxtaposition of settlements from the Mughal period, the colonial settlement of the Civil Lines and slums that came up after Independence. New Delhi has the Lutyens'[1] zone and includes the President's House, Parliament and other administrative buildings. The main financial, commercial and business centre of Delhi – Connaught Place (Rajiv Chowk) is located in the New Delhi area.

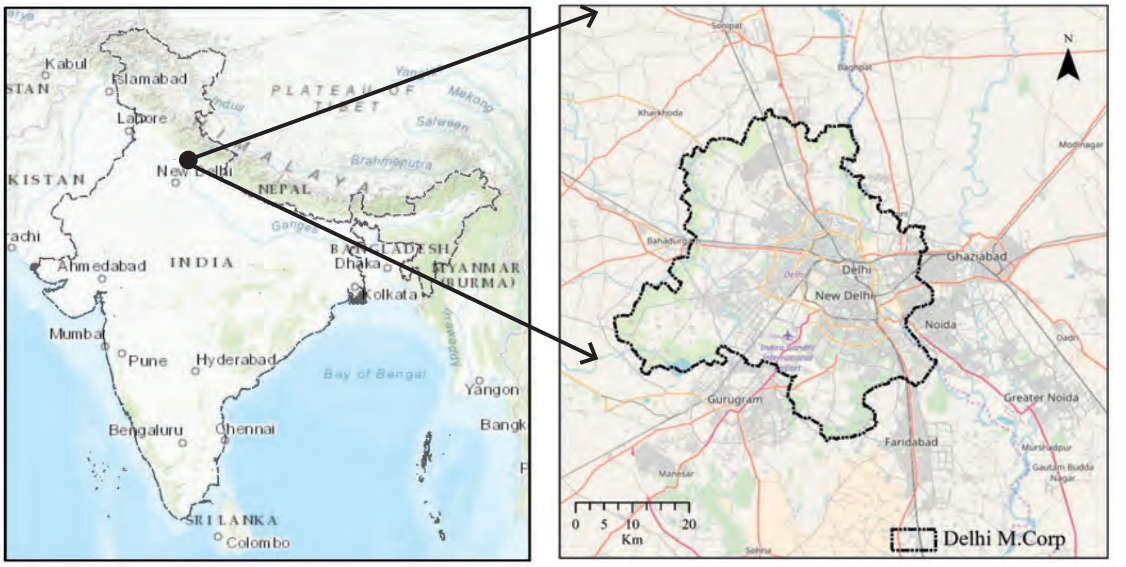
The southern part of Delhi consists of the new planned settlements and urban villages. There is one cantonment in this area. These settlements are new as compared to the old walled city and New Delhi. In addition to these settlements, Okhla, Wazirabad and Seelampur are some of the industrial areas in Delhi located in peripheral areas.

In this context, the present paper is an attempt to highlight the demographic, economic, physical and social characteristics of Delhi pointing out the gaps and challenges in the different sectors of urban development.

The paper is divided into ten sections. Following this introductory section, the second section discusses briefly the historical evolution of the city. Sections three and four deal with the demographic dynamics and migration pattern of the city. Section five elaborates on the spatial growth of the city using satellite images to depict the temporal change in land use and land cover of Delhi. Section six discusses the economy of the city. Sections seven and eight examine the programmes and current status of health and education in Delhi along with emerging challenges in these two sectors. Section nine explains the urban development, governance and

[1] *Lutyens' Zone of Delhi is named after the British architect Edwin Lutyens who planned New Delhi and designed a major part of the buildings in what is now known as the Lutyens Bungalow Zone*

Figure 33: Regional Setting of National Capital Territory of Delhi



Source: Authors' Compilation

existing urban infrastructure, their gaps and challenges including the condition of slums in Delhi. Section ten discusses the financial situation of local bodies. The last section concludes the paper highlighting the major challenges faced by Delhi. The paper is based on an analysis of secondary data at the state level.[2]

HISTORICAL EVOLUTION OF DELHI

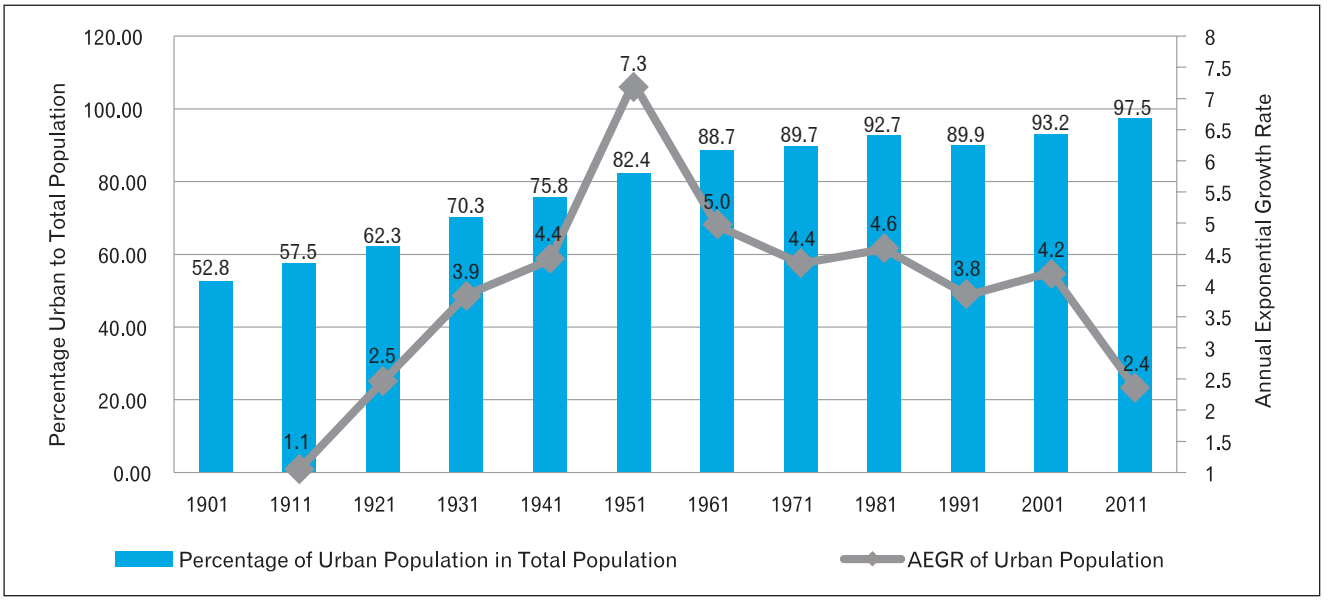
The capital city of Delhi has an incredibly long and eventful past beginning from the stone age and merging at the other end into the period when the Rajputs made way for the Delhi Sultans in the twelfth century (Singh, 2006). After the Delhi Sultanate, Khalji (1290–1320), Tughlaq (1325–1351), Sayyid (1414–1451) and the Lodhi dynasties (1451–1526) ruled Delhi. Thereafter, the Mughals were the main rulers of Delhi from 1526 until the Marathas defeated them in 1737. Most of the historical monuments in Delhi, however, were built under the kingdoms prior to the Marathas, after whom there was no real central authority until the coming of the British. In 1858, Delhi city came under the direct control of the British government through the dominance of the East India Company. In 1911, the British shifted their capital from Calcutta (Kolkata) to Delhi. Edwin Lutyens, a British architect was invited by the British to design the new capital and the Lutyens' zone came into existence in 1931. After Independence, the Government of India retained Delhi as the capital of India. The partition of India reshaped the morphology of Delhi as refugees migrated from Pakistan and settled in the north and west of Delhi. After Independence, slum settlements increased due to industrial development in the peripheral districts.

URBANISATION AND DEMOGRAPHIC TRENDS IN DELHI

The growth pattern of urbanisation in Delhi shows that during 1941–51, Delhi experienced the highest annual exponential growth rate (7.3%). This was because of the influx of refugees in Delhi after the partition of India in 1947. In the next few decades, the urban growth rate in Delhi declined (except in 1981) and reached 3.8 per cent in 1991. However, in the 2001 census it improved but the recent (2011) Population Census showed a sharp decline in the annual growth rate of the city. It has declined from 4.2 per cent in 1991–2001 to 2.4 per cent in 2001–11. Likewise, most of the metro cities in India experienced a decline in their growth rate. The core area of these metropolitan cities has declined with a corresponding increase in the peripheries (HSMI-NIUA, 2017).

[2] *The boundary of Delhi city and state match each other with 97.5 per cent of the state's population living in Delhi city in 2011*

Figure 34: Trends of Urbanisation in Delhi



Source: A-Series, Population Census of India

Regional Pattern of Urbanisation in Delhi

There were nine districts in Delhi in 2011. The level of urbanisation across these nine districts shows that the core districts of Delhi (New Delhi and Central Delhi) were fully urbanised in 2011 but their growth rate was negative during 2001–11 (Table 35). In contrast, the peripheral districts experienced higher growth rates which resulted in an increase in the percentage share of urban population during 2001–11.

Table 35: Regional Pattern of Urbanisation in Delhi

(in per cent)

Districts	Level of Urbanisation		AEGR
	2001	2011	2001-11
NCT of Delhi	93.2	97.5	2.4
North West	90.7	94.1	2.8
North	94.0	98.0	1.7
North East	92.0	99.0	3.1
East	98.8	99.8	1.7
New Delhi	100.0	100.0	-2.3
Central	100.0	100.0	-1.0
West	95.9	99.7	2.2
South West	87.2	93.7	3.4
South	92.9	99.6	2.6

Source: Population Census of India, 2011

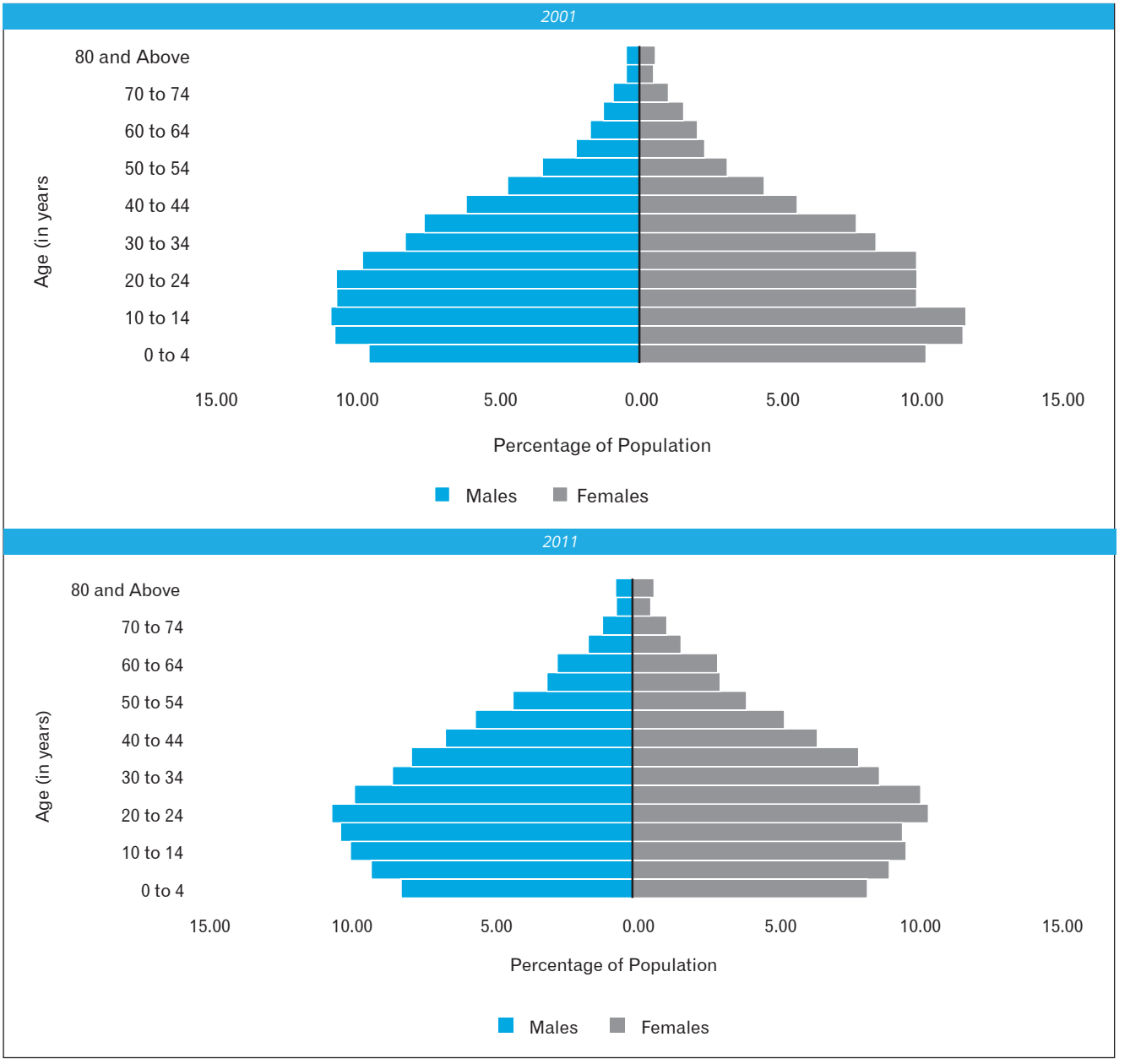
Demographic Composition of Delhi

Age-sex Composition

The age-sex distribution of the urban population of Delhi shows that the percentage share of male population in children and working age groups has declined in 2011 as compared to 2001 (Figure 35). However, the share of old-age population (65 years onwards) has increased in the same period. In contrast, the percentage share of females has increased in the working and old-age groups in 2011 as compared to 2001. It could be

explained by the high rate of female migration in Delhi mainly as an associational migration (see Tables 36 and 37). In contrast, the decline in the share of male population in 2011 could be explained by the sharp decline in the percentage share of males migrating for employment purposes. One of the noticeable changes in the urban population of Delhi is the slight increase in the elderly population in the last decade (2001–11).

Figure 35: Age-Sex Structure of Delhi, 2001 and 2011



Source: C-13 Table, Population Census of India, 2001 and 2011

According to the Population Census of India, the sex ratio in urban Delhi improved from 822 in 2001 to 868 in 2011, but was below the national average of urban India (929). The same pattern is found for the child sex ratio, where it increased from 870 in 2001 to 873 in 2011 for Delhi but below the national average (905). This could be because of the strict implementation of the regulation against sex-determination tests and termination of pregnancies in Delhi.

MIGRATION SCENARIO IN DELHI

Trends

Delhi is one of the prime destinations for migrants from the surrounding states. The urban migration rate has increased from 34.42 per cent to 42.27 per cent during 1993–94 and 2007–08 (Table 36) mainly because of the increase in female migration due to marriage and associational migration. Male migration into Delhi is mainly because of employment; this declined during the same periods given above (Table 37), which could be explained by the exclusionary nature of urbanisation (see Dupont, 2008; Kundu and Saraswati, 2012).

Table 36: Internal Migration in Delhi

(in per cent)

NSSO Rounds	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1993–1994	18.36	25.37	21.93	35.64	32.95	34.42	34.87	32.54	33.80
2007–2008	28.18	40.67	33.87	42.70	41.73	42.27	41.64	41.65	41.64

Source: NSSO, Unit level data, 49th (1993-1994) and 64th round (2007-2008), MoSPI, GoI

Table 37: Distribution of Migrants by Reasons of Migration in Delhi

(in per cent)

Reasons for Migration	1993–1994			2007–2008		
	Male	Female	Total	Male	Female	Total
Employment related migration	71.25	3.59	41.95	60.58	2.52	34.87
Migration of the parent/earning member of the family	23.94	50.32	35.36	24.30	60.42	40.30
Marriage	0.96	32.12	14.45	0.12	31.49	14.01
Studies	0.59	12.27	5.64	3.14	0.03	1.76
Others	3.26	1.70	2.59	11.86	5.54	9.06
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: NSSO, Unit level data, 49th (1993-1994) and 64th rounds (2007–2008), MoSPI, GoI

Streams of Migration

The figures for the stream of migration from Table 38 clearly indicate that the migration pattern in urban Delhi is dominated by inter-state rural-urban and urban-urban migrants. In comparison to the female rate, the inter-state rural-urban and urban-urban male migration rates were high in Delhi both in 1993–94 and 2007–08. Delhi witnessed an increase in inter-state rural-urban migration during 1993–94 and 2007–08 but this was mainly due to the increase in the rural-urban female migration rate. Rural-urban male migration declined during the same period.

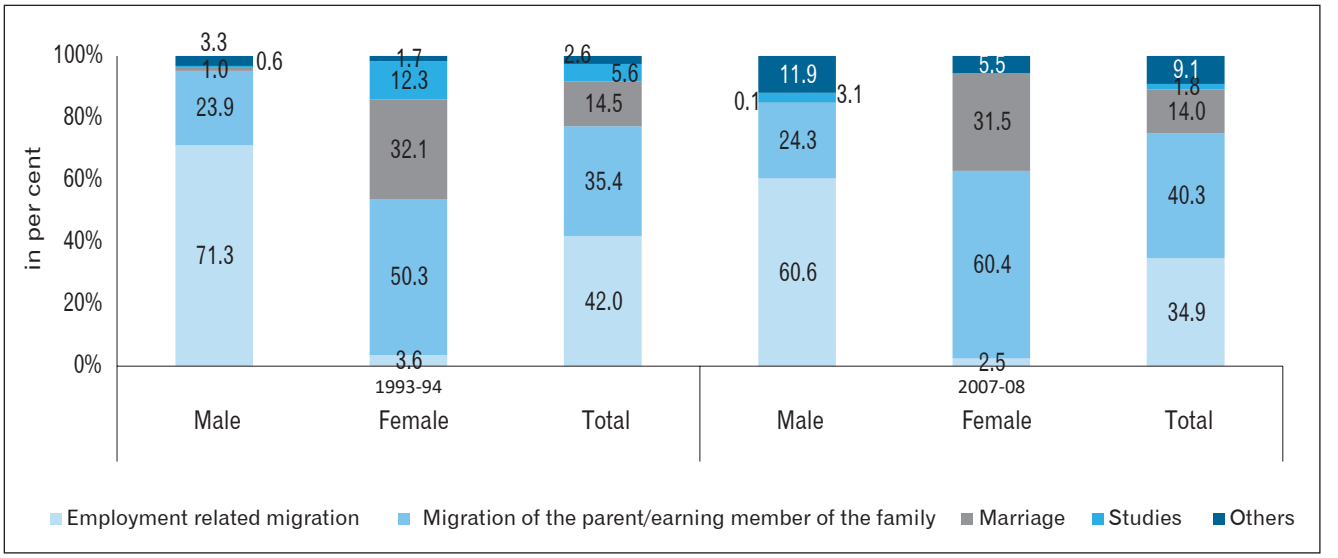
Table 38: Migration by Streams in Delhi

(in per cent)

Distance Covered	Streams	1993–1994			2007–2008		
		Male	Female	Total	Male	Female	Total
Intra-District	Rural-Urban				0.65	0.62	0.64
	Urban-Urban				3.66	4.16	3.88
Inter-District	Rural-Urban				0.37	0.74	0.54
	Urban-Urban				14.45	18.38	16.18
Inter-State	Rural-Urban	61.63	50.86	56.94	59.47	56.86	58.32
	Urban-Urban	37.97	48.47	42.54	21.40	19.23	20.44
Total		100.00	100.00	100.00	100.00	100.00	100.00

Source: NSSO, Unit level data, 49th (1993-1994) and 64th rounds (2007–2008), MoSPI, GoI

Figure 36: Reasons of Migration in Delhi



Source: NSSO, Unit level data, 49th (1993-1994) and 64th rounds (2007–2008), MoSPI, GoI

SPATIAL GROWTH OF DELHI

Three Master Plans (1962, 1981 and 2001) were prepared by DDA to achieve a balanced and sustainable urban development. The thrust areas of these master plans were decentralisation of population and employment in the surrounding peripheral satellite towns (1962), planning of residential units for the poor (1981), and redevelopment and densification of the existing urban areas in public-private partnership (2001). The city-state of Delhi also comes under the National Capital Regional Plan prepared in 1981 and 2001. Despite the combined implementation of these plans, congestion and lack of adequate physical and social infrastructure for the population is still a major challenge for planners.

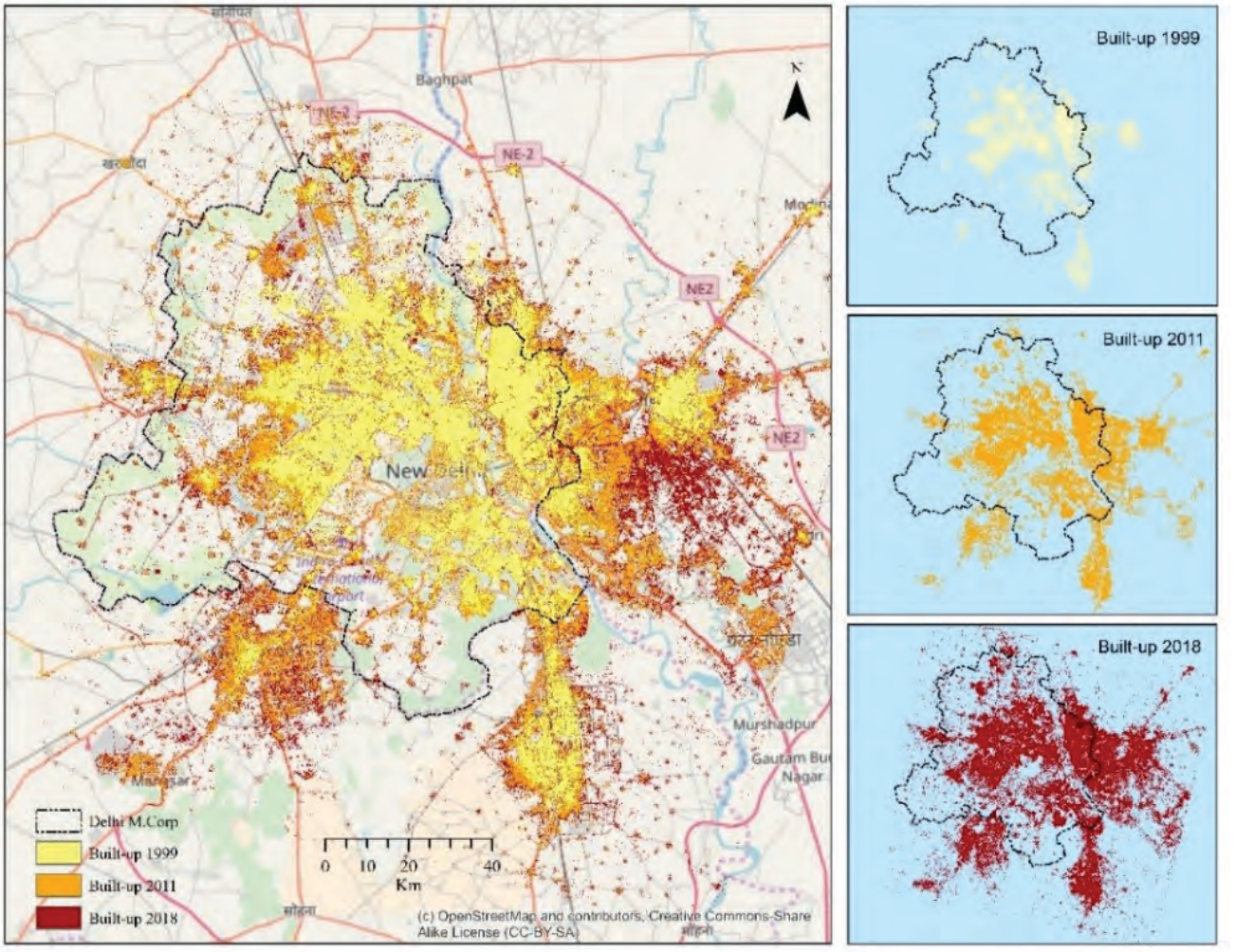
Though Delhi has not experienced any expansion in its administrative boundaries in the past few decades, because of the increase in population, there has been a great alteration in the land use pattern. NCT Delhi has an areal coverage of 1,488 sq.km. The built-up area has almost doubled from 1999 to 2018, leading to shrinkage of vegetation and agriculture land.

Delhi has experienced a substantial increase in built-up land towards the northwest , southwest and southeast. Importantly, the built-up land has been found to spill over as continuous urban space in the neighbouring areas in the southwest, the southeast and the northwest (Figure 37). It is, therefore, clear that the spread of the built-up space in Delhi has deviated from the planned city growth proposed in the Master Plan.

The figure 37 shows that in 2011, out of the total areal coverage of NCT Delhi (1,488 sq. km), 472 sq. km has been found to be covered by built-up area. The built-up space has spread additionally on 58 sq. km of area which was demarcated in the Master Plan 2021 for river and green belt. This spread has further increased to 80 sq. km in 2018.

Infrastructure development has also been instrumental in shaping the urban growth of Delhi. The outwards sprawl of the city beyond the boundaries of the NCT is to a great extent attributed to the improved commuter network in these regions (Figure 38). Seamless urban growth and densification of urban space are crucial issues which need to be addressed along with formulation of efficient management strategies to ensure better planned development.

Figure 37: Change in the Built-up Area in Delhi between 1991 and 2018



Source: Author's compilation

ECONOMY OF DELHI

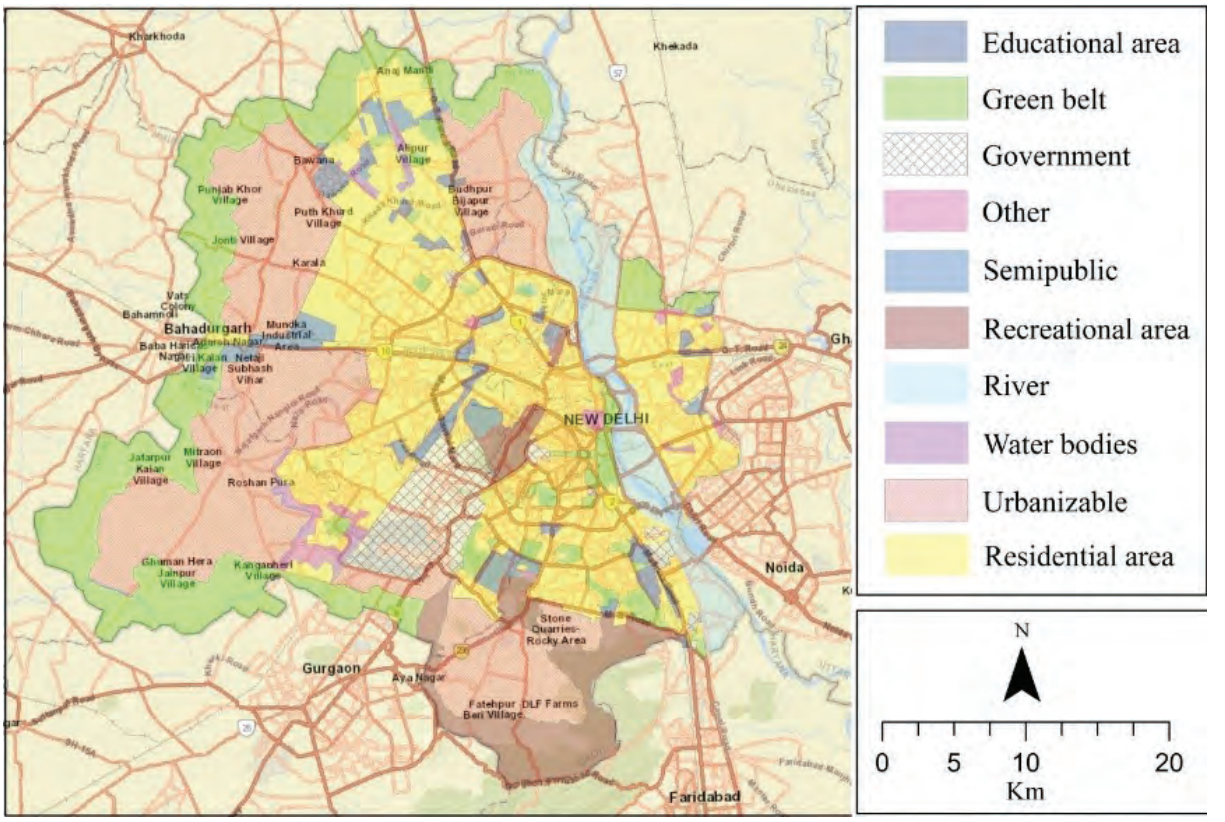
Gross Domestic Product

Delhi has a strong economic base. It contributed 4.08 per cent to the total GDP figures of India in 2016–17 (as per advance estimates). The per capita income in Delhi was highest among all states/UTs in Delhi in 2014—15[3] (Table 39). The economy of Delhi is mainly driven by the tertiary sector which contributed 82.26 per cent of Grass State Value Added (GVA) in 2016–17. The workforce participation rate for all ages in Delhi increased during 2001–11. The pace of marginalisation of the workforce in Delhi is slow as the percentage share of marginal workers increased only at a decimal point during 2001–11. The nature of employment in urban Delhi shows that informalisation of work has increased with a corresponding decline in the share of workers in the formal sector.

The contribution of Delhi to the GDP is not only high but shows an increasing trend. Like the rest of India, the economy of Delhi is also driven mainly by the tertiary sector, which contributed 82.26 per cent of Gross

[3]*Estimates of the State Domestic Product of Delhi 2016–17, Directorate of Economics & Statistics, Delhi, March 2017*

Figure 38: Land-use Deviation in Delhi, 2021



Source: Authors' compilation

State Value Added (GSVA) for 2016–17 (Advance Estimates at Current Prices), followed by the secondary sector (14.84%) and primary sector (2.9%). In the tertiary sector, the largest contribution came from Real Estate & Professional Services (29.81% out of 82.3%), followed by Financial Services (14.8%), Transport, Storage & Communication (12.1%), Trade, Hotels & Restaurants (11.70%) and Trade & Repair Services (10.7%). In the secondary sector, Manufacturing contributed 8.41 per cent of GSVA.[4]

Table 39: GDP and Per Capita Income: India and Delhi

Indicators	2004-2005@	2013-2014@@	2016-2017@@
All India GDP (in million rupees)	29,714,640 (471,660)	112,366,350 (1,783,593)	152,510,280 (2,420,798)
GSDP-Delhi (in million rupees)	1,003,250 (15,924)	4,437,830 (70,442)	6,223,850 (98,791)
Ratio (3/2)	3.38	3.95	4.08
Per capita Income –- All India* - in rupees	24,143 (383)	79,146 (1,256)	103,818 (1,648)
Per capita Income – Delhi* - in rupees	63,877 (1,014)	229,518 (3,643)	303,073 (4,811)
Ratio (5/4)	2.65	2.90	2.92

Note: 2016–17 data are as per Advance Estimate; Figures in parenthesis are in USD @ 2004–05 series; @@2011–12 series
Source: Department of Economics and Statistics, Delhi, March 2017.

[4] *Ibid*

Workforce Participation Rate and the Proportion of Non-workers in Delhi

Delhi is witnessing a demographic dividend. The workforce participation rate (WPR) in urban Delhi increased in all age groups during 2001–11 both for males and females (Table 40). WPR of males was much higher both in 2001 and 2011 in all ages. However, the WPR in working age groups shows a declining trend during the same period, except for females. As compared to national figures, the WPR in theworking age group was higher in Delhi in 2011. The percentage share of non-workers in Delhi has increased during 2001–11, which could be linked with increasing unemployment (Table 40).

Table 40: Workforce Participation Rate in Delhi

(in per cent)

Area	T/M/F	WPR				Non-workers	
		All Ages		15-59		15-59	
		2001	2011	2001	2011	2001	2011
India (urban)	Total	32.25	35.31	48.02	49.53	51.98	50.47
	Male	50.6	53.76	74.89	75.66	25.11	24.34
	Female	11.88	15.44	17.61	21.41	82.39	78.59
Delhi (urban)	Total	32.89	33.34	50.29	47.79	49.71	52.21
	Male	52.25	53.08	78.42	75.82	21.58	24.18
	Female	9.31	10.60	14.53	15.24	85.47	84.76

Source: Population Census of India, 2001 and 2011

The distribution of workers[5] in urban Delhi shows a slight increase in the percentage share of marginal workers during 2001–11 (Table 41). The gender-wise analysis shows that the percentage share of male marginal workers in Delhi has increased during 2001–11 only at decimal points. However, it has declined for females. This trend is in contrast to the national trend where the percentage share of the male and female marginal workers increased during 2001–11. It indicates that the pace of marginalisation of the workforce in Delhi is slow and most of the workers get work for more than 180 days in a year.

Table 41: Percentage Distribution of Main and Marginal Workers in Delhi

(in per cent)

Areas	Type of Workers	Male		Female		Total	
		2001	2011	2001	2011	2001	2011
India (urban)	Main	93.27	90.5	79.31	76.96	90.83	87.65
	Marginal	6.73	9.5	20.69	23.04	9.17	12.35
Delhi (urban)	Main	95.99	95.88	90.40	90.50	95.28	95.09
	Marginal	4.01	4.12	9.60	9.50	4.72	4.91

Source: Population Census of India, 2001 and 2011

Structure of Employment in Urban Delhi

The structure of employment in the city-state of Delhi shows that the percentage share of self-employed persons declined sharply from 41.06 per cent in 1999–2000 to 34.81 per cent in 2011–12 (Table 42). In contrast,

[5] *In India, the workers who get employment for 180 days or more in a year are classified as 'main workers'.; those who work for less than 180 days are classified as marginal workers*

the share of regular salaried/wage employees increased from 54.82 per cent to 61.52 per cent during the same periods. It is evident that the changes in the structure of employment in urban Delhi followed the pattern of national figures where the percentage share of the self-employed declined with a corresponding increase in regular salaried/wage employees. However, the share of regular salaried/wage employees was higher in urban Delhi in comparison to urban India. The increase in regular salaried/wage employees could be explained by the increasing share of the service sector where more workers are employed as regular salaried/wage employees.

Table 42: Structure of Employment in Delhi

(in per cent)

Employment Status	1999–2000		2011–2012	
	Delhi	India	Delhi	India
Self Employed	41.06	42.23	34.81	41.94
A. Own Account Workers	28.96	30.66	25.56	30.84
B. Employers	3.58	1.26	4.79	2.27
C. Unpaid Family Workers	8.52	10.30	4.47	8.84
Regular Salaried/Wage Employees	54.82	40.03	61.52	43.28
Casual Labourers	4.12	17.74	3.66	14.77
Total	100	100	100	100

Source: NSSO, Unit level data, 55th round (1999–2000) and 68th round (2011–12), MoSPI, GoI

Nature of Employment and Rate of Unemployment in Urban Delhi

Table 43 shows that the percentage share of male workers in the informal sector increased slightly from 70.7 per cent in 1999–2000 to 72.45 per cent in 2011–12, which is a reversal of the national trend. In comparison to urban India, the percentage share of workers in urban Delhi in the formal sector was higher both in the 1999–2000 and 2011–12 (Figure 39), but in comparison with the national figure, there was a declining trend during this period. The nature of employment in urban Delhi shows that informalisation has increased in the last decade.

The unemployment rate in urban Delhi increased slightly from 3.34 percent in 1999-2000 to 3.51 percent in 2011-12. In 1999-2000, the unemployment rate was much lower as compared to national figure but in 2011-12, it was slightly higher (Figure 39).

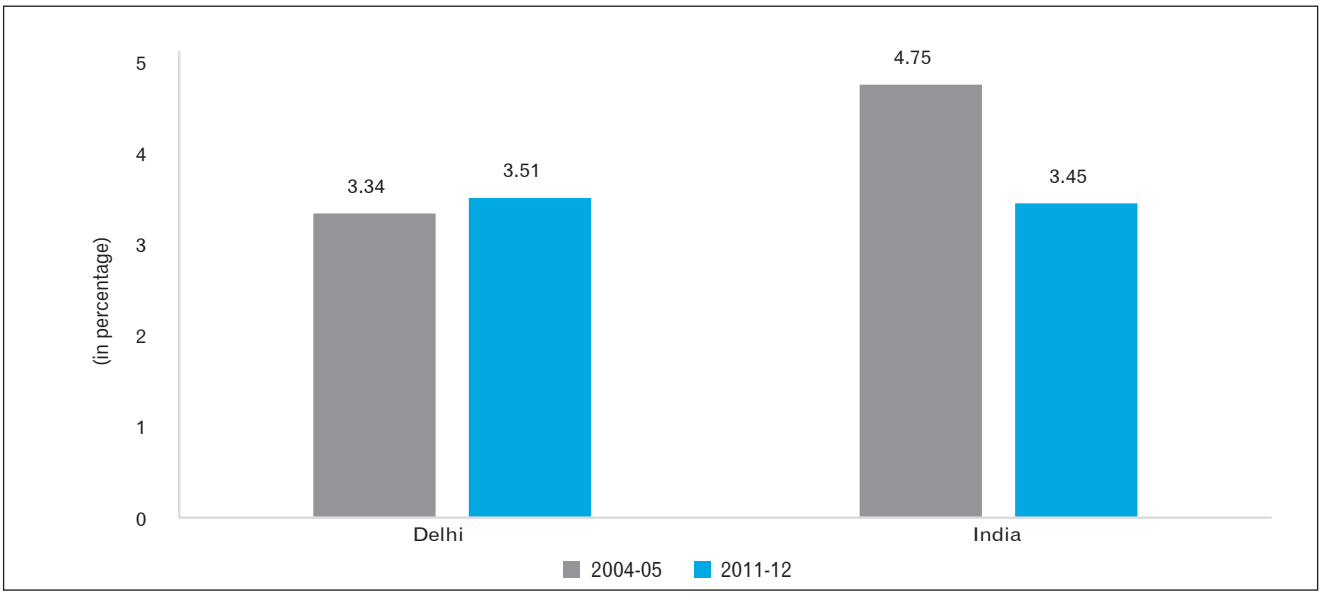
Table 43: Nature of Employment in Delhi

(in per cent)

Sector of Employment	Delhi			India		
	Males	Females	Total	Males	Females	Total
1999–2000						
Informal	70.70	62.16	69.51	74.39	76.99	74.85
Formal	29.30	37.84	30.49	25.61	23.01	25.15
2011–2012						
Informal	72.45	57.41	70.34	73.7	68.4	72.9
Formal	27.55	42.59	29.66	26.3	31.6	27.1

Source: NSSO, Unit level data, 55th round (1999–2000) and 68th round (2011–12), MoSPI, GoI

Figure 39: Unemployment Rate

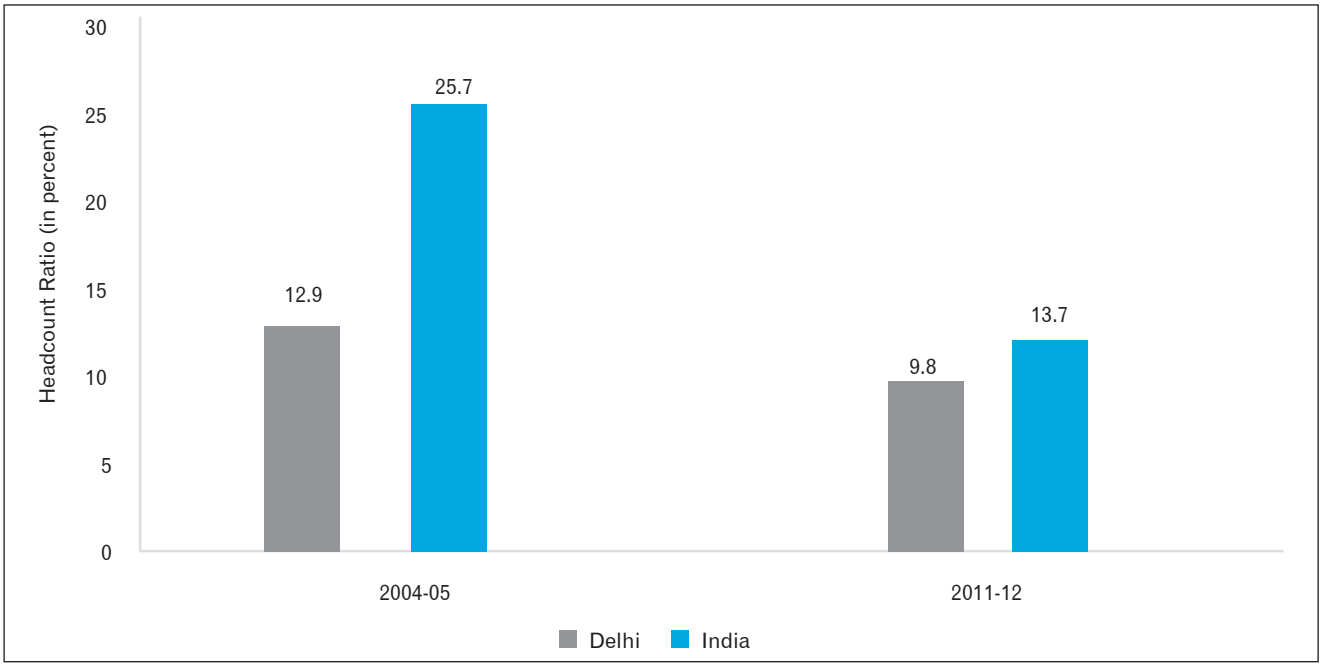


Source: NSSO, Unit level data, 55th round (1999–2000) and 68th round (2011–12), MoSPI, GoI

Poverty Rates in Urban Delhi

The Tendulkar committee (2005) in India estimated the poverty lines for each state based on the consumption expenditure on food and non-food items by households. According to Tendulkar methodology, the headcount ratios (which is the percentage of population below poverty line) in urban Delhi was lower than national average and it has declined from 12.9 per cent to 9.8 per cent during 2004-05 and 2011-12 further indicating exclusionary urbanisation (Figure 40).

Figure 40: Poverty Estimates of Urban Delhi



Source: NITI Aayog, 2017, GoI

EDUCATION SCENARIO IN DELHI

Providing free, equitable and quality primary and secondary education for upward social mobility and social inclusion is the prime focus of the government of NCT of Delhi. Some of the key areas where the government of NCTD has made key interventions are improving school infrastructure, learning outcomes, high quality teachers training, and school pedagogy. The government is striving to develop a 'knowledge economy' and making Delhi an educational hub. It has gradually increased the share of expenditure in education from 18.18 per cent in 2011–12 to 22.94 per cent of the total financial outlay for the annual budget in 2016–17 (Economic Survey of Delhi, 2016–17), which is the highest among the states[6] (Table 44).

Table 44: Expenditure on Education in Delhi

(in per cent)

Years	Share of Education Expenditure in Total Expenditure in Total Budget	Expenditure on Education to GSDP of Delhi
2011–2012	18.18	1.40
2012–2013	18.39	1.40
2013–2014	18.11	1.38
2014–2015	21.19	1.33
2015–2016	21.44	1.46
2016–2017	22.94	-

Source: Economic Survey of Delhi, 2016–17, Planning Department, GNCTD

Institutional Structure and the Role of the Public and Private sector

Both the public and private sectors play a predominant role in imparting education in Delhi. The growing role of the private sector and internationalisation of education is becoming evident with the increasing number of global schools providing education from as early as the pre-primary level.

Government schools in Delhi are usually of primary (classes I to V), middle schools (classes VI to VIII), secondary or higher secondary (classes V to X/XII). Primary schools are managed by ULBs in their areas of jurisdiction. Education beyond the primary level and up to secondary level is under the jurisdiction of the Directorate of Education (Planning Commission, 2008). Aided institutions besides government institutions also include schools receiving grants from religious charities or trusts. Besides the government, there is also a very large and growing unaided sector with almost 51 per cent of all the schools (5,755 schools in Delhi) being managed privately (U-DISE, 2015–16).

Figure 41 depicts the dominance of the private sector across all levels of education (except for senior secondary schools and degree colleges), but their preponderance is noticeable at the higher levels especially in professional courses like medical, engineering and management and other certificate courses. Most of these courses, especially the professional disciplines have an exorbitant fees structure, which drives the private players into the system.

Literacy and School Education in Delhi

The literacy rates in Delhi for both males (90.94%) and females (80.76%) in 2011 was marginally higher than the national average. The overall literacy improved by about 5 percentage points, that of males by 4 percentage points whereas female literacy improved by 6 percentage points during 2001–11 (Table 45). Despite taking several initiatives, Delhi is way behind in achieving universal literacy. This may be attributed to the

[6] *http://aamaadmiparty.org/aap-brings-systematic-changes-to-government-education/accessed on 26/7/2018 at 14:52 hrs*

fact that a large number of the migrant population who form the pool of unskilled and semi-skilled labourers are illiterate. This increases the absolute number of the illiterate population (Delhi Development Report, Planning Commission, 2009). A little more than 70 per cent of the children in the age group of 6–10 years reported having completed their primary education in 2011. A substantial proportion of the population are studying in grades below their age. However, such anomalies decrease at higher levels of education (Table46).

Table 45: Literacy Rates in Delhi

(in per cent)

Literacy Rate	Urban India	Delhi	Urban India	Delhi
	2001		2011	
Total	79.9	81.67	84.1	86.21
Male	86.3	87.33	88.8	90.94
Female	72.9	74.71	79.1	80.76

Source: Population Census of India, 2001 and 2011

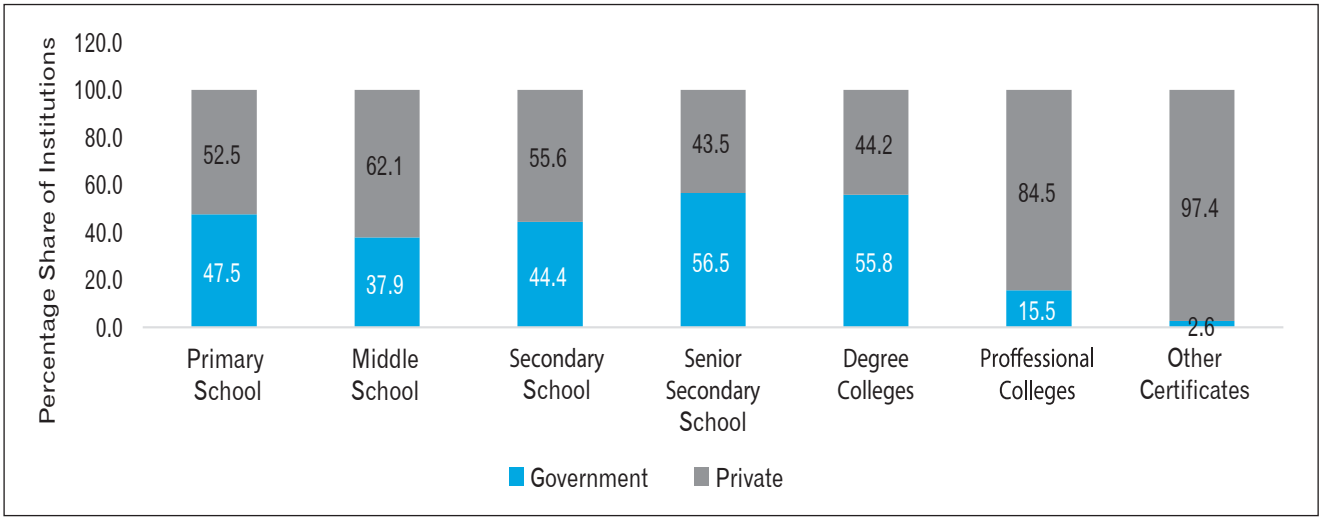
Table 46: Age-Grade Matrix Attending Educational Institutions by Completed Level of Education, 2011

(in per cent)

Age Group (in years)	Below Primary & Primary			Middle			Secondary			Higher Secondary			Graduation and Above		
	P	M	F	P	M	F	P	M	F	P	M	F	P	M	F
6–10	70.30	70.60	69.95												
11–13	81.57	82.30	80.72	10.61	10.03	11.29									
14–15	26.09	27.19	24.77	51.74	51.01	52.60	9.62	9.10	10.24						
16–17	6.62	6.88	6.29	24.20	24.98	23.26	48.23	46.56	50.26						
18–24	1.63	1.72	1.51	2.87	3.14	2.55	7.46	8.24	6.53	18.89	19.00	18.77	10.25	10.16	10.37
25–29	0.02	0.02	0.02	0.01	0.01	0.01	0.03	0.04	0.02	0.57	0.72	0.41	4.74	5.28	4.13

Note: P- Total, M- Males, F- Females
Source: C-11 table, Population Census of India, 2001 and 2011

Figure 41: Percentage Share of Public and Private Educational Institutions in Delhi, 2011



Source: Town Directory, Population Census of India, 2011

A large proportion of the population between the ages of 6–10 years remain out of school (Table 47). Children especially from a deprived socio-economic background still experience difficulty in availing elementary education provisioned under Right to Education (RTE). Moreover, at higher levels of education the incidence of dropping out rises systematically.

Table 47 shows that 83.2 per cent of the children in the ages of 6 to 10 years have reported to be attending school education in Delhi. Nearly 17 per cent students in the 6 to 10 years age group and 12 per cent in the age group of 11–17 years are deprived of formal elementary education. In this context, it may be noted that a large number of the population who do not attend any educational institutions either enter the labour market or get involved in economically gainful activities (Table 48).

Table 47: Age Specific Attendance in Educational Institutions in Delhi, 2011

(in per cent)

Age-Groups (in years)	Males			Females			Total		
	Attending	Attended Before	Never Attended	Attending	Attended Before	Never Attended	Attending	Attended Before	Never Attended
6–10	83.40	1.18	15.42	82.87	1.23	15.90	83.2	1.2	15.6
11–13	93.48	3.13	3.39	93.19	3.13	3.68	93.3	3.1	3.5
14 –15	88.21	7.80	4.00	88.54	7.16	4.30	88.4	7.5	4.1
16–17	79.25	16.10	4.65	80.64	14.60	4.76	79.9	15.4	4.7
18–24	56.07	38.07	5.86	54.80	37.61	7.59	55.5	37.9	6.6
25–29	6.42	86.17	7.41	4.89	80.82	14.29	57.0	83.6	10.7

Source: C-10 table, Population Census of India, 2011

Table 48: Status of Working Population who is out of Educational Institutions in Delhi, 2011

(in per cent)

Age group (in years)	Category of Workers	Attended Before			Never Attended			Total out of Educational Institutions		
		M	F	T	M	F	T	M	F	T
6–10	Main	7.15	2.73	5.08	0.77	0.57	0.68	1.23	0.72	0.99
	Marginal	1.16	0.78	0.98	0.29	0.24	0.27	0.35	0.28	0.32
	Non-workers	91.69	96.49	93.94	98.94	99.19	99.06	98.42	99	98.69
11–17	Main	41.72	7.99	27.11	29.05	9.15	19.73	37.61	8.41	24.61
	Marginal	5.15	1.82	3.7	4.46	1.89	3.26	4.92	1.84	3.55
	Non-workers	53.14	90.19	69.19	66.49	88.95	77.01	57.46	89.75	71.84

Note: T- Total, M- Males, F- Females
Source: C-12A table, Population Census, 2011

Infrastructural Facilities in Delhi

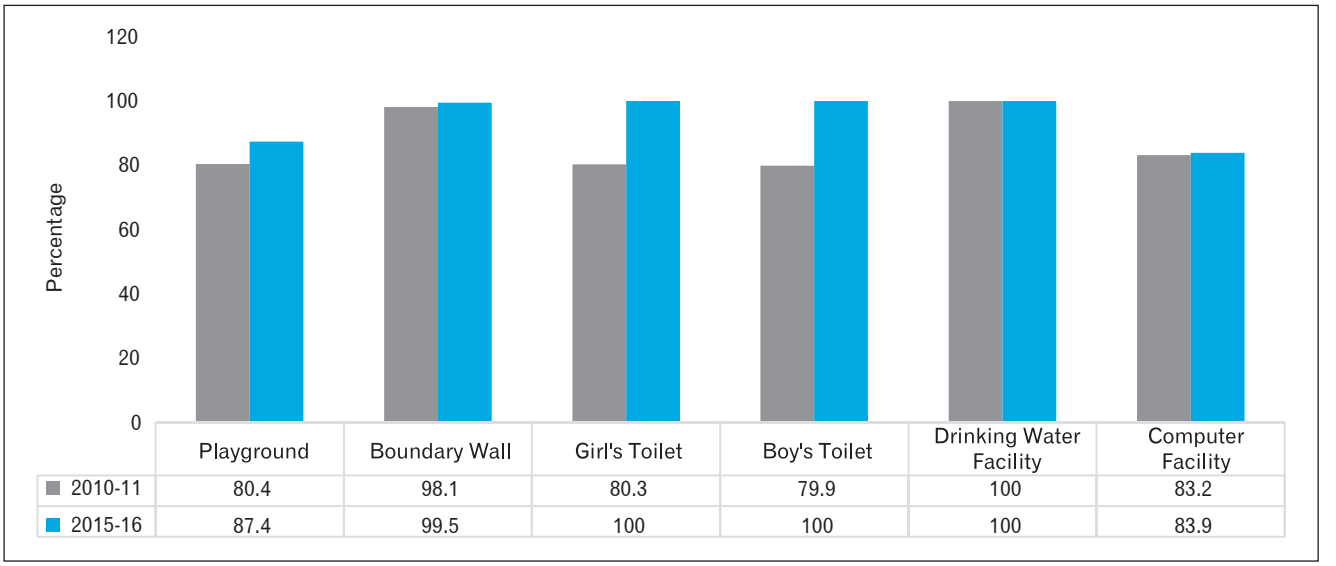
Table 49 indicates that the number of schools per million population has declined, though the absolute number of educational institutions in each category has improved during 2001–11. Of late, the government has been able to provide universal coverage in terms of water and toilet facilities in schools (Fig. 42), which helps in retaining girl children in schools in their adolescent periods (SSHE, Global Symposium, 2004).

Table 49: Number of Schools per Million Population in Delhi

	Primary school	Middle School	Secondary School	Senior Secondary School
2001	270	162	116	86
2011	238	134	106	80

Note: Number of institutions are in per million of population
Source: Town Directory, District Census Handbook, Census of India, 2001 and 2011

Figure 42: Availability of Amenities in Schools of Delhi



Source: Town Directory, Population Census of India, 2011

The performance of Delhi with respect to maintenance of people teacher ratio (PTR) remains slightly better at 22 compared to the all India level of 24. Also, all teachers in primary schools in Delhi were professionally trained (U-DISE, 2015–16). However, with respect to basic facilities like classrooms that directly impact the learning outcomes, Delhi lacks behind the national average. While the student classroom ratio at all-India level is 27, for Delhi the same measure stands at 38. The transition rate for primary to upper primary (2014–15) is 94.6 per cent in Delhi which is higher than the national level (U-DISE, 2015–16). The high transition rate is also due to RTE's no-detention policy.

It can be concluded that Delhi fares well above the national average in most of the indicators. However, strengthening information technology and e-learning facilities and improving the students-classroom ratio will further improve the learning outcomes.

Higher Education in Delhi

Delhi has emerged as a major institutional hub. However, though the number of institutes has increased, the absolute population of Delhi has also increased resulting in decline in the number of institutions per population (Table 50).

Table 50: Higher Educational Institutions per Million Population in Delhi

Year	Degree Colleges	Engineering Colleges	Medical Colleges	Management Colleges	Other Courses
2001	6	2	1		13
2011	5	4	2	2	2

Note: Other courses include mainly vocational courses like polytechnic, shorthand, typing, MS-Office, desktop publishing and others
Source: Town Directory, District Census Handbook, Census of India, 2001 and 2011

Major Welfare Programmes in Education Sector

In order to improve the status of education several interventions have been undertaken by the government. The state government in 2017 announced the launch of three schemes, namely i) free education to all up to class 12, ii) loan for higher studies, and iii) free higher education to students who have received some award for the cause of promoting educating (The Tribune, 2017). The various schemes of the government of Delhi for promoting education are summarised in Box 7.

Box 7: Schemes to Promote Education in Delhi

Target Area	Scheme	Objective
Innovative Learning	Mentor Teachers	Includes a cadre of 200 talented, dynamic and experienced teachers, who have been allocated 5 to 6 schools each to provide academic support to other teachers
	Pragati Supplementary Material'	Developed for teachers to use in the classroom to overcome the problems children face due to their inability to read
	'Chunauti 2018' Reforms	Aims at reducing drop-out rate by taking special measures for each student. Children from classes 6 to 9 are organised into two groups, Nishtha and Pratibha, according to their learning level
Strengthening General School Education	Free Supply of Text Books	Aims to reduce drop-out rate and incentivise those who cannot afford books
	Introducing Primary Classes in All Government Schools	Intended to provide education from class I to XII under one roof Makes private and public systems of education comparable
	Book Bank	Helps EWS students with books to encourage them to continue with education
	Library Improvement	Provides funds to purchase books for different subjects for libraries in schools
	Free Transport Facilities	Encourages girl students to pursue education by providing free transport to schools
	Capital Works for School	Provides pucca or semi-pucca building to schools and strengthens them with other infrastructural facilities
Providing Financial Assistance	Scholarship and Other Financial Assistance	Scholarships given to educationally backward minorities, girls and to meritorious students Reimbursement of tuition fee for EWS admission under Right to Education Act
Strengthening Correspondence Courses	Patrachar Vidyalaya	Caters to the needs of drop-outs, housewives, personnel of armed or paramilitary forces who wish to continue their studies
	State Open Schools in Delhi	Facilitates the attainment of formal education up to class VIII through correspondence
Extension Programme	School Extension Programmes	Encourages science teaching Promotes co-curricular activities Provides education and vocational guidance Promotes population education and gender sensitisation
Schemes for Health and Nutrition	Mid-day Meal programme	Aims to reduce poverty driven drop-outs from school Aims to meet nutritional deficiency of school students Prevents children from consuming unhygienic food
	Rajiv Gandhi State Sports Award	Provides opportunities to young and talented players to learn, train and improve their ability in sports
Others	Other Programmes	Provides computer education in school State awards to teachers

Source: Directorate of Education website- http://edudel.nic.in/welcome_folder/aboutdep.htm

HEALTH SCENARIO IN DELHI

Health being a state subject, the prime responsibility of providing health care is vested with the government of NCTD. However, the preventive and promotional programmes are also designed and financed by the central government. The ULBs implement programmes and functions as stated in the Delhi Municipal Act of 1957 which includes, "establishment and maintenance of dispensaries, maternity and child welfare centres and carrying out of other measures necessary for public medical relief; maintenance including the expansion and upgradation of facilities of the hospitals existing." Delhi also caters to the health needs of the population from neighbouring states which constitutes a considerable patient load.

Institutional Framework of Health Sector in Delhi

A large number of agencies provide health care services in Delhi. In the public sector, the major service providers include the Ministry of Health and Family Welfare under the central government including railways, defense etc., Department of Health and Family Welfare under the state government and the five ULBs. Several charitable institutions, NGOs and a vibrant private sector also provide health care services in Delhi, which are coordinated by the Directorate of Health Services through a set of regulations and guidelines. An amorphous parallel market for health care, operated by unqualified, informal medical practitioners or quacks, traditional healers and therapists also serves the poor.

Health Infrastructure in Delhi

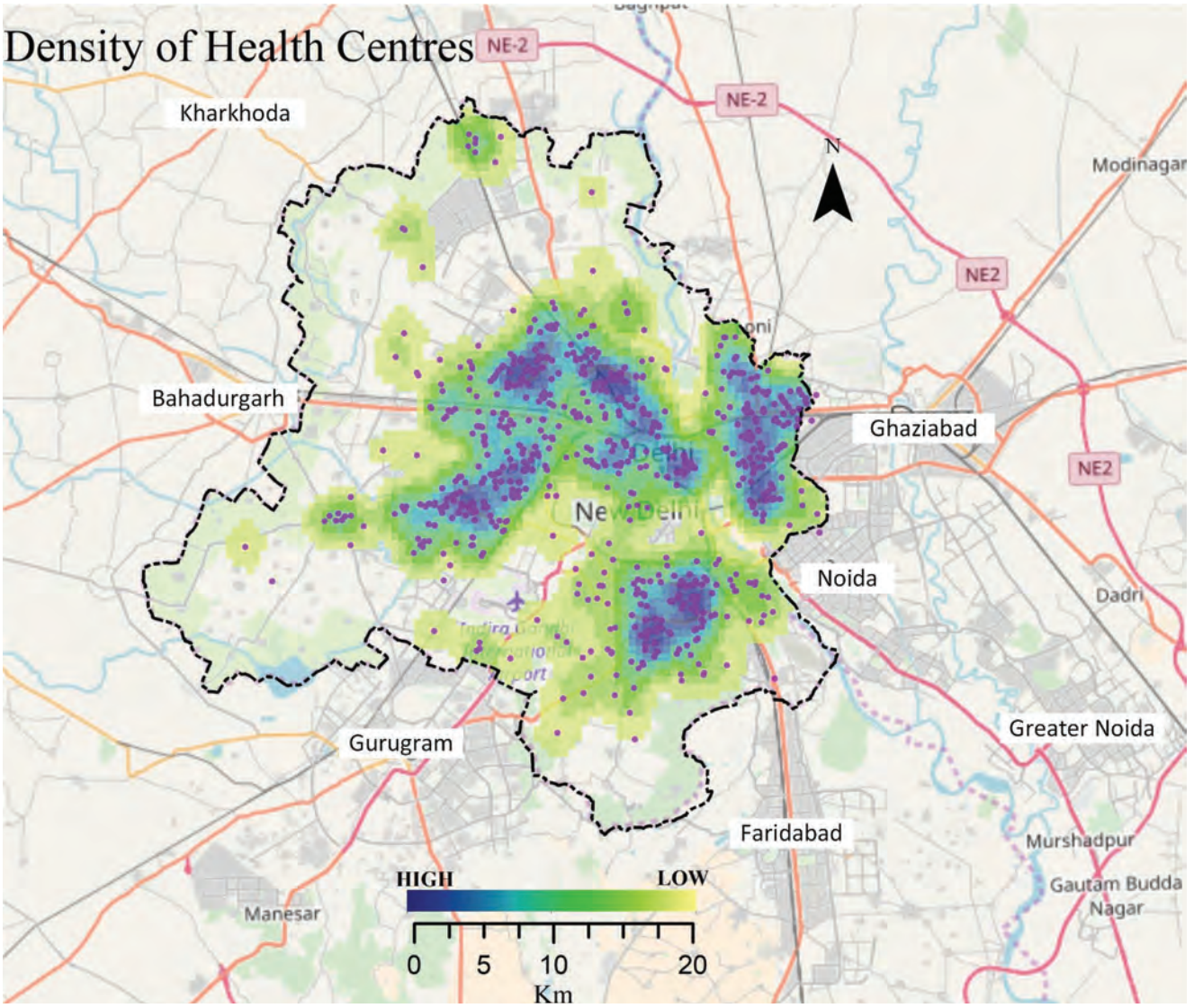
One of the striking features of Delhi's health care sector is the range of quality in available services. On one hand, Delhi is home to globally renowned state-of-art hospitals which attract patients from other countries; on the other, it has unacceptably low-quality hospitals. The extensive network of health care institutes in Delhi city-state, included 94 hospitals, 1,509 dispensaries/PHCs, 265 maternity homes and sub centres, 42 polyclinics, 1,057 nursing homes, 27 special clinics as on 31 March, 2015 (Economic Survey of Delhi, 2016–17). The extensive network of primary health care facilities, which include dispensaries, mobile clinics, school health clinics and PUHCs, has helped to extend the coverage of health facilities to lower socio-economic groups and slum localities, and marked the decline in number of unqualified medical practitioners who were serving these groups of people.

The World Health Organization recommended that the number of beds per 1,000 population should be 5. In Delhi this ratio was only 2.76 in 2015–16 (Economic Survey of Delhi, 2016–17). The situation is under-reported as every day nearly 20,000 patients come to Delhi from neighbouring states. Non-availability of land, shortage of manpower and multiplicity of agencies hinders setting up of new health care institutes at the tertiary level. The density of health provision is higher in the core of NCT Delhi and fades in the periphery (Figure 43).

Investment in Health Care Sector and Per Capita Expenditure

Government investment in the health sector increased significantly at a compound annual growth rate of 13.08 per cent (Table 51), and the per capita expenditure by the Delhi state government by 140 per cent during the last six years, which is three times higher than the national average spending in 2016.

Figure 43: Location of Health Services in Delhi, 2018



Source: Authors' compilation

Table 51: Investment in Health Care Sector and Per Capita Expenditure in Delhi

Year	Total Plan Expenditure of Delhi (Rs million)	Plan Expenditure on Health (Rs million)	% Plan Expenditure on Health	Per Capita Expenditure on Health
2006–2007	50,837.0 (807)	7,205.3 (114)	14.17	–
2009–2010	110,481.4 (1754)	11,308.9 (180)	10.24	1,243.00 (20)
2012–2013	132,375.2 (2101)	15,291.5 (243)	11.55	1,599.00 (25)
2015–2016	149,600.0 (2375)	21,790.0 (346)	14.57	2,999.00 (48)

Note: Figures in parenthesis are USD in million
Source: Economic Survey of Delhi, 2016–17, Government of Delhi

Box 8: Central Health Programmes implemented in Delhi

- National Programme for Control of Blindness (1976)
- Universal Immunisation Programme (1978)
- National Iodine Deficiency Disorder Control Programme (1991)
- Integrated Child Development Services Scheme
- Vector Borne Disease Control Programme (VBDC)
- National Programme for Health Care of the Elderly
- National Tuberculosis Control Programme (2001)
- Integrated Disease Surveillance Project (2005)
- National Programme for Prevention and Control of Deafness (2007)
- National Mental Health Programme (2011)
- National Oral Health Programme (2012)
- National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke
- National Leprosy Eradication Programme
- National AIDS Control Programme
- Reproductive and Child Health (Maternal Health, Child Health, Family Planning, Adolescent Health, Mobile Medical Unit

Innovative Health Programmes in Delhi

Apart from the central government programmes (Box 8), the state government has initiated several schemes which are implemented by the Delhi city-state administration. Some of the innovative programmes are: The Delhi 'Model' of Rational Drug Use; Chacha Nehru Sehat Yojana (School Health Scheme); The Mohalla or community clinic (at neighbourhood level); Delhi Arogya Nidhi and Delhi Arogya Kosh.

Performance of Delhi on Health Indicators

The performance of health indicators in Delhi as indicated by the National Family Health Survey (2015–16) is better compared to the national average in many cases, but some still need immediate attention and action (Table 52). Both the birth rate and death rate in Delhi remains lower at 15.5 and 4.0 (per thousand) respectively, compared to the national average of 17.4 and 6.3 per thousand, indicating better medical care services. However, the under-five mortality rate remains high at 47 (per 1,000 live births) compared to the national average of 34 (per 1,000 live births). Though the share of institutional deliveries is 84.4 per cent, only 37.4 per cent of the women received full ante-natal care. The beneficiary coverage for institutional delivery is also low in Delhi (8%) compared to urban India (21.4%) because of the limited number of UPHCs and ASHA workers. The average out-of-pocket expenditure in Delhi is high at Rs. 8,770 (USD 139) compared to the national average of Rs.3913 (USD 62, Table 52). The unmet needs for family planning remain at 15.8 per cent. However, the total fertility rate (TFR) for urban India (1.8 children per woman) and Delhi (1.7 children per woman) remains below the replacement level of 2.1 children per woman, thereby indicating a slowdown in the growth rate of the urban population (Table 52). Many children in Delhi still suffer from deficiency in nutrition levels. Children with poor nutrition have stunted growth (32.4%) and weight issues (17.2%).

Table 52: Selected Health Indicators of Delhi, 2015–2016

Indicators	India (Urban)	Delhi
(Urban) Vital Statistics (Urban)		
Birth rate* (per thousand)	17.4	15.5
Death rate* (per thousand)	6.3	4.0
TFR (children per woman)	1.8	1.7
Life expectancy at birth** (in years) Male Female	 65.8 69.3	 72.7 75.9
IMR (per 1,000 live births)	29	35
Under five mortality rate (U5MR)(per 1,000 live births)	34	47
Reproductive and Child Health		
Registered pregnancies for which the mother received Mother and Child Care Protection Card (%)	87.7	87.4
Institutional deliveries	88.7	84.4
Birth assisted by a doctor/ nurse/ LHV/ ANM/ other health personnel (%)	90	86.8
Women who had full antenatal care$ (%)	31.1	37.4
Mothers who received financial assistance under Janani Suraksha Yojana# for Institutional delivery (%)	21.4	8.0
Women (15–49 years) who are anaemic (%)	53.0	52.5
Average out-of-pocket expenditure per delivery (Rs) (USD)	3913 (62)	8770 (139)
Total unmet need for family planning (%)	12.1	15.8
Children received full vaccination$$ (%)	63.9	66.2
Nutrition level of children		
Children under 5 years who are stunted (height-for-age) ##(%)	31	32.4
Children under 5 years who are wasted (weight-for-height) ##(%)	20	17.4

*Note: *Data of 2014. ** Figures indicate aggregate (rural+urban) level data*
$ Full antenatal care is at least four antenatal visits, at least one tetanus toxoid (TT) injection and iron folic acid tablets or syrup taken for 100 or more days
$$ Full vaccination includes BCG, measles, and three doses each of polio and DPT for children age 12–23 months
 # Janani Suraksha Yojana is a monetary assistance scheme for pregnant women for institutional delivery
Below -3 standard deviations, based on the WHO standard
Source: National Family Health Survey-4, 2015–16; Sample Registration System 2012–16.

Challenges

The health care system in the Delhi suffers from several structural problems. The existing laws and regulations often lead to overlapping of interventions by multiple agencies. The social determinants of health and living conditions and access to basic amenities – continue to be grossly inadequate in slums, unauthorised colonies and other low-income settlements resulting in risks for public health. There is a lack of integration between various disease control and other programmes in the social sector.

Delhi has to bear with a steady influx of critically ill patients from neighbouring states. Deaths of such 'out-born' infants and 'out patients' get registered on Delhi's account, inflating the mortality indicators. Vector borne diseases such as dengue, malaria and chikungunya are posing a major challenge. Delhi faces severe air pollution caused by vehicles, industries and road dust which leads to many respiratory health problems. This problem has increased with the explosion of cars on the road and in the city. The ambient air quality of Delhi worsens during winters when concentration of large dust particles (PM10) rises to an alarming 1,263 micrograms per cubic metres, which is significantly higher than the safe level.

URBAN GOVERNANCE, DEVELOPMENT AND SERVICE DELIVERY

Urban Governance

The present political and administrative structure of Delhi is the result of the 69th Constitutional Amendment, 1991. Delhi was declared the National Capital Territory (NCT) through the Government of National Capital Territory of Delhi Act, 1991. According to the provisions of this Act, Delhi will continue to be a union territory, but it also provides for setting up of the state assembly for the NCT of Delhi with appropriate powers.[7]

Delhi is characterised by multiple layers of formal governance (Figure 44). The state is co-terminous with Delhi city which has resulted in a two-tier elected governance structure — a state legislature and a municipal corporation— each of which controls a different set of public services. Being a union territory, it is also administered by the President of India through the Lieutenant Governor. The Delhi state government has an elected assembly of 70 members and is headed by a Chief Minister with limited powers, unlike other states. Law and order, police and land are outside the purview of the state government of Delhi.[8]

At the local level, Delhi is governed by five municipal corporations. The former single Municipal Corporation of Delhi (MCD) serving 95 per cent of the area of Delhi with 98 per cent of the total population was trifurcated in 2012. The municipal corporations handle civic services in their respective areas. Each corporation is divided into wards and a councillor is elected as a representative of each ward. The councillors are headed by a mayor who is the executive head. The commissioner, who is a government official, is the administrative head. In Delhi, the responsibility for provision of city planning, land management and urban infrastructure services rests with various parastatal agencies.

Urban Development

In India, urban development is a state subject, but in the case of Delhi, land acquisition and development and housing vests with the Delhi Development Authority (DDA), which is under the central government. Due to the multiplicity of organisations, there is no unified urban development policy in Delhi. Many of the strategies and programmes for infrastructure development are reflected in annual plans which are based on the national Five Year Plans or are extensions of union government programmes. Presently, the city is implementing SCM, AMRUT, SBM and PMAY central programmes for infrastructure development (Box 9).

Service Delivery

In comparison with the national average (urban), the service deliveries in Delhi such as water taps, toilets, drainage facilities and access to electricity are much better as a higher percentage of households in Delhi have access to these facilities. However, the accessibility and availability of basic amenities is much better in the core than the peripheral areas of the city. Discussions with city officials reveal that slum dwellers largely draw water from public standposts in the city. Water is available for short durations, at a low pressure, and the supply is erratic. Moreover, the number of persons dependent on public standposts is high, resulting in long queues and hours of waiting.

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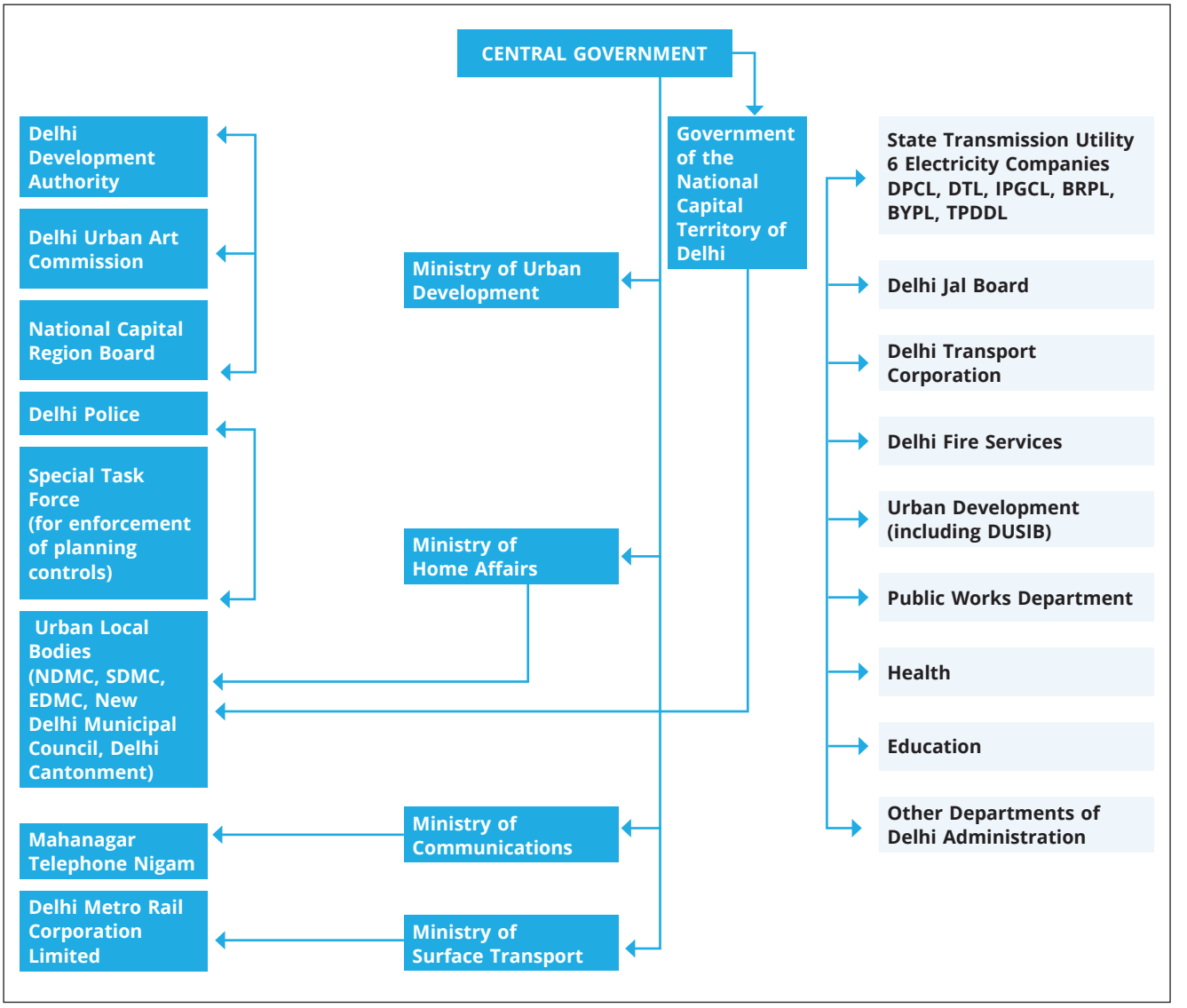
[7] *Article 239AA was inserted by the 69th Amendment Act, 1991. This article provides special provisions for the union territory of Delhi. After the 69th Amendment Act 1991, w.e.f February 1, 1992, the UT of Delhi was called National Capital Territory of Delhi. The administrator of the NCT is appointed by the President as Lieutenant Governor. Via Article 239AA, a legislative assembly for NCT of Delhi was also provided. The power to decide the number of seats and reservation of the seats was vested in parliament. With this, Delhi became a state and the constitutional provisions with regard to elections (Article 324-327 and 329) became applicable in NCT. Since then, Delhi has been struggling for the status of a full-fledged state of India.*

[8] *In other states these subjects are under the purview of the state government*

Figure 44: Institutional Structure in Delhi



Source: Authors' compilation

Table 53: Access to Basic Amenities: India and Delhi

(in per cent)

Basic Amenities	India (Urban)		Delhi	
	2001	2011	2001	2011
Access to tap water	68.7	70.6	77.0	81.9
Access to water within premises	65.4	71.2	75.8	78.8
Access to toilet within premises	73.7	81.4	79.0	90.0
Access to sewerage	N.A.	32.7	NA	60.5
No toilet within premise	26.3	18.6	21.0	10.1
Access to bathroom facility within premises	70.4	87.0	71.7	91.3
Access to drainage	77.9	81.8	91.0	96.0
Access to electricity	87.6	92.7	93.4	99.1

Note: Water sources constituting tap water, well, hand-pump, tubewell/ bore well are considered as safe sources
Source: Population Census of India, 2001 and 2011

Box 9: Major Urban Development Programmes in Delhi (Ongoing)

Smart City Mission (SCM)

Only one ULB, New Delhi Municipal Council has been selected under the Smart Cities Mission. The New Delhi City Centre consisting of Connaught Place (CBD) and contiguous surrounding areas of 550 acres, has been selected for undertaking the retrofitting model of development. The area comprises important commercial areas, heritage areas, international institutions, embassies, park and religious areas. The area-based plan leverages ICT interventions in the physical, social infrastructure and smart governance to improve liveability. Under Pan City Smart Solutions, New Delhi envisages leveraging ICT interventions to address the issues of water, power, education, health care and governance by utilising M2M & IOT technologies in e-governance, smart grid and energy management, smart water and wastewater management, smart education and health.

Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

Delhi has been divided into four AMRUT cities, i.e. NDMC, SDMC, EDMC and New Delhi Municipal Council. Under the AMRUT mission, Delhi proposed to undertake 25 projects worth Rs 8,023.1 million. The projects worth Rs 3,431 million is approved for water supply, Rs 4,311 million for sewerage, Rs 79 million for drainage and Rs 202 million for green spaces.

Swachh Bharat Mission (SBM)

Under SBM, it is proposed to build 0.12 million household toilets, 2,357 community toilets, and 9,157 public toilets for which Rs 403 million has been released.

Prime Minister Awaas Yojna (PMAY)

Delhi has targeted 4,007 households to benefit under PMAY with a total investment of Rs 7422.9 million.

The availability of toilet facilities has improved from 79.0 per cent in 2001 to 89.8 per cent in 2011. The access to sewerage was found to be quite high in Delhi (60.4%). The share of households using public toilets was 7.1 per cent and 3.0 per cent households practised open defecation. Except for North DMC, all the four ULBs were declared as open defecation free in 2017. Almost all houses had access to electricity. Access to drainage and bathroom stood at 96.0 per cent and 91.3 per cent respectively.

The distance between source of water and destination increases the cost of water supply. The line loss of treated water is around 30 per cent and non-revenue water is around 50 per cent. Excessive drawing of water from underground tubewells has resulted in depletion of ground water. The water tariff is based on the principle of "use more pay more", but all domestic consumers of Delhi Jal Board consuming water up to 20 KL per month and having functional water meters are exempted from payment of water bill.

The total solid waste generation in Delhi is around 8,500 tons per day. The collection and disposal of municipal solid waste is carried out by the respective ULBs with the total number, of dhalaos (landfills), metallic bins and open sites estimated at around 2,500. The total staff available for carrying out the task is in the ratio of 1:216 for East, North and South MCDs and 1:326 persons in NDMC, which is better than the prescribed norms of 1:500 (CPHEEO). The ULBs incur considerable expenditure (16%) in managing solid waste in Delhi.

State of Housing

About one-third of Delhi lives in sub-standard housing, which includes 695 slums, 1,797 unauthorised colonies, old dilapidated areas and 362 urban villages. These areas often lack safe, adequate housing and basic services (Economic Survey of Delhi 2017–18). Despite the challenges of population growth, migration and lack of land availability, housing stock increased in Delhi from 1.7 million in 1991 to 3.1 million in 2011.

Housing quality in Delhi city-state, as revealed by the Census 2011 data, was slightly better than that of average urban India (Table 54). This was mainly because of the various interventions undertaken as a part of JNNURM and RAY projects and also due to initiatives taken by DDA for EWS and LIG population. A large number of households (32.5%) had one room or no exclusive room in Delhi in 2011."[9]

Table 54: Distribution of Households by Quality and Number of Rooms in Delhi

(in per cent)

		2001		2011	
		2001	2011	2001	2011
Quality of Housing	Good	64.2	60.3	68.5	67.6
	Liveable	32.2	34.2	28.6	29.7
	Dilapidated	3.6	5.5	2.9	2.7
No of Rooms per House	No exclusive room	2.3	0.9	3.1	1.3
	One room	35.1	37.8	32.1	31.3
	Two rooms	29.5	26.9	30.6	29.7
	Three/four rooms	25.8	27.3	27.7	31.3
	Five+ rooms	7.3	7.1	6.5	6.5

Note: The quality of housing is as per Census of India classification
Source: Population Census of India, 2001 and 2011

The share of rental housing in Delhi (27.9%) is at par with urban India (27.6%). The housing shortage estimated was 0.5 million or 2.6 per cent of the total housing shortage of India. The severity of the housing shortage in Delhi can be assessed through the facts exhibited in Table 55.

Table 55: Residential Housing Stock and Housing Inadequacy in Delhi

	Total Housing Stock (million)		Vacancy Rate		Rented (%)		Congestion Factor (%)	
	2001	2011	2001	2011	2001	2011	2001	2011
India (Urban)	71.56	110.14	9.02	10.07	28.53	27.55	34.74	35.20
Delhi	2.77	3.69	10.28	9.74	26.17	27.99	35.28	30.08

Source: Population Census of India, 2001 and 2011

Slums in Delhi

In Delhi the formation of slums was observed even before Independence primarily due to the flow of migrants from neighbouring states for livelihood and employment. As per Census 2011, 11 per cent of the population resided in slums in Delhi. The level of services is far from satisfactory in slums in Delhi (Table 56).

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[9] *Percentage of households having more than 2 members living in no exclusive room or just one room*

[10] *Tax revenue covers the receipts under state taxes/Value Added Tax, stamps and registration fees, state excise and motor vehicle tax*

[11] *Non Tax Revenue mainly comprises interest receipts, dividend and profit from investments and service charges/fees/fines etc*

[12] *Grants-in-Aid from the centre include discretionary grants in lieu of a share in central taxes, grants for specific purposes depending upon the policy of the government of India, and scheme/project grants as central assistance including grants-in-aid for centrally sponsored schemes, JNNURM, AMRUT etc.*

Table 56: Access to Basic Amenities in Slums of Delhi , 2011

(in per cent)

Basic Amenities	India (Urban)	Delhi
Access to tap water	74.0	84.3
Access to water within premises	56.7	48.1
Access to toilet within premises	66.0	50.1
Use of public toilet	15.1	37.4
Open defecation	18.9	12.5
Access to bathroom facility within premises	81.0	59.0
Access to drainage	81.2	94.3
Access to electricity	90.5	97.3

Source: Population Census of India 2011

URBAN FINANCE IN DELHI

State Finance

Delhi is a prosperous state with the second highest per capita income in India. The Government of NCT of Delhi's (NCTD) revenue receipts consist of tax revenue[10], non-tax revenue[11] and grants-in-aid[12] from the central government. The tax revenue accounts for 91 per cent of the NCTD's total revenue receipts (Economic Survey of Delhi 2017–18).

Unlike other states in India, the NCTD is not covered under the recommendations of the Fourteenth Central Finance Commission[13] (14th CFC), therefore, NCTD does not receive its share from central taxes or grants-in-aid for its five ULBs on account of basic and performance grants nor grants for calamity relief etc. NCTD only receives discretionary grants in lieu of a share in central taxes which has remained stagnant at Rs. 3,250 million (USD 52 million-) since 2001–02. On the other hand, as per the constitutional requirement, the NCTD is making devolution of funds to its five ULBs based on the recommendations of the Delhi Finance Commission being set up every five years.

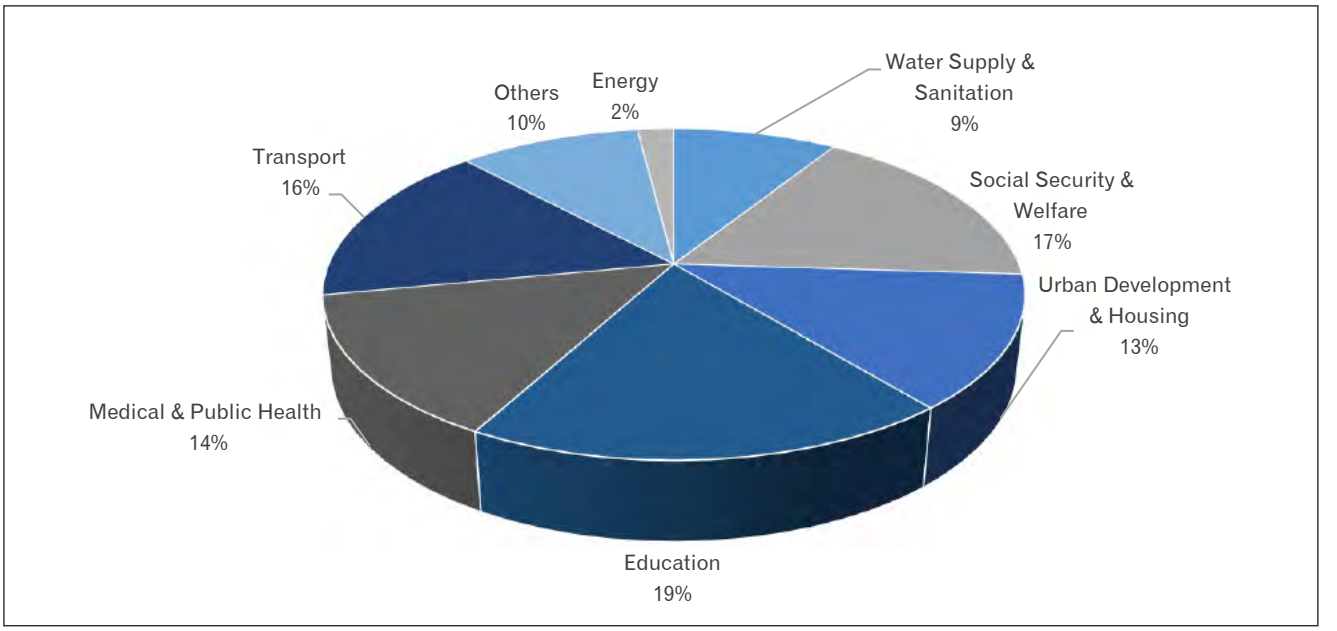
Table 57: Outlay and Expenditure of NCTD

Plans	Plan Outlay (Rs million)	Total Expenditure (Rs million)	% of Expenditure to Plan Outlay
Seventh Five Year Plan 1985–1990	25,373.4 (403)	26,314.7 (418)	103.71
Eighth Five Year Plan 1992–1997	45,000.0 (714)	62,083.2 (985)	137.96
Ninth Five Year Plan 1997–2002	155,412.8 (2467)	134,650.9 (2137)	86.64
Tenth Five Year Plan 2002–2007	230,000.0 (3651)	226,460.0 (3595)	98.46
Eleventh Five Year Plan 2007–2012	547,991.5 (8698)	534,788.6 (8489)	97.95
Twelfth Five Year Plan 2012–2017	900,000.0 (14286)	704,970.4 (11190)	78.33

Note: Figures in parenthesis are USD in million
Source: Economic Survey of Delhi, 2017–18

[13]Under Article 280 of the Indian Constitution, the Central Finance Commission is formed every five years to define the financial relations between the central government and state governments

Figure 45: Sectoral Allocation for Schemes and Projects in Delhi, 2017–2018



Source: Economic Survey of Delhi, 2017–18

As per the provision of the Government of NCTD of Delhi Act, 1991, a consolidated fund, separate from that of the central government was constituted in 1993. All revenue and capital receipts of the state government are being credited in this fund. Financing of schemes and projects in Delhi is also done from the plan outlay of the central government. The government of NCTD is not permitted to avail market borrowing, negotiated loan etc. for financing its development projects. The approved plan outlay and expenditure of the government of NCTD under various Five Year Plans (FYP) is presented in Table 57.

Figure 45 reveals that the education sector received the maximum share of allocation (19.1%) from the total allocated cost of schemes and projects in 2017–18 followed by social security and welfare (16.7%), transport (16.5%), medical and public health (14.2%), and housing and urban development (12.8%).

Municipal Finance

This section makes a limited analysis of the state of local finances in Delhi. Data on capital income-expenditure and total revenue of local bodies was not available. Therefore, the analysis is limited to total revenue income and expenditure.

Share of tax and non-tax revenue in own revenues of the municipalities

Non-Tax revenues contribute almost 25 per cent of the own revenue receipts of the MCDs, but around 80 per cent, in case of NDMC and DCB, as the data in respect of 2015–16 presented in Table 58 would indicate.

Table 58: Share of Tax and Non-Tax Revenues in Own Revenues of the ULBs of Delhi, 2015-16

Items	MCD-East	MCD-North	MCD-South	NDMC	DCB	Total (1+2+3+4+5)
Total Tax Revenues (Rs. million)	5,870	13,570	18,090	5,210	220	42,900
(in USD)	93	215	287	83	3	681
Total Non-Tax Revenue (Rs. million)	1,820	4,630	6,610	22,950	850	36,860
(in USD)	29	73	105	364	13	585
Total Own Revenue (Rs. million)	7,690	18,150	24,690	28,160	1,070	79,760
(in USD)	122	288	392	447	17	1,266
Share of Tax Revenue (%)	76.3	74.5	73.3	18.5	20.4	53.8
Share of Non-Tax Revenue (%)	23.7	25.5	26.7	81.5	79.6	46.2

Note: Figures in parenthesis are USD in million
Source: Budget documents of the ULBs concerned

ULBs are required to incur expenditure on their obligatory and discretionary functions, as described under their respective Acts. Table 59 shows that for the MCDs, sanitation is the single largest item of expenditure accounting for 20–25 per cent of their total expenditure. This is followed by education, public works (including roads), general administration and medical and public health. These five heads account for around 80–85 per cent of the total expenditure of the MCDs. For the NDMC, electricity and water supply and general administration and for the DCB investment (usually in bank fixed deposits) account for the majority of their expenditure.

Table 59: ULBs Wise Expenditure Pattern in Delhi During 2012–2016

Items	East DMC	North DMC	South DMC	New Delhi MC	DCB	Total
Total Expenditure (Rs. million)	67,520	146,940	129,970	106,890	38,310	489,620
In USD million	1,072	2,332	2,063	1,697	608	7,772
Expenditure on Various Items (in Percentage)						
General Administration	12.5	10.0	12.0	26.1	0.4	13.6
Licensing	0.1	0.1	0.04	0.02	–	0.04
Community Services	1.7	2.2	–	–	–	0.89
Education	21.9	19.0	18.8	5.1	1.2	14.9
Medical & Public Heath	9.4	15.5	5.6	3.8	1.4	8.4
Sanitation	25.6	20.8	21.2	3.6	2.6	16.4
Public Works (Engineering)	18.2	18.2	22.5	4.4	5.1	15.3
Veterinary	0.3	0.4	0.4	0.1	–	0.3
Horticulture	2.4	3.0	3.8	2.9	1.0	3.0
Land & Estate	0.3	0.2	0.11	1.0	–	0.3
Exclusive Development Expenses	1.1	2.6	6.8	–	–	2.7
Loan Repayment	5.3	6.0	7.7	–	–	4.6
Resettlement Colonies	1.3	2.1	1.0	–	–	1.1
Other Expenditure*	–	–	–	53.1	88.3	18.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: Other Expenditure includes, in case of DCB: Collection of Revenue, Public Safety and Convenience, Water Supply, Epidemics, Public Institution, Contribution of General Purposes, Pension Gratuities, Annuities, Extraordinary Debt, Miscellaneous; and, in case of NDMC: investment made by NDMC
Source: ULBs concerned (August 2017).

CONCLUSION

Delhi, the capital city of India, has developed in multiple phases. The conglomeration of old and new settlements, each having a distinctive characters' make Delhi as a unique city. The level of urbanisation in Delhi consistently increased from 1901 to 2011 (except 1991). The city experienced highest urban growth in 1951 because of the influx of refugees from Pakistan to India after the partition in 1947. Thereafter, the urban growth in Delhi declined with a slight increase in 2001. The urban migration in state of Delhi increased between 1993-94 and 2007-08 mainly because of female migration. However, male migration has declined sharply which could be explained by the exclusionary urban policies in Delhi towards migrants in last two decades. Delhi has a strong economic base and plays an important role in national economy. It contributed 4.08 per cent in the total GDP figures of India in 2016-17 (as per advance estimates) which is mainly driven by tertiary sector. The per-capita income in Delhi was highest among all states/UTs in 2014-15.

Delhi is gradually transforming to a knowledge-based city. The government of NCT of Delhi is thriving to develop a "knowledge economy" by making Delhi as an education hub. Delhi is witnessing a growing number of global private schools. The city has better educational infrastructure as compared to other states. The literacy rate in Delhi is marginally higher than the national average. Despite the efforts taken by government of NCT of Delhi in last decade, the city-state of Delhi is facing many challenges to provide quality, universal and inclusive education to the city population such as difficulty in availing elementary education and high incidence of dropout among children of urban poor.

Delhi has an extensive network of health facilities. The density of the health facilities is higher in the neighbourhoods located in the core of the NCT of Delhi. However, in peripheral areas, the presence of health facilities are very limited. The per capita public health expenditure by government of Delhi is three time higher than the national average. Apart from the national health schemes, the state government of NCT of Delhi launched several innovative health programmes to improve the health outcomes of which 'Mohalla Clinic' is an important initiative to providing healthcare at neighbourhood level. The steps taken by government of NCT of Delhi is reflected in the health outcomes of urban Delhi, which are better than the national average.

In comparison to national average (urban), the service deliveries in Delhi such as water tap, toilets, drainage facilities and access to electricity are much better as the higher percentage of households in Delhi have access to these facilities. The housing conditions in Delhi has also improved in last decade but high congestion and shortage of housing for poor still remain a challenge for the policymakers in Delhi. Delhi is one of the cities in India where dedicated efforts were made by policymakers to prepare Master Plans. A total of three Master Plans (1962, 1981 and 2001) were prepared by DDA to achieve a balanced and sustainable urban development.

Systematic planning through Master Plans has failed to ensure planned development as built-up areas exceeded the prescribed limits in an unplanned manner. Air pollution and unprecedented increase in the number of cars in Delhi are challenges which need to be addressed. A holistic and integrated development approach and coordination among different stakeholders is essential to make Delhi a global city which could become a role model for its standards of education and healthy living in India.

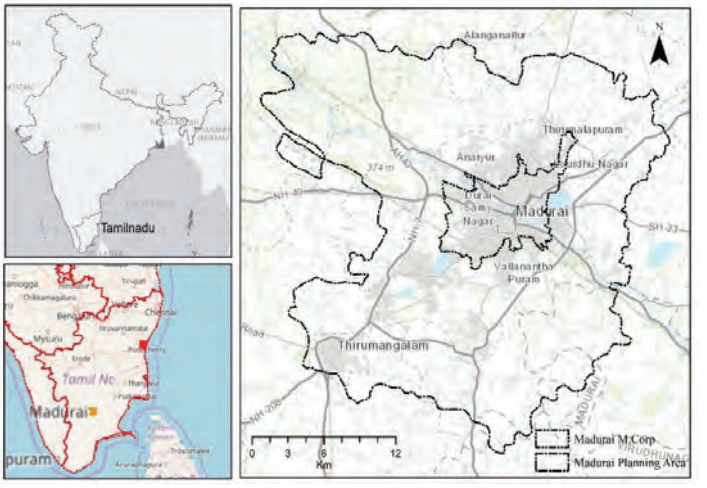
City Profile:
Madurai

MADURAI

INTRODUCTION

Madurai, a cultural centre situated on the banks of the River Vaigai, has been selected for the present study from the state of Tamil Nadu located in southern India. The city was built around the famous Meenakshi Amman temple, which still plays a pivotal role in its development and also explains its popularity as a 'Temple City'. The temple is at the core of the city around which it has expanded. The development beyond the temple area mainly took place during the British period. This heritage city is one of the regional economic centres of south India and linked by rail, road and air to all other major cities in the country. It has also been a centre of learning for Tamil culture, literature, art, music and dance for centuries. According to the Population Census of India, 2011, Madurai is the third largest city of Tamil Nadu (Figure 46) with a municipal corporation since 1971, the boundary of which expanded in 2010. Given the importance of Madurai city in the regional economy, the present paper tries to highlight its physical, economic and social characteristics and examines the policy documents and programmes related to the development of the city. It brings out the gaps and challenges in different sectors and assesses the efforts made by the city administrators, planners and policy makers to redesign the urban space to ensure inclusive growth and development.

Figure 46: Regional Setting of Madurai



Source: Authors' Creation

In the ten sections on Madurai, following the introduction, the second section discusses a brief evolution of the city. Sections three and four deal with the demographic dynamics and migration pattern of the city. Section five elaborates on its spatial growth using satellite images to depict the temporal change in land use and land cover of Madurai. Section six discusses the economy of the city. Sections seven and eight examine the policies and programmes related to health and education along with emerging challenges in these two sectors. Section nine overviews urban development, governance and existing urban infrastructure, identifies

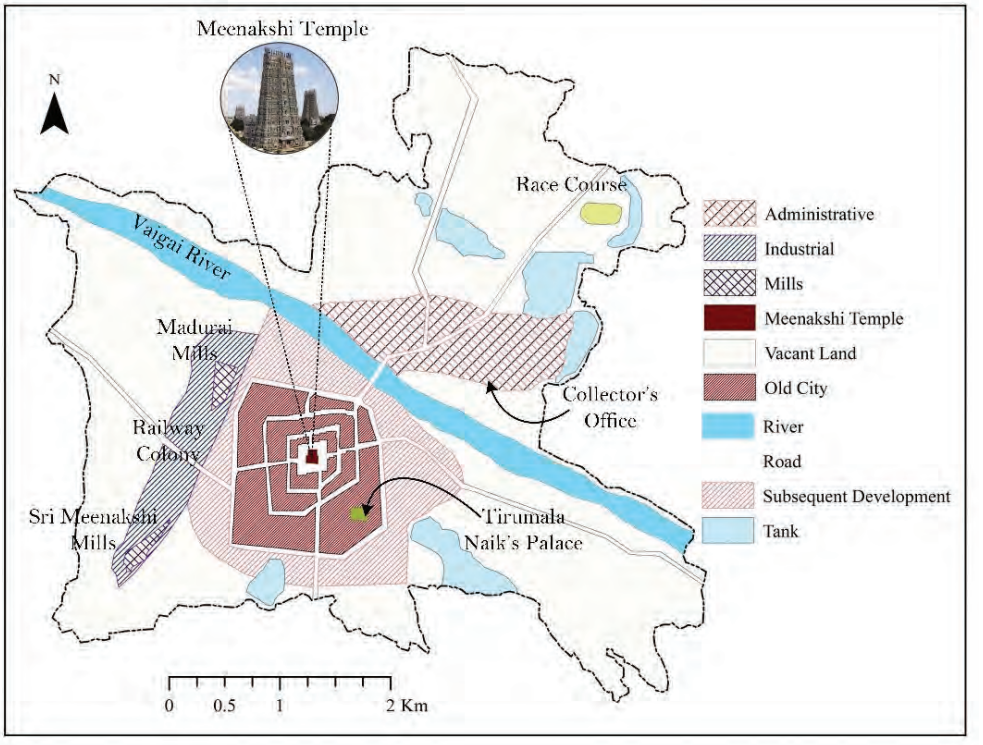
their gaps and challenges including an assessment of the condition of slums in Madurai. The last section concludes by highlighting the important findings, challenges and delineates a way forward.

HISTORICAL EVOLUTION OF MADURAI

Ancient texts[1] and inscriptions[2] suggest that Madurai emerged as a sacred centre and a place of political power before the 3rd century BC. The continuity in its urban form as a fortified city spanned over several centuries through which the city witnessed changes in the ruling authority from the Tamil Pandyas to the Telegu speaking Nayakas. The strategic location of Madurai, on the banks of the Vaigai river, was the main reason for its growth in the ancient period, because the river not only served as a natural defence but also provided an important waterway for trade and commerce. Madurai was the capital of the Nayaka kingdom between 1529 to 1736 which spread across the entire state of present day Tamil Nadu and it also acted as a business centre during this time. Ivory, pearl and clothes were the main items exported from here through waterways. In the 16th century, the Meenakshi Amman temple was built in Madurai based on the sacred geometry of the Vaastu Shastra[3] (Smith,1976) which has influenced the present day morphology and growth of the city.

The surrounding area of the temple was developed in four concentric squares, keeping the Meenakshi temple in the centre. The city's axes were aligned within the four quarters of the magnetic compass, and the four gateways of the temple provided access to it (Figure 47). Wealthy and upper class families were housed in streets close to the temple, while the poor were housed in the fringe streets (Lewandowski, 1977).

Figure 47: Map of Madurai, 1937



Source: Recreated from Lewandowski, 1977

[1] *There is mention of trade between Madurai and Mauryan empire of north India in Kautilya's Arthaśāstra (4th century B.C.)*

[2] *Ashoka's inscription (3rd century B.C.) described the Pandyas, Cheras and Chola kingdoms of Madurai*

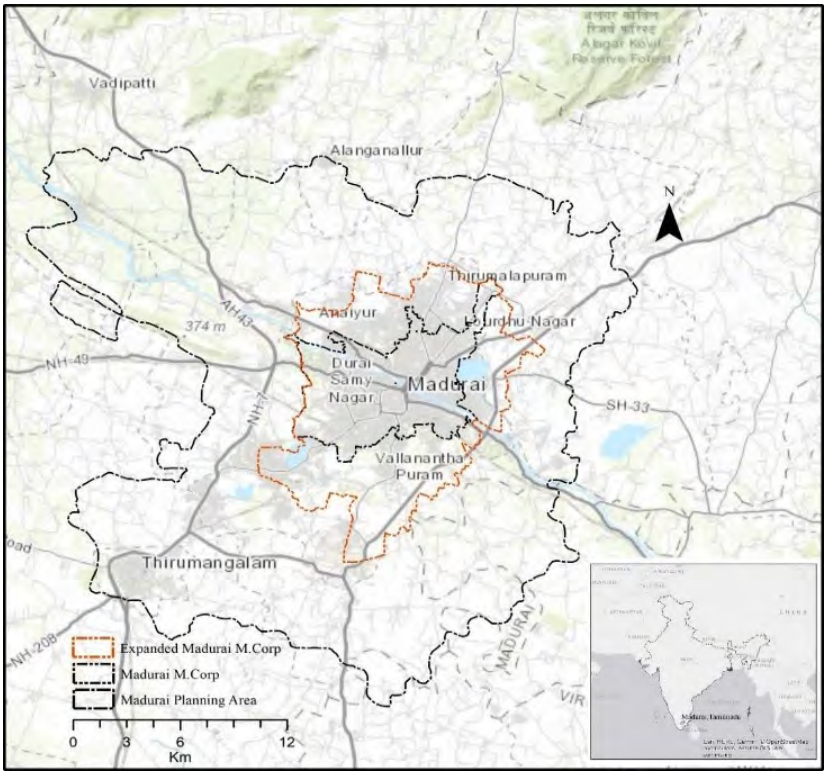
[3] *Sacred geometry, which defines the layout of any area, involves elements of both ritualism and architecture*

With the advent of the British (1801), the spatial form of Madurai metamorphosed. The old fortifications were pulled down to make way for the present day Veli Street, a broad avenue circumscribing the city. Railways and bridges were constructed which intersected the city and new settlements were developed on its outskirts. Since then, Madurai no longer retains the centrality concept in planning; this has been replaced by the concept of functional zoning.

TREND IN THE DEMOGRAPHY OF MADURAI

Madurai city is part of the Madurai Urban Agglomeration (UA) which comprises one municipal corporation (MC)[4], three municipalities[5], six census towns[6] and four town panchayats[7] (Census 2011). In 2010, the jurisdiction of Madurai Municipal Corporation (MMC) expanded to include all the constituents of Madurai UA except Paravai town panchayat and Nilaiyur census town. The MMC area increased from 51.82 sq. km to 147.99 sq. km with an increase in the number of wards from 72 to 100. Unfortunately, this change is not reflected in the data provided by the Population Census of 2011, which covered 72 wards only. Table 60 shows that in absolute numbers, the population of Madurai city (Municipal Corporation.) increased from 0.36 million to 1.02 million during 1951–2011. In 1951, Madurai city covered 97.60 per cent population share of Madurai UA, which systematically declined over the decades to 69.40 in 2011 (Table 60) indicating a saturation in the core city and a spillover of population in the peripheries.

Figure 48: Map of Madurai, 2011



Note: Present jurisdiction of Madurai Municipal Corporation is marked by orange line
Source: Authors' creation

[4]*Madurai (M.Corp.)*

[5]*Avaniapuram (M), Anaiyur (M) and Thiruparankundram (M)*

[6]*Melamadai (CT), Kannanendal (CT), Vandiyur (CT), Chinna Anuppanadi (CT), Nilaiyur I Bit (CT) and Nagavakulam (CT)*

[7]*Vilangudi (TP), Paravai (TP), Thirunagar (TP) and Harveypatti (TP)*

Table 60: Population and Growth Rate of Madurai

Years	Madurai UA		Madurai Corporation		% Share of Madurai Municipal Corporation in UA
	Total Population	AEGR	Total Population	AEGR	
1951	370,791	4.15	361,781	4.14	97.60
1961	490,882	2.81	458,981	2.38	93.50
1971	701,904	3.58	633,989	3.23	90.30
1981	899,303	2.48	820,891	2.58	91.30
1991	1,077,158	1.80	940,989	1.37	87.40
2001	1,203,095	1.11	928,869	-0.13	77.21
2011*	1,465,625	1.97	1,017,865	0.91	69.40
2011**			1,470,821		

*Note: * Before expansion of Municipal Corporation boundary; ** After expansion of boundary; AEGR – Annual Exponential Growth Rate*
Source: Census of India, 2001, 2011 (A4 series)

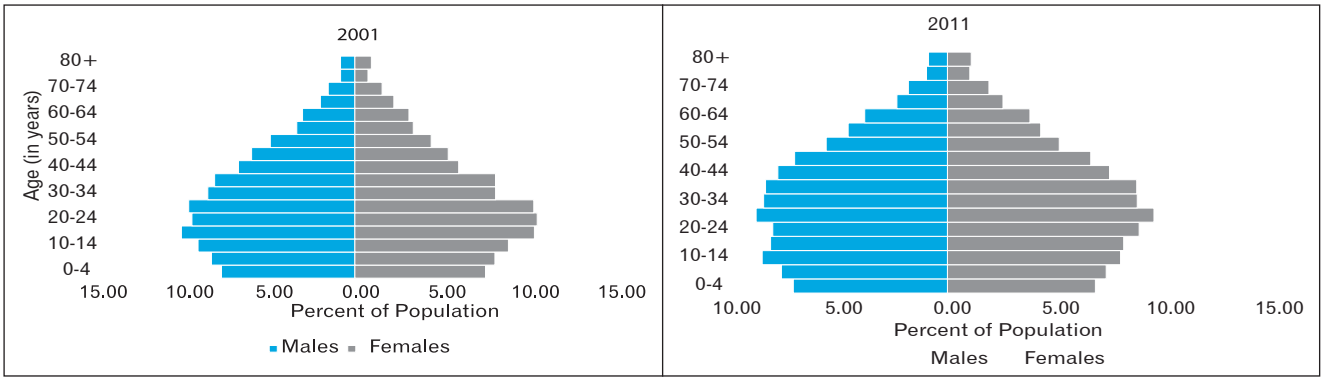
The MMC boundary expanded for the first time in 2010. Discussions with the city officials revealed that the high density in the core area and increase in the real estate prices over time has resulted in the movement of the population to the city periphery in the last few decades. This prompted the MMC to expand the city corporation boundary to include peripheral areas within the corporation (Figure 48).

Despite a declining trend in the demographic growth rate of Madurai city and the UA in the first few decades after Independence, it was still higher than the state average. This was because the emergence of industrial units and educational centres in Madurai during 1951–81 attracted migrants from neighbouring districts of Ramanathapuram, Theni, and Virudhnagar.8 However, during the last two census decades, the city has witnessed a sharp decline in the growth rate of the urban population. The migration pattern has changed and currently people are migrating from Madurai to Chennai, Bengaluru and Coimbatore in search of better employment and education opportunities which could explain the decline in population of Madurai city and the UA.

Age-sex Composition

Madurai is witnessing a demographic dividend. In both 2001 and 2011 the working age (15–59 years) population in Madurai was high as compared to children and old age groups. However, a comparison of age-sex pyramids shows that in 2001 the working population of Madurai city in 15–19 to 30–34 years age-groups was higher as compared to 2011 (Figure 49). The decline in these age groups during 2001–2011 could have been because of the decline in the employment related in-migration in the last two decades accompanied by out-migration of this age group to neighbouring districts in search of jobs. The decline was more among females as compared

Figure 49: Age-Sex Structure of Madurai, 2001 and 2011



Source: C-Series, Population Census of India, 2001 and 2011

[8] *http://www.Maduraicorporation.co.in/socio-economis-resource-profiling.html accessed on 27.04.2018*

to males. The share of child population in Madurai had declined which could be because of the decline in the total fertility rate below replacement level. In contrast, there was a slight increment in the percentage share of the elderly population (60+ years of age) in Madurai due to improvement in health facilities in the city. In 2011, the sex ratio in Madurai city improved to 999 from 979 in 2001. In contrast, the child sex ratio in Madurai city declined from 953 in 2001 to 949 in 2011, indicating son preference which is also evident at the macro level.

MIGRATION SCENARIO IN MADURAI

Trends

In the absence of city level data on migration, the analysis has been done at district level. Table 61 shows that in the last two decades, overall in-migration in Madurai district has declined more in rural areas as compared to urban. The gender-wise migration pattern shows that female migration in Madurai was higher as compared males in both rural and urban areas.

Table 61: Internal Migration Rate in Madurai

(in per cent)

Year	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1999–2000	10.95	36.10	23.45	17.38	35.86	26.13	13.81	36.00	24.61
2007–2008	3.05	33.23	18.90	9.25	16.83	13.28	6.77	23.29	15.51

Source: NSSO Unit Level Data of 55th round (1999-2000) and 64th round (2007–2008), MoSPI, GoI

Reasons for Migration

Employment related migration was the main reason for male migration to urban areas of Madurai followed by associational migration. Marriage related migration was the main reason for migration of females to urban areas followed by associational migration, as in the Indian system, females have to move to the husband's place after marriage. The employment related migration of males declined sharply from 60 per cent in 1999–2000 to 42.70 per cent in 2007–08 (Table 62). Likewise, the share of the employment related migration of females also declined from 5.37 per cent to 1.14 per cent during the same period.

Table 62: Reasons of Migration in Madurai

(in per cent)

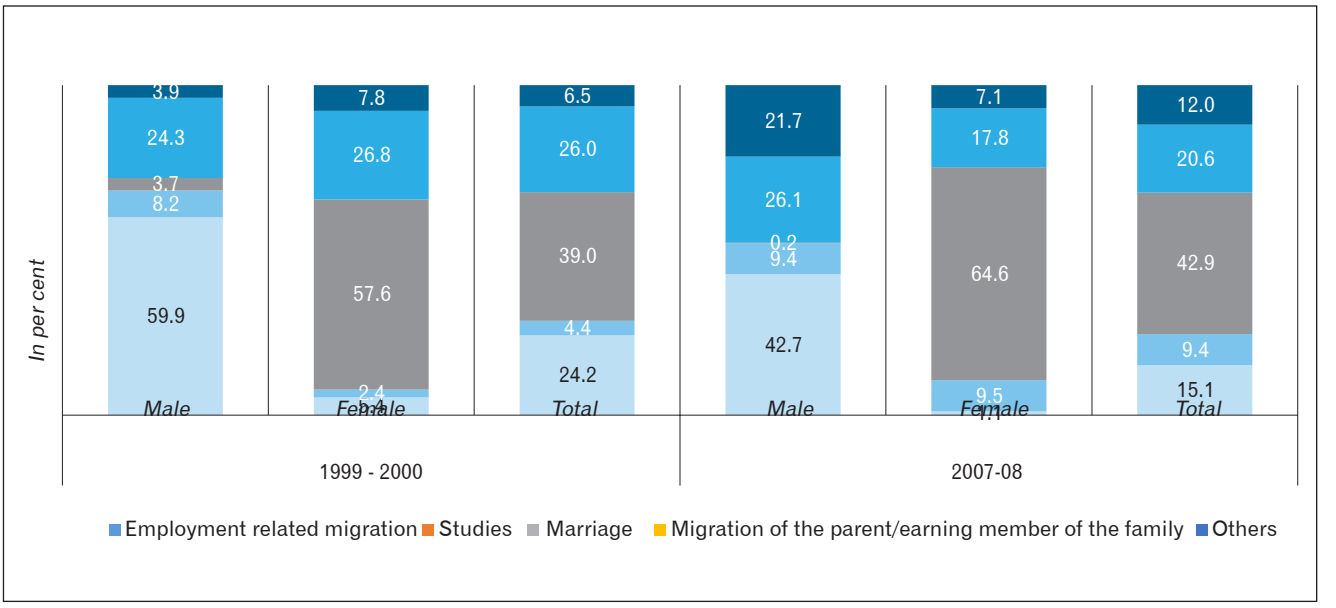
Reasons for Migration	1999–2000			2007–2008		
	Male	Female	Total	Male	Female	Total
Employment related migration	59.94	5.37	24.17	42.70	1.14	15.11
Education	8.17	2.41	4.40	9.36	9.46	9.43
Marriage	3.73	57.57	39.01	0.17	64.56	42.91
Migration of parent/earning member of the family	24.29	26.83	25.96	26.09	17.76	20.56
Others	3.88	7.82	6.46	21.68	7.08	11.99
Total	100	100	100	100	100	100

Source: NSSO Unit Level Data of 55th round (1999–2000) and 64th round (2007–2008), MoSPI, GoI

Migration for education purposes increased during the same period more among females as compared to males. This trend could be attributed to the fact that Madurai has many prestigious educational institutions. The increase in the 'other reasons' of migration is significant for males, which could be due to the natural disaster caused by the 'tsunami in 2004 as revealed by city officials.

Figure 50: Reasons of Migrations in Madurai

(In Per cent)



Source: NSSO Unit Level Data of 55th round (1999–2000) and 64th round (2007–2008), MoSPI, GoI

Streams of Migration

Rural-urban (RU) migration, both intra-district and inter-district, declined sharply during 1999–2000 and 2007–08 (Table 63). One of the reasons could be effective implementation of the Mahatma Gandhi National Rural Employment Guarantee Scheme in Tamil Nadu, which provides 100 days of assured wage employment to the rural people. This also helped in checking the rural-urban migration (HDR Madurai, 2017) both at intra-district and inter-district levels. In contrast, urban-urban (UU) migration emerged as the most prominent stream during 1990–2000 and 2007–08 mainly at inter-district level (Table 63) primarily driven by education and the service sector. Apart from small and medium enterprises, Madurai city also offers jobs in hotels and restaurants and the tourism sector to migrants from neighbouring urban areas. The city also houses one of the top motor cycle manufacturers in India which provides jobs to engineering graduates and other skilled workers from neighbouring urban districts.

Table 63: Migration in Madurai by Streams and Distance Traversed

(in per cent)

Direction	Streams	1999–2000			2007–2008		
		Male	Female	Total	Male	Female	Total
Intra-District	Rural-Urban	33.85	38.07	36.60	13.46	20.59	18.26
	Urban-Urban	11.07	6.73	8.24	7.98	13.79	11.90
Inter-District	Rural-Urban	26.58	23.98	24.88	3.53	13.09	9.97
	Urban-Urban	25.77	25.10	25.33	74.65	45.92	55.29
Inter-State	Rural-Urban	0.32	3.08	2.12	NA	NA	NA
	Urban-Urban	2.41	3.05	2.83	0.17	6.41	4.37
Another country		NA	NA	NA	0.21	0.20	0.20
Total		100	100	100	100	100	100

Note: NA - Sample not available
Source: NSSO Unit Level Data of 55th round (1999-2000) and 64th round (2007–2008), MoSPI, GoI

SPATIAL GROWTH OF MADURAI

The city developed around the Meenakshi temple on the southern part of the River Vaigai, but later with the establishment of government offices and other institutional buildings, areas adjacent to the northern part of the river gained prominence. However, the core of the city is still the commercial hub and also has high residential density (more than 1,000 persons per ha) which further increases during religious festivals due to a floating population. The spatial expansion of Madurai has taken place along the major transportation corridors, (railway line, 2 national highways and 7 major district roads) in a radial pattern.

Land Use Planning

For preparation of the Master Plan of Madurai city region, the Government of Tamil Nadu has notified the Local Planning Area (LPA) for Madurai under the Town and Country Planning Act, 1971. The LPA includes Madurai Municipal Corporation and other urban and rural areas (179 villages) extending over 720.97 sq. km area (Figure 48). The Madurai Municipal Corporation (old boundary) constitutes only two per cent of the total area of the LPA. The first Master Plan for Madurai was prepared by the Town and Country Planning Organisation and approved in 1995 for the horizon year 2011. The plan was reviewed in 2001. The plan emphasised regional development strategies including creation of growth poles, by expanding the economic and industrial base and by addressing constraints for physical growth. The plan proposed to accommodate approximately 0.16 million people within Madurai city and develop satellite towns, each accommodating approximately 0.075 million additional population.

Table 64 presents the land use pattern existing at the time the Master Plan was being prepared in 1994 and the proposed land use for 2011 for the then MMC old boundary. The table also presents the land use pattern in 2001 when the Master Plan (prepared in 1994) was reviewed.

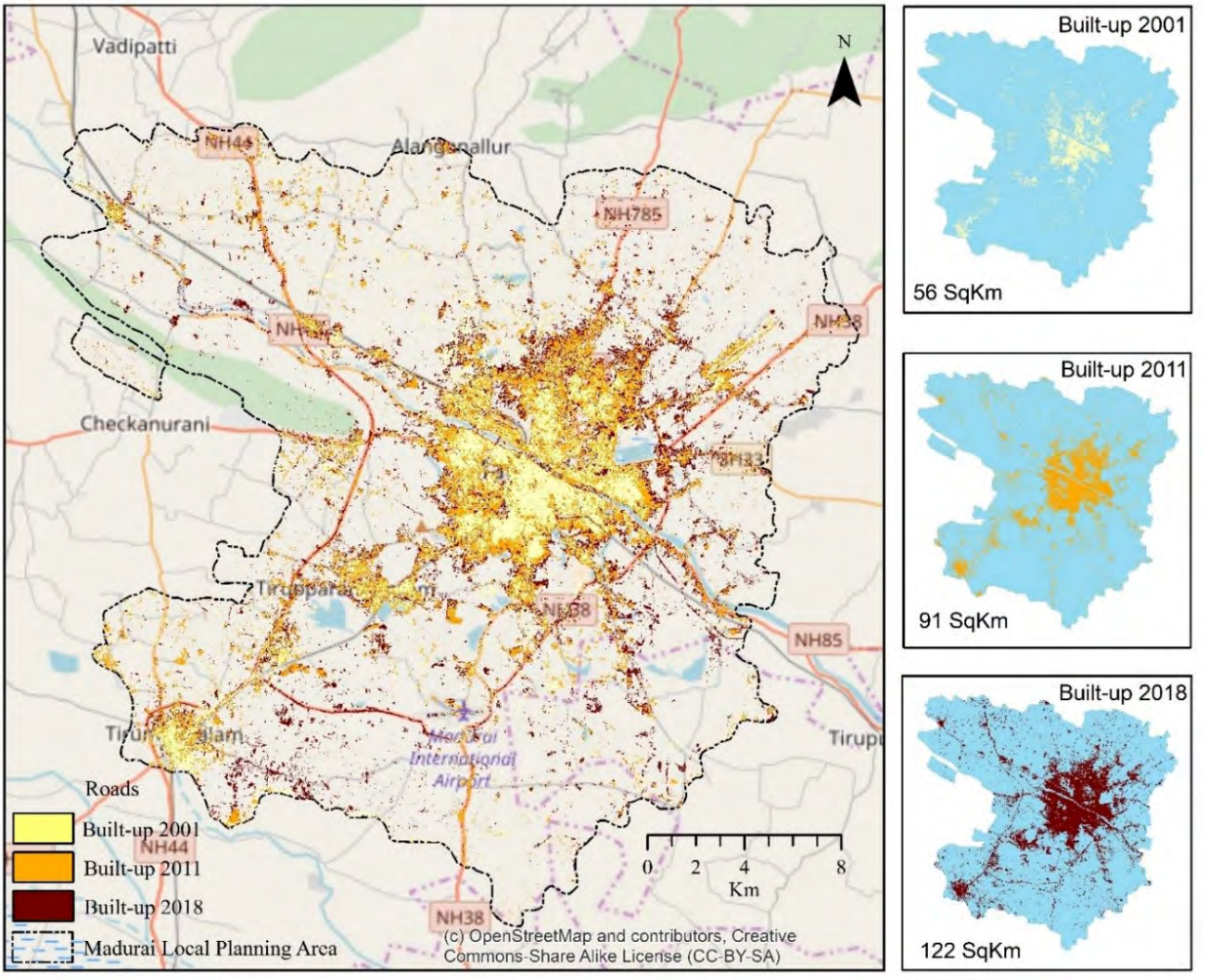
Table 64 reveals that in 2001, approximately 88 per cent of land was developed as against 72 per cent in 1994. Of the total developed land, 48 per cent area was under residential use, 18 per cent under transportation and 9 per cent area under commercial use. The area under commercial and educational use had nearly doubled, but was not adequately supported by allocation of area for circulation and transportation. Since there was

Table 64: Land-Use Categorisation of Madurai as per Master Plan

Land use type	1994		2001		2011	
	Existing Area (Sq. Km	Percentage to developed area	Existing Area (Sq. Km)	Percentage to Developed area	Proposed Area	Percentage to Developed area
Residential	21.45	57.49	21.79	47.77	30.37	63.9
Commercial	1.98	5.32	4.14	9.07	2.03	4.3
Industrial	2.10	5.63	3.12	6.84	2.10	4.4
Educational	1.72	4.61	3.62	7.93	1.84	3.8
Public & Semi-public	2.65	7.10	4.66	10.23	3.80	8.0
Transportation/ Circulation	7.41	19.85	8.29	18.18	7.40	15.6
Sub-Total (Developed Area)	**37.32**	**100.00**	**45.61**	**100.00**	**47.56**	**100.00**
Water Bodies	5.03	65.34	2.07		3.07	
Agriculture	9.48	34.66	4.14		1.18	
Sub-Total (Un-developed Area)	14.51	100.00	6.21			
Total	**51.82**		**51.96**		**51.82**	

Source: Madurai Master Plan, 1994, GoTN

Figure 51: Change in Built-Up Area in Madurai Between 2001 and 2018



Source: Authors' creation

a marginal increase in the area under residential use (0.34 sq. km), it resulted in increase of residential density in existing areas. The table reveals that land had not been developed as per the proposed land use in Master Plan, 1994.

Discussions with city officials revealed that one of the major deviations with respect to the Master Plan is the growth of the city towards the northern region at a faster pace as compared to the southern region. The major constraint for growth towards the south has been inadequate water supply and poor quality of ground water, whereas the growth in the north has been facilitated by the presence of institutional buildings and proximity to the bus stand and railway station. The built-up area has come up in wetlands and water bodies, which is adversely impacting the natural drainage and water availability in the city.

Madurai has experienced a substantial increase in the built-up land towards the northern side (along Alagarkoil Road and Puddur/Mellur Road), where the High Court and integrated bus stand are located. New residential areas have come up along Mellur and Natham Road and commercial area has developed along the Alagarkoil Road. In the southern side, low intensity development has taken place along the Theni Road and Theyagaraja area (Figure 51).

The Master Plan has not been very effective in Madurai. It has failed to take sectoral outlays into consideration. Also, there is no information or institutional mechanism to monitor the implementation of the Master Plan in the city and adjoining regions.

ECONOMY OF MADURAI

Gross District Domestic Product: Absolute and Per Capita

The GDP of Madurai district increased from Rs. 1.04 million (USD 15,187) in 2005–06 to Rs. 1.80 million (USD 26,057) in 2011–12. During 2006–07, though the district had a growth rate of 25.94 per cent, it declined to -4.39 per cent in 2007–08 as a result of a massive downturn in production in the same year in the secondary sector that registered a negative growth rate of 29.97 per cent (HRD of Madurai, 2017; Table 65). However, the economy soon revived and growth spurted to 13.31 per cent during 2010–11 through the initiatives of the government such as establishment of special economic zones, industrial and information and technology parks etc. to boost the economy of the district (HRD of Madurai, 2017).

Table 65: Gross District Domestic Product and Per Capita Income of Madurai

Years	GDDP Madurai (million rupees)	Growth Rate (%)	PCI Madurai (Rs)	PCI Tamil Nadu (Rs)
2005–06	1.04 (15187)	—	39,864 (578)	38,435 (557)
2006–07	1.32 (19127)	25.94	50,023 (725)	43,941 (637)
2007–08	1.26 (18287)	-4.39	47,671 (691)	46,293 (671)
2008–09	1.35 (19513)	6.71	50,720 (735)	48,473 (703)
2009–10	1.48 (21442)	9.88	55,590 (806)	53,359 (773)
2010-11	1.68 (24295)	13.31	62,842 (911)	59,967 (869)
2011-12	1.80 (26057)	7.25	67,258 (975)	63,996 (927)

Note: Figures in parenthesis are in USD
Source: Human Development Report, Madurai, 2017, State Planning Commission, GoTN

During 2005–06 and 2011–12, the per capita income of Madurai district increased from Rs. 39,864 (USD 578) to Rs. 67,258 (USD 975) which was higher than Tamil Nadu state. In 2010–11, Madurai district ranked 13th in terms of Per Capita Income[9] among 32 districts of Tamil Nadu, and contributed 4.15 per cent to the state Gross Domestic Product (GDP). The sectoral distribution of the GDDP shows that the contribution of the tertiary sector in Madurai was highest (70.6%) followed by the secondary sector (24.7%). Trade, hotel and restaurants followed by banking, insurance and real estate were the highest contributors to the tertiary sector in 2011–12 (Table 66).

The highest contributors in the secondary sector were manufacturing and construction. Madurai is the hub of textile mills with a dozen textile mills functioning in and around Madurai district for long, such as M/s. Madura Coats, Theyagaraja Mills, TVS Sundaram Iyengar Sons & Ltd etc. It also has automobile industries like TVS Sundaram groups, PRP groups and Fenner India (District Industries Centre, Madurai). In recent years, information technology industries are increasing in Madurai with several IT companies authorised to receive benefits from the National Information Technology Development Programme. These IT industries are at an early stage of development and therefore their contribution to the economy of Madurai is still limited as compared to the textile and automobile industries.

[9] *http://www.tn.gov.in/dear/State%20Income.pdf accessed on 7/26/18 at 20:46 hrs*

Table 66: Sector-Wise Contribution of GDP of Madurai, 2011-2012

(in per cent)

Sectors	Contribution to GDDP
Agriculture & Allied	4.28
Forestry & Logging	0.33
Fishing	0.05
Mining and Quarrying	0.06
Primary Sector	**4.71**
Manufacturing	15.36
Electricity, Gas & Water Supply	0.28
Construction	9.10
Secondary Sector	**24.74**
Trade, Hotels & Restaurants	25.00
Railways, Transport, Storage & Communication	10.20
Banking, Insurance and Real Estate	21.26
Community, Social & Personal Services	14.08
Tertiary Sector	**70.55**
Total	**100.00**

Source: Human Development Report, Madurai, 2017, State Planning Commission, GoTN

Work Participation Rate and the Structure of Employment

The workforce participation rate (WPR) showed an increasing trend during 2001–2011 (Table 67). The WPR in all ages was higher as compared to working age groups (15–59 years). This is indicative of the fact that the population in dependent age groups (children and elderly) also participate in the labour market. The percentage of non-workers had declined during the same period.

The distribution of workers in main and marginal categories shows that the share of main workers was high both in 2001 and 2011 (Table 68). However, during 2001–11 the share of main workers declined. It indicates the increasing marginality of work in Madurai city and district (urban) which could be explained by the thriving trade, hotel and restaurant sectors in Madurai.

Table 67: Work Participation Rate in the Madurai, 2011

(in per cent)

Area	T/M/F	WPR				Non-workers	
		All ages		15–59 years		15–59 years	
		All ages	15–59 years	15–59 years	All ages	15–59 years	15–59 years
India (Urban)	Total	32.25	35.31	48.02	49.53	51.98	50.47
	Male	50.60	53.76	74.89	75.66	25.11	24.34
	Female	11.88	15.44	17.61	21.41	82.39	78.59
Tamil Nadu (Urban)	Total	37.54	40.16	34.15	36.57	31.36	30.66
	Male	55.80	58.54	50.82	53.31	14.60	13.66
	Female	19.94	21.78	17.17	19.83	48.42	47.66
Madurai	Total	34.18	38.44	31.11	35.03	34.93	32.12
	Male	55.24	59.11	50.43	53.87	15.56	13.01
	Female	12.65	17.75	11.38	16.18	54.72	51.26

Source: Population Census of India, 2011

Table 68: Distribution of Main and Marginal Workers in Madurai

(in per cent)

Areas	Types of Workers	Male		Female		Total	
		2001	2011	2001	2011	2001	2011
India (Urban)	Main	93.27	90.50	79.31	76.96	90.83	87.65
	Marginal	6.73	9.50	20.69	23.04	9.17	12.35
Tamil Nadu (Urban)	Main	93.86	92.06	85.43	84.00	91.75	89.87
	Marginal	6.14	7.94	14.57	16.00	8.25	10.13
Madurai	Main	96.97	94.80	92.01	86.56	96.06	92.90
	Marginal	3.03	5.20	7.99	13.44	3.94	7.10

Source: Population Census of India, 2001 and 2011

The structure of employment in Madurai shows a sharp increase in self-employment during 1999–2000 and 2011–12, which was mainly because of the increase in unpaid family labourers who worked in the trade, hotel and restaurant sectors of Madurai. In contrast, there was a decline in regular wage/salaried employees indicating increasing informality. There was a slight decline in percentage share of casual labour unlike the trend in India (urban) and urban Tamil Nadu (Table 69).

Table 69: Structure of Employment in Madurai

(in per cent)

Employment Status	1999–2000			2011–2012		
	India (Urban)	Tamil Nadu (Urban)	Madurai	India (Urban)	Tamil Nadu (Urban)	Madurai
Self Employed	42.23	34.73	32.88	41.94	34.3	44.85
A. Own Account Workers	30.66	23.92	25.08	30.84	26.63	27.14
B. Employer	1.26	2.05	1.48	2.27	1.92	2.64
C. Unpaid Family Workers	10.3	8.76	6.32	8.84	5.76	15.08
Regular Salaried/Wage Employee	40.03	44.13	37.63	43.28	43.22	26.07
Casual Labourers	17.74	21.14	29.5	14.77	22.48	29.08
Total	100	100	100	100	100	100

Source: NSSO, Unit Level data, 55th round (1999–2000) and 68th round (2011–12), MoSPI, GoI

Sectoral Distribution of Employment

The sectoral distribution of employment shows that more than 70 per cent workers in Madurai districts were engaged in the tertiary sector in 2011 (Table 70). The secondary sector had the second highest percentage followed by the primary sector. The sectoral distribution of total workers shows that community, social and personal services engaged the highest share of workers (25.33%) followed by trade, hotels and restaurants (24.98%) and manufacturing (23.19%), together generating around three-fourths of the employment.

Sectoral distribution of employment by industrial classification in Madurai (urban) is similar to India (urban) and Tamil Nadu (urban) where the tertiary sector dominates the secondary and primary sectors. However, a comparative analysis shows that the percentage share of workers in the tertiary sector in Madurai was high as compared to Tamil Nadu and India.

Nature of Employment and Rate of Unemployment in Madurai

It is evident from Table 71 that in 2011–12, a total of 81.5 per cent workers in urban Madurai were employed in the informal sector. In contrast to the declining trend of informal workers in Tamil Nadu and India, the share of informal workers in urban Madurai increased during 1999–2000 and 2011. The informal sector in India is characterised by insecure nature of employment and lack of any social security benefits and, therefore,

most of these workers are vulnerable. A crucial point that emerged from discussions with the educated youth during the visit to Madurai was the mismatch between educational training received and job requirement. Despite having training from professional educational training centres, people are unemployed or under-employed, which is reflected in the high rate of unemployment in Madurai (Figure 52) This trend is evident in Tamil Nadu as well. In Madurai, the National Urban Livelihood Mission, a centrally sponsored programme, has been initiated but it is at an initial stage of implementation. Only the registration of hawkers and street vendors and the delineation of a hawking zone have been executed under this mission till date.

Table 70: Sectoral Distribution of Employment by Industrial Classification, 2011

(in per cent)

Sector of Employment	India (Urban)			Tamil Nadu (Urban)			Madurai (Urban)		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Primary Sector	2.69	2.69	2.72	3.7	3.79	3.45	2.07	2.13	1.89
Agriculture & Allied	2.01	1.95	2.29	3.2	3.24	3.09	1.59	1.59	1.59
Mining	0.69	0.74	0.43	0.5	0.55	0.36	0.49	0.54	0.3
Secondary Sector	24.97	24.44	27.42	27.13	25.64	31.48	23.86	21.66	30.93
Manufacturing	23.89	23.28	26.69	26.44	24.84	31.13	23.19	20.91	30.52
Electricity, Gas & Water Supply	1.08	1.15	0.73	0.69	0.81	0.35	0.67	0.75	0.41
Tertiary Sector	72.34	72.87	69.87	69.17	70.57	65.07	74.07	76.21	67.18
Construction	11.77	12.61	7.87	10.92	12.57	6.1	11.4	12.81	6.85
Trade, Hotels & Restaurants	21.39	23.73	10.54	17.52	20.34	9.25	24.98	28.04	15.13
Transport, Storage and Communication	10.54	11.91	4.14	10.33	12.52	3.91	8.53	10.82	1.17
Finance and Real Estate	2.59	2.63	2.39	2.3	2.59	1.45	3.84	4.23	2.58
Community, Social and Personal Services	26.05	21.99	44.92	28.1	22.54	44.36	25.33	20.31	41.44
Total	100	100	100	100	100	100	100	100	100

Source: Population Census of India, D-Series, 2011

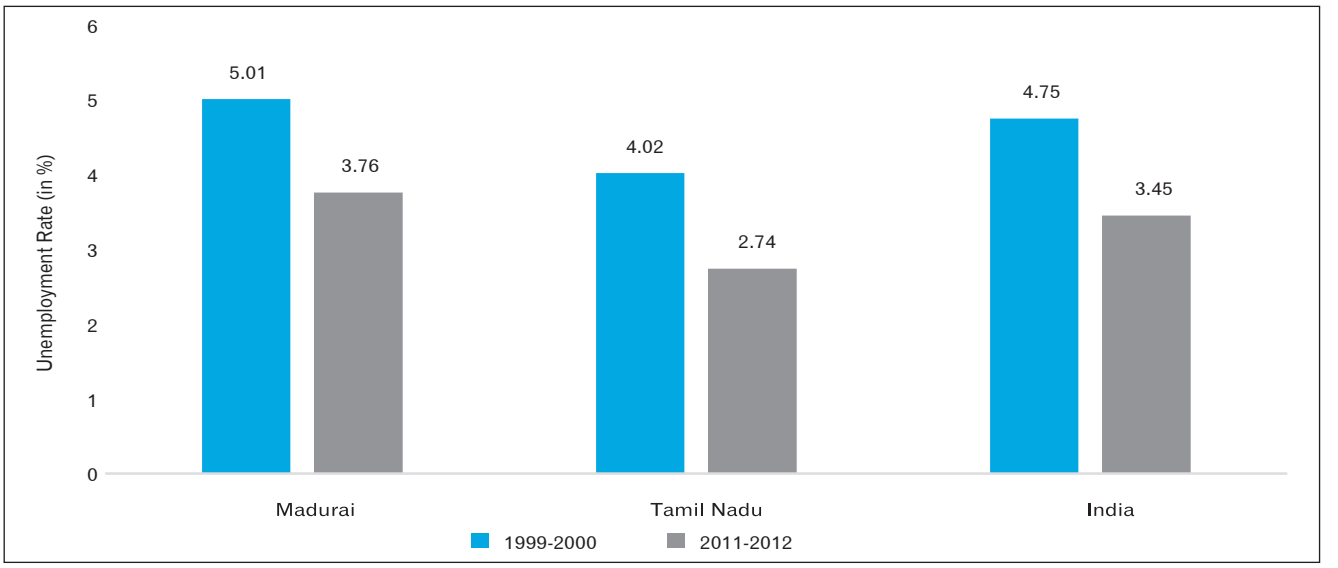
Table 71: Nature of Employment in Madurai

(in per cent)

Sector of Employment	India (Urban)			Tamil Nadu (Urban)			Madurai		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1999–2000									
Informal	74.4	77	74.9	79.3	79.7	79.4	75.2	73.3	74.7
Formal	25.6	23	25.2	20.7	20.3	20.6	24.8	26.7	25.3
2011–12									
Informal	73.7	68.4	72.9	77.8	75.2	77.2	82.2	78.6	81.5
Formal	26.3	31.6	27.1	22.2	24.8	22.8	17.8	21.4	18.5

Source: NSSO, Unit Level data, 55th Round (1999–2000) and 68th Round (2011–12), MoSPI, GoI

Figure 52: Unemployment Rates in Madurai



Source: NSSO, Unit Level data, 55th round (1999–2000) and 68th round (2011–12), MoSPI, GoI

Poverty Rate

In 2011–12, the urban poverty ratio in Madurai was 0.96 per cent which was substantially lower than urban Tamil Nadu (3.7%) and India (13.7%). It can be concluded from the above analysis that only two sub-sectors of economy, namely trade, hotels and restaurants as well as the financial sector contribute to 46 per cent of the income of Madurai district which reflects the tourism base of the city due to the importance of the temple. Diversification of the economy is necessary for the economic development of the city. Although government has initiated steps[10] in recent years, the demand for employment in these sectors is still very low and does not match with the supply of skilled professionals who remain unemployed or underemployed.

EDUCATION SCENARIO IN MADURAI

The Constitution of India initially devolved the basic responsibility of education to the state governments. In 1976, the education sector was brought under the Concurrent List[11] of the Constitution with the enactment of the 42nd Amendment Act which empowered the central government to formulate policies and implement laws and schemes related to education in the country. The states, on the other hand, have powers to formulate their respective state policies and programmes, regulate universities and other technical institutes.

Education Under State Five Year Plans

Tamil Nadu does not have a specific education policy. The strategies and programmes for education are reflected in state Plans. The Tenth Plan (2002–2007) of the national government marked the beginning of an era in education planning. It pronounced the vision of universalisation of elementary education for children in the age group of 6–14 years and initiated a flagship programme – Sarva Shiksha Abhiyan (SSA). Reiterating this vision, Tamil Nadu state also focused on ensuring universal education during the same Plan period.

In Tamil Nadu, since enrolment and retention rate at primary level were showing improvement, the Tenth Five Year Plan (FYP) focused more on learning levels. To achieve this, the Plan allocated nearly 80 per cent of its expenditure under the Sarva Shiksha Abhiyan (SSA) programme for quality improvement in terms of

[10] *Establishment of Special Economic Zones and industrial parks*

[11] *The Concurrent List consists of responsibilities which both the union and state government can legislate*

innovative pedagogy, teaching and learning materials, teachers' training and improving school infrastructure. This Plan also laid the foundation for restructuring the administrative set-up of the education department. During this Plan, the state launched its Chief Minister's 15 point programme which focused on reducing male and female disparity, on retention of children in schools and on vocational training for gainful employment.

The successful implementation of SSA was reflected in the performance of the state on various indicators. The enrolment rate increased, drop-out rate declined at both primary and upper primary levels, completion rate also improved significantly, with girls outperforming boys at both the primary and upper primary levels. The Eleventh FYP focused on making learning more effective and child friendly. The Plan's focus was to strengthen the quality of education, "reach the unreached" like out-of-school children, children with special needs, girls and SC/ST children, and achieve the completion rate of 100 per cent at the primary and 95 per cent at the upper primary stages.

The Eleventh FYP not only focused on universalisation of free and compulsory elementary education as a fundamental right under the Right to Education Act (RTE), but also focused on universalising secondary education as it serves as a bridge between elementary and higher education. It plays the dual role of preparing students for higher education, at the same time providing skills and technical training to those who intend to enter the labour market. Higher and technical education was also promoted during this Plan period by increasing the number of institutions, updating the curriculum, and introducing vocational education to increase employability of youth.

The state's Twelfth FYP (2012–2017), furthered the constitutional right of universal access to the next level. Since the goals at primary level education had been achieved, the focus shifted to secondary, higher secondary and higher education. The Plan focused on increasing access to secondary and higher secondary schools, upgradation of existing infrastructure of schools, schemes to support education for out-of-school students and children with special needs, improving women enrolment rate, introduction of Information and Communication Technology (ICT) in classroom teaching, and encouraging public private partnership in secondary and vocational education.

Institutional Structure

The educational system in Madurai city follows the national pattern of 12 years of schooling.[12] Madurai has both public and private schools (total 616 schools). The public schools are run by central, state or MMC within the administrative and financial control of the Department of Education. The private schools are aided or unaided but have to be mandatory registered with the designated authority (Figure 53).

Literacy and School Education in Madurai

The efforts made by the state government are reflected in the high literacy rate in Madurai. The city's literacy rate (90.9%) is higher compared to the national (84.1%) and the state averages (87.0%) in 2011. The gender gap in Madurai is also low, compared to the national and state levels during the same period (Table 72).

During 2001–11, there was a significant improvement in the proportion of students attending educational institutes across all agegroups. The improvement in proportion of children attending schools in the age group of 6 to 13 years is a reflection of the initiation of programmes under RTE Act. However, universal enrolment as envisaged in the RTE and also in state's Eleventh and Twelfth Plans is still to be achieved (Table 73).

[12] *For details refer section 1.3.2 of the report*

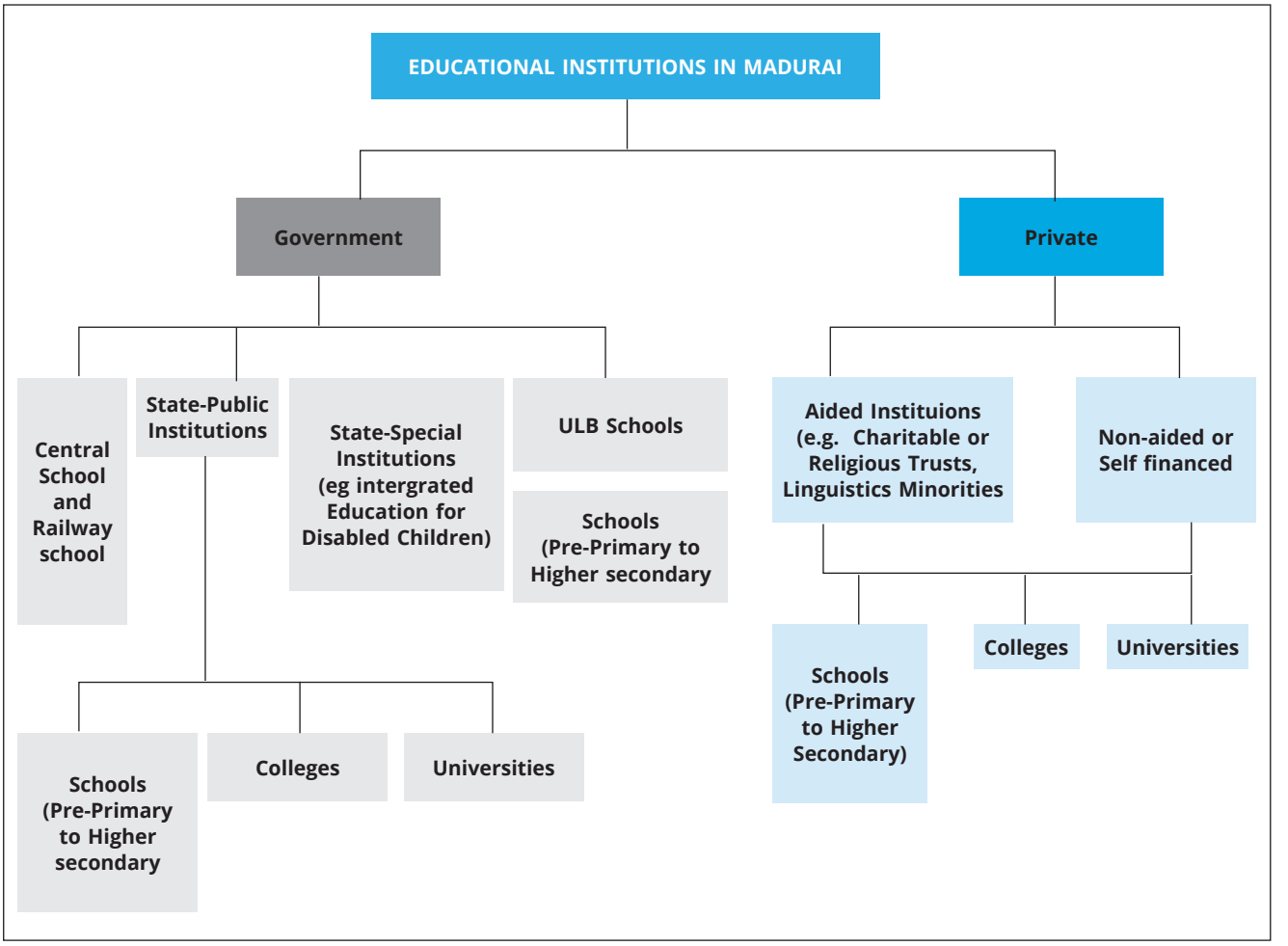
Table 72: Literacy Rates in Madurai

(in per cent)

	Total		Male		Female		Gender Gap	
	2001	2011	2001	2011	2001	2011	2001	2011
India (Urban)	79.9	84.1	86.3	88.8	72.9	79.1	13.4	9.7
Tamil Nadu (Urban)	82.5	87.0	89.0	91.8	76.0	82.3	13.0	9.5
Madurai	87.9	90.9	92.3	94.8	81.6	87.1	10.7	7.8

Source: Population Census of India, 2001 and 2011

Figure 53: Institutional Structure of Education in Madurai



Source: Author's Compilation

The state government is making continuous efforts to retain enrolled students and minimise the drop-out rate through measures like special cash incentives to secondary and higher secondary students, financial assistance to students who have lost bread winning parents, distribution of free uniform, books etc. Nevertheless, students drop out due to migration of the family, no adult member to look after the household especially when both the parents are working, lack of adequate washroom facilities, besides personal choice of not continuing. The highest drop-out rate was in the age group of 18–24 years (44%) followed by the age group 16–17 years (18%). This is indicative of early entry into the labour market.

Table 73: Education Participation of Population in Specific Age Cohort, 2001 and 2011

(in per cent)

Age Group (in years)	Population Attending Educational Institutions			Population Not Attending Educational Institutions					
				Attended Before			Never Attended		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
6–10	91.69 (89.78)	91.58 (89.83)	91.80 (89.72)	1.65	1.59	1.72	6.66	6.83	6.48
11–13	95.68 (89.67)	95.71 (89.34)	95.65 (90.02)	3.21	3.20	3.23	1.10	1.10	1.12
14–15	91.65 (77.39)	91.21 (76.97)	92.13 (77.82)	7.25	7.73	6.73	1.10	1.06	1.14
16–17	81.12 (61.49)	80.75 (61.40)	81.50 (61.58)	17.75	18.24	17.25	1.13	1.02	1.25
18-24	53.61	55.91	51.41	44.44	42.47	46.33	1.95	1.62	2.27
	(25.64)	(28.00)	(23.44)						

Note: Figures in parenthesis indicate situation in 2001; data for other indicators is not available for year 2001
Source: Population Census of India, 2001 and 2011

Table 74: Age-Grade Matrix of Population Attending Educational Institutions in Madurai, 2001 and 2011

(in per cent)

Age in years	Below Primary & Primary			Middle			Secondary			Higher Secondary			Graduation & Above		
	P	M	F	P	M	F	P	M	F	P	M	F	P	M	F
6-10	74.66 (68.47)	74.44 (68.65)	74.89 (68.29)												
11-13	67.88 (68.06)	69.05 (69.03)	66.65 (67.06)	26.65 (19.43)	25.58 (18.20)	27.77 (20.71)									
14-15	6.18 (15.06)	6.92 (16.66)	5.38 (13.47)	58.14 (45.50)	58.90 (44.58)	57.31 (46.42)	26.24 (15.09)	24.29 (14.01)	28.36 (16.17)						
16-17	1.42 (7.01)	1.39 (7.66)	1.45 (6.36)	6.86 (13.15)	7.92 (14.22)	5.77 (12.08)	71.81 (39.13)	70.36 (36.97)	73.29 (41.29)						
18-24	0.66 (2.61)	0.74 (2.67)	0.58 (2.56)	0.83 (2.57)	0.96 (2.92)	0.70 (2.25)	2.04 (3.22)	2.49 (3.98)	1.62 (2.52)	22.56 (10.55)	22.56 (10.22)	22.57 (10.85)	8.32 (3.34)	9.06 (3.78)	7.64 (2.94)
25-29	0.03 (0.03)	0.03 (0.05)	0.03 (0.01)	0.03 (0.03)	0.03 (0.04)	0.02 (0.01)	0.03 (0.05)	0.04 (0.06)	0.02 (0.03)	0.31 (0.17)	0.40 (0.24)	0.23 (0.10)	2.37 (0.73)	3.04 (1.04)	1.74 (0.43)

Note: Figure in Parenthesis indicate situation in 2001
Source: Population Census of India, 2001 and 2011

There was a striking improvement during 2001–2011 in the age appropriateness of education which is an important aspect of RTE[13] (Table 74). The proportion of students in the cohort of 14 –15 years of age attending middle school (standard V to VIII) improved from 45.50 per cent (in 2001) to 58.14 per cent (in 2011). Similarly, the proportion of students in the age group of 16–17 years attending secondary education (standard IX to X) improved significantly from 39.13 per cent (in 2001) to 71.81 per cent (in 2011).

[13] *http://righttoeducation.in/what-does-%E2%80%98age-appropriate-class%E2%80%99-mean accessed on 20 July, 15:35 HRS*

Infrastructural Facilities in Schools

The number of schools at the primary level doubled during 2001–2011, reflecting the increased enrolment rate (Table 75). The availability of basic amenities to a large extent determines the school participation of children in India (SSHE, Global Symposium, 2004). The infrastructural facilities are commendable. However, structural facilities like playgrounds, boundary walls, computers, ramp facilities are still inadequate.

Table 75: Number of Schools per Million Population in Madurai

Year	Primary School	Middle School	Secondary School	Senior Secondary School
2001	1.7	1.7	1.1	0.8
2011	3.5	1.9	1.5	0.9

Note: Number of institutions are in per 1 million of population
Source: Town Directory, Population Census of India, 2001 and 2011

Also, the mandated student teacher ratio of 30:1 at primary level and 35:1 at upper primary level has not been met by 17.58 per cent of the primary schools and 12.91 per cent of the upper primary schools (District Report Card, Madurai, 2015–16) in Madurai district.

Welfare Measures and Innovative Learning Techniques in Madurai

Madurai has initiated several innovative learning techniques for students. Smart classes[14] have been introduced in schools to provide special audio-video sessions to make the subject interesting for students and to provide new learning experience. To improve the learning outcomes, the Tamil medium of instruction has been replaced by English medium in 36 schools from the current academic year (2018–19). A library equipped with a modern learning platform has been set up at Nedunchelian Higher Secondary. The concept 'happy schooling' has been in collaboration with Hindustan Computer Limited and M.S. Chellamuttu Trust to promote emotional well-being and academic excellence in schools.

Higher Education in Madurai

In and around Madurai city, there are 32 degree colleges and 19 engineering colleges along with a medical college and a university. Besides, there are 372 vocational training centres and other formal, non-formal and education training centres for the disabled (Table 76).

Table 76: Number of Higher Educational Institutions in Madurai

Year	Degree Colleges	Engineering Colleges	Medical Colleges	University	Management Colleges	Other Courses
2001	13	1	1	0	0	83
2011	32	19	1	1	6	372

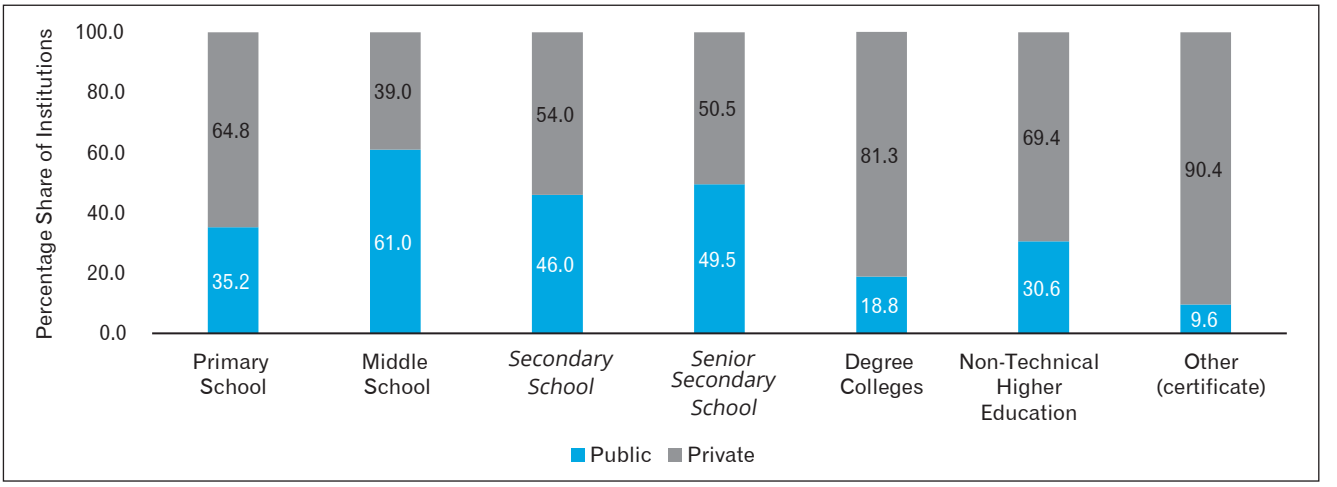
Note: Other courses include mainly vocational courses as in polytechnics, and include shorthand, typing, learning MS-Office, desktop publishing and others
Source: Town Directory, Population Census of India, 2001 and 2011

Role of Public and Private Players in Education

In Madurai, private institutions play a predominant role in the education sector. The share of private institutes increased with higher levels of education like engineering, MBA, vocational and polytechnic courses (Table 77 and Figure 54).

[14] *Classes equipped with information technology based learning platform*

Figure 54: Share of Public-Private Educational Institutions in Madurai, 2011



Source: Census of India, 2011

Table 77: Share of Public-Private Institutions in School Education, 2011

(in per cent)

	Public/ Private	Primary School	Middle School	Secondary School	Senior Secondary School	Higher Non-Technical	Higher Non-Technical	Others
India (Urban)	Public	50.81	46.54	42.41	43.05	19.63	39.99	36.67
	Private	49.19	53.46	57.59	56.95	80.37	60.01	64.33
Tamil Nadu (Urban)	Public	50.81	53.33	44.06	42.25	25.77	20.07	41.08
	Private	49.19	46.67	55.94	57.75	74.23	79.93	58.92
Madurai	Public	35.23	61.03	46.00	49.49	18.75	30.56	9.62
	Private	64.77	38.97	54.00	50.51	81.25	69.44	90.38

Source: Town Directory, Population Census of India, 2001 and 2011

The mushrooming of private technical colleges raises question regarding the quality of education offered. According to All India Council for Technical Education, nearly 56 per cent of MBA graduates did not get campus placements[15] between 2016 and 2017. Due to their poor track record, fewer students are now opting for private professional colleges offering engineering and MBA courses, resulting in departments running under capacity. The performance of Madurai in terms of enrollment, retention and transition rate has been satisfactory. With respect to higher education, there is a mismatch in skill imparted and market requirements indicating the need for an overhaul in the curriculum of professional colleges in tune with market demand.

HEALTH SCENARIO IN MADURAI

In the federal structure of India, health is a state subject. The primary responsibility of state governments is to provide curative health care through adequate health facilities. However, states also implement preventive and promotional programmes designed and financed by the central government in both urban and rural areas. The city administration only implements the health programmes of the state and central governments. It does not participate in formulation of health policies and programmes and follows the dictates of a top-down approach.

[15]*An Act to make provision for advancing public health care in the state of Tamil Nadu. It contained 15 chapters and 145 sections with focus on environmental health, communicable disease control, food hygiene, maternity and child health measures. The Act has 13 amendments*

The performance of Tamil Nadu state in various health indicators is better when compared to other states (Human Development Report, 2017) due to significant reforms undertaken since the 1980s, which included rigorous expansion of health infrastructure and launch of various programmes. Tamil Nadu is the only state with a distinctive public health cadre at the district level and is also the first state to enact a Public Health Act in 1939 (Gupta, 2005).[15] The state had formulated a Health Policy in 2003 to address the key health challenges, strengthen management of health systems, and increase effectiveness of public sector health care services.

Health Sector Under State Five Year Plans

The main objective of the Ninth FYP (1997–2002) of the state government of Tamil Nadu was 'Health Care for All'. It focused on improving the health status of people, better access to health care services, effective control and prevention of communicable and non-communicable diseases. This Plan was successful in improving the life expectancy at birth (65 years), under-5 mortality rate (9.7 per 1,000 live births), but the infant mortality rate and neo-natal mortality rate remained stagnant. In this Plan period, the reproductive and child health schemes were initiated in Madurai for a period of 5 years.

In the Tenth FYP (2002–2007), the government of Tamil Nadu envisaged raising the quality of health care services through improving the quality of curative care and strengthening preventive services. Maternal and child health, provision of special services including accident and trauma care, geriatric care and setting up urban health services were important thrust areas under this FYP. During this Plan, improvement of health facilities in the Rajaji Government Hospital in Madurai city was undertaken along with construction of a new building. Tamil Nadu government also opened a dispensary of Siddha (Indian traditional medicine system) in Madurai. The state made good progress towards achieving its goals. While targets for life expectancy at birth, maternal mortality rate and immunisation coverage were achieved, the infant mortality rate, under-5 mortality rate, crude birth and death rates did not improve as per target. One of the significant contributions

Box 10: Strategies for Urban Areas in State's Five Year Plan and Vision Tamil Nadu, 2023

Objectives of Twelfth Five Year Plan (2012–17), Tamil Nadu

- Reduction in infant and maternal mortality
- Universal access to public health services – women's health, child's health, drinking water, sanitation, hygiene, nutrition and immunisation
- Prevention and control of communicable and non-communicable diseases
- Population stabilisation – maintaining gender balance
- Access to integrated primary health care
- Revitalising local health traditions
- Promotion of healthy lifestyles

Source: Tamil Nadu Twelfth Five Year Plan (2012–17)

Objectives of Health Sector in Vision Tamil Nadu, 2023

- Increase the capacity of primary and secondary hospitals
- Ensure a referral centre within a maximum distance of five kilometers from every sub-centre
- New medical colleges attached to district hospitals to be established and upgradation of existing hospitals
- Create two Medi-cities to increase the medical tourism industry
- Trauma, disaster management care to be improved and diagnostic services to be networked
- Medical records to be electronically managed in all government hospitals

Source: Vision Tamil Nadu, 2023 Twelfth Five Year Plan (2012–2017)

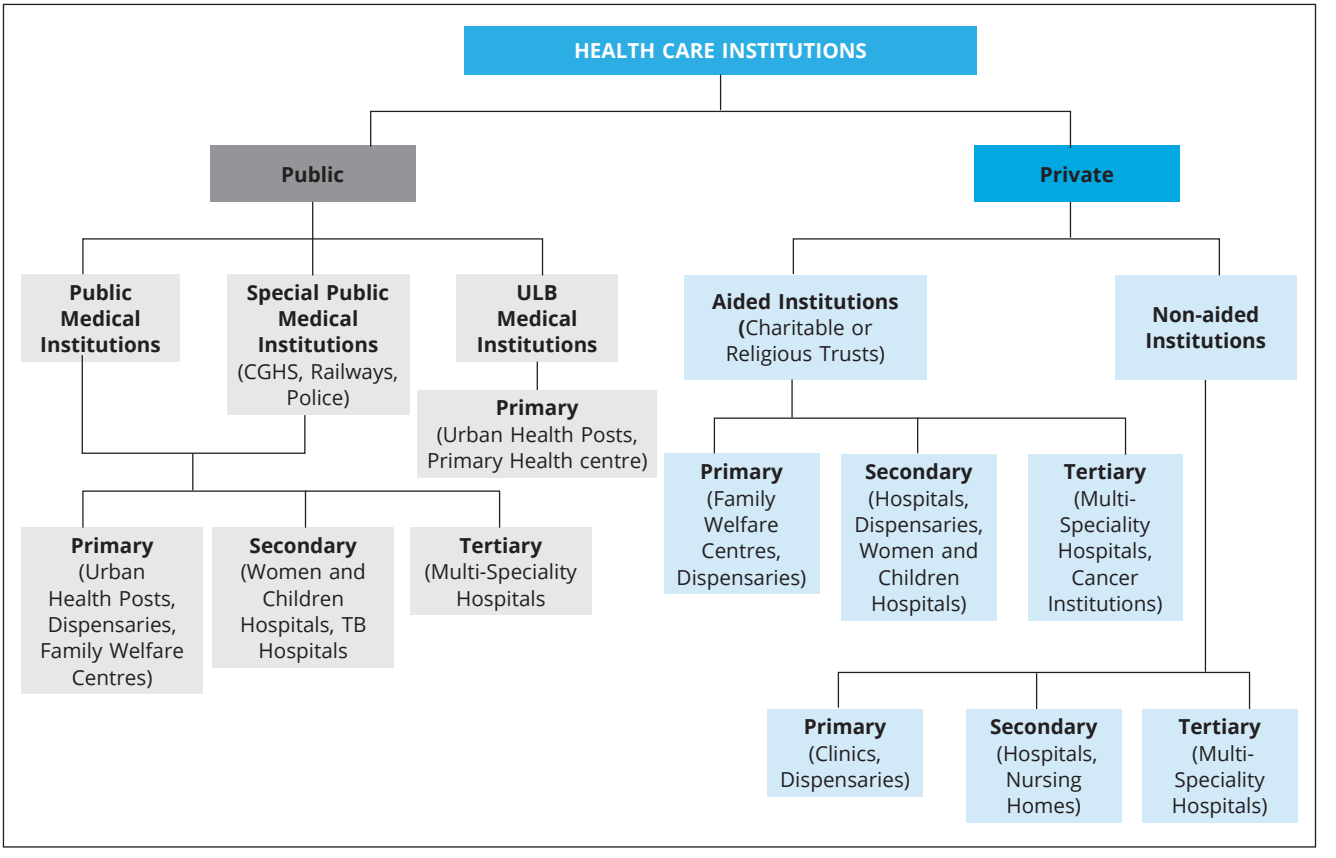
of this Plan was that the emphasis on improving health services shifted to urban areas from rural areas. This Plan recognised the lack of an organisational set-up in ULBs in the health sector and therefore proposed to have the position of a Municipal Health Officer in all the ULBs along with a team of health experts for preventive and promotional health activities.

In the Eleventh FYP (2007–2012), the state government focused on improving the health outcomes. It accepted the fact that there is an urgent need to improve the urban basic health system especially in small towns. By the end of the Eleventh FYP, the government had established 135 primary health centres (U-PHCs) in urban areas. Madurai city has 31 U-PHCs under Madurai Municipal Corporation which provides maternal and child health care services. The U-PHCs are equipped with diagnosis facilities for non-communicable diseases. A regional cancer centre was also set up at the Rajaji Government Hospital in Madurai. While the objectives of the state's Twelfth FYP focused on service delivery and improvement of health status, Vision Tamil Nadu, 2023 aimed to strengthen the physical infrastructure for health care (Box 10).

Institutional Framework of Health Sector in Madurai

Madurai city aims to ensure that health care services should be delivered with the core principle of accessibility, equity, excellence and affordability through building of a widespread health care network. In Madurai, the primary health care institutions implement preventive programmes while the network of secondary and tertiary care medical institutions provide curative and emergency services to the people. Both public and private sectors play important roles in the delivery of health services at all the three levels. Madurai has an extensive network of public health care institutes (Fig. 55). The entire health care system functions under a strict regulatory mechanism. All practising doctors, nurses and paramedical professionals of Madurai city

Figure 55: Health Care Institutions in Madurai



Source: Authors' Compilation

have to register under regulatory councils established under various Acts of state government. In addition, there is a streamlined procedure for procurement, storage and distribution of drugs.

Innovative Health Programmes in Madurai

Apart from the central government programmes (Box 11), the state government has initiated several schemes which are implemented by the Madurai city administration. These are as follows: Family Welfare, Right to Health for Migrant Children, Dr. Muthulakshmi Reddy Maternity Benefit Scheme, Chief Minister's Comprehensive Health Care, Women Specific Programmes, and Accidental and Emergency Care Services.

Performance of Madurai on Health Indicators[16]

The performance of Madurai district is better in comparison to urban India figures for vital statistics on health. However, it is low in comparison to Tamil Nadu except in the case of death rate. The birth rate, total fertility rate, infant mortality rate and under-5 mortality rate is high and life expectancy at birth is low in Madurai as compared to the entire state.

Tamil Nadu and Madurai exceed the national average in all the indicators of reproductive and child health. However, in comparison to Tamil Nadu the performance of Madurai is low except for indicators on birth assisted by trained medical professionals. Madurai has made targeted interventions to achieve 100 per cent institutional deliveries. In comparison to the national and state averages, the nutritional status of Madurai is much better where only 20.9 per children under 5 years are stunted and only 11 per cent are wasted in 2015–16 (Table 78). It is evident from the analysis that Madurai's performance in vital statistics, reproductive and child health care and nutritional status of children is better than the national average. It could be attributed to the sustained efforts made by the state government of Tamil Nadu in the health care sector and effective implementation of health policies and programmes designed for different groups including children, women, slum dwellers etc. However, concerted action is needed at the local level to achieve universal health coverage for all and better outcomes for all sections of society.

Box 11: Central Health Programmes implemented in Madurai

- National Programme for Control of Blindness (1976)
- Universal Immunisation Programme (1978)
- National Iodine Deficiency Disorder Control Programme (1991)
- Integrated Child Development Services Scheme
- Vector Borne Disease Control Programme (VBDC)
- National Tuberculosis Control Programme (2001)
- Integrated Disease Surveillance Project (2005)
- National Programme for Prevention and Control of Deafness (2007)
- National Mental Health Programme (2011)
- National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke
- National Leprosy Eradication Programme
- National AIDS Control Programme
- Reproductive and Child Health (Maternal Health, Child Health, Family Planning, Adolescent Health, Mobile Medical Unit)

[16] *In the absence of city level health indicators, urban district is used as the unit of analysis in this section*

Table 78: Selected Health Indicators of Madurai District (Urban), 2015–2016

Indicators	India (Urban)	Tamil Nadu (Urban)	Madurai
Vital Statistics			
Birth rate* (per 1,000)	17.4	15.4	16.7
Death rate* (per 1,000)	6.3	5.5	4.5
TFR (children per woman)	1.8	1.5	1.74
Life expectancy at birth** (in years) Male Female	65.8 69.3	71.8 75.2	65.4 68.9
IMR (per 1000 live births)	29	18	23.71
Under 5 mortality rate (per 1,000 live births)	34	23	24
Reproductive and Child Health			
Registered pregnancies for which the mother received Mother and Child Care Protection Card (%)	87.7	96	94.4
Institutional Deliveries	88.7	99.2	98.3
Birth assisted by a doctor/ nurse/ LHV/ ANM/ other			
health personnel (%)	90	99.6	100
Women who had full antenatal care$ (%)	31.1	46.3	38.7
Mothers who received financial assistance under Janani Suraksha Yojana# for institutional delivery (%)	21.4	25.3	24.5
Average out-of-pocket expenditure per delivery (Rs) (USD)	3913 (57.17)	2556 (37.35)	3,379 (49.37)
Total unmet need for Family Planning (%)	12.1	10.7	15.5
Children received full vaccination$$ (%)	63.9	73.3	64.58
Nutrition Level of Children			
Children under 5 years who are stunted (height-for-age) ##(%)	31	25.5	20.9
Children under 5 years who are wasted (weight-for-height) ##(%)	20	19	11

*Note: *Data of 2014. ** Figures indicate aggregate (rural+urban) level data*
$ Full antenatal care is at least four antenatal visits, at least one tetanus toxoid (TT) injection and iron folic acid tablets or syrup taken for 100 or more days
$$ Full vaccination includes BCG, measles, and three doses each of polio and DPT
 # Janani Suraksha Yojana is a monetary assistance scheme for pregnant women for institutional delivery
Below -3 standard deviations, based on the WHO standard
Source: National Family Health Survey-4, 2015–16; Sample Registration System of Tamil Nadu, Directorate of Public Health and Preventive Medicine, Madurai Human Development Report, 2017

URBAN GOVERNANCE, DEVELOPMENT AND SERVICE DELIVERY

Urban Governance

In India, ULBs have both a constitutional and statutory status, but it is the state government that defines their powers, functions, responsibilities and also the degree of autonomy that they can exercise. In 1992, the Constitution of India was amended (popularly known as 74th CAA) to recognise ULBs as the third tier of government, and to empower them by devolving functions and financial powers.

The Government of India has taken various reforms-linked investment initiatives as part of the Urban Reform Incentive Fund (URIF), 2003, Jawaharlal Nehru National Urban Renewal Mission (JNNURM), 2005 and Atal Mission for Rejuvenation and Urban Transformation (AMRUT), 2015 to ensure improvement in urban governance and make ULBs financially sustainable. Despite several initiatives, most ULBs in India including Madurai experience a top-down approach and are highly dependent on state governments for grants. The Madurai Municipal Corporation's (MMC) budget document reveals that grants constituted 59.7 per cent of the total income of ULBs in the year 2016–17.


நோயாளர் நலச் சங்கம்
நகர்புற ஆரம்ப சுகாதார நிலையம்
மருந்துகள் அறை
நோயாளிகள் காத்திருக்கும் பகுதி


குடிநீர்
வாட்டர் சப்ளை

The state government has transferred all the functions stated in the 74th CAA (except the fire department) to the MMC without adequate financial resources. The total income of MMC has shown a declining trend. It has declined from Rs 5,044.4 million (USD 73.1 million) in 2014–15 to Rs 3,070.48 million (USD 44.5 million) in 2016–17 at current prices. The per capita income of MMC has declined from Rs 4,821.7 (USD 69.9) in 2014–15 to Rs 2,881.7 (USD 41.8) in 2016–17. The per capita expenditure has also declined from Rs 4,655.9 (USD 67.5) in 2014–15 to Rs 3,095.2 (USD 44.9) in 2016–17 indicating the growing weakness of the ULBs. Improvement in the property tax rates, coverage ratio and collection efficiency could improve the financial priorities of the ULBs. In addition, systematic increase in the user charges and reduction of exemptions in taxation could also improve revenue collection.

Urban Development

Tamil Nadu does not have any specific urban development or housing policy in place. Many of the strategies and programmes for urban areas are reflected in state FYPs and Tamil Nadu Vision, 2023 or are extensions of Central Government programmes . The Twelfth FYP (2012) has set goals to achieve slum free cities, 100 per cent households to have access to water and sanitation, and more than 50 per cent share of public transport in modal split. To achieve these goals, the Plan also recommends strengthening of urban governance, planning, funding and undertaking capacity building initiatives with innovations as a cross-cutting theme.

Following this, the state has undertaken a number of reform initiatives. It has been a pioneer in external financing of infrastructure projects. It has set up a financial intermediary which guides ULBs to develop financially viable projects and access the market for funds (eg. municipal bonds, pooled fund, public-private partnerships). It has created frameworks for ring-fencing finances to meet operational and maintenance costs and debt servicing for water supply and sewerage projects.

The JNNURM – a reform linked project of the central government has helped Madurai city to improve urban governance and infrastructure. Eight projects[17] worth Rs. 8428.92 million (USD 120.61 million) were implemented during 2005–16. At the time of writing, the city is implementing SCM, AMRUT, SBM and PMAY programmes of the central government for infrastructure development (Box 12).

Service Delivery

Madurai has made a substantial investment in improving the level of infrastructure services. These are better in the areas which form the old municipal boundary of the corporation as compared to the newly merged area (NMA). This section analyses the level of services in both the old municipal boundary and the newly merged area.

As per Census 2011, while 90.0 per cent of the households had access to tap water in the old municipal boundary, only 67.1 per cent had access to the same in NMA. With regard to access to water within premises, 68.2 per cent of the total households in the old municipal boundary had access compared to only 33.9 per cent in the NMA (Table 79). Interaction with the city officials revealed that even after 8 years, the NMA is still not covered with piped water supply and households resort to private water suppliers to meet their daily requirement of water. The private suppliers charge Rs. 600 (USD 8.7) for 4000 litres of water, which last for about a week, whereas the water supply department charges only Rs. 900 (USD 13.0) per annum.

A high proportion of households (92%) had access to toilet within premises in the old municipal boundary compared to 86.7 per cent in NMA. The access to sewerage was found to be very low in NMA (28.9%) as compared to the old municipal boundaries (82%).

[17] *Five projects for water supply and 1 each for solid waste management, sewerage and drainage*

Box 12: Major Urban Development Programmes in Madurai

Smart City Mission (SCM)

Under SCM, MMC has selected an area of 528.12 hectares around the Meenakshi temple precinct for retrofitting under an area based development strategy (ABD). Some of the key components of ABD are: heritage preservation; infrastructure to support tourism; IT integration for aiding tourists and citizens. Under Pan City Smart Solutions, Madurai envisages the development of an Integrated City Management and Control Centre. The key components are intelligent public transport, parking and traffic control systems; street light monitoring and management system; emergency response and surveillance system; waste collection and transportation monitoring system; and integrated platform for e-governance.

The city has proposed undertaking projects worth Rs. 13620 million (1.97 million USD) under SCM. It plans to mobilise 37 per cent of the total resources from the central government, 37 per cent from state government, 10 per cent from convergence with other projects, 12 per cent from the private sector, and 4 per cent from other sources.

Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

Under the AMRUT mission, Madurai city proposed undertaking the development of parks at the cost of 0.99 million USD and 4 projects for improving the water supply situation at a cost of Rs. 300 million (4.29 million USD). The water supply projects include a Dedicated Water Supply Scheme to augment 115 MLD from the Vagai dam; a water supply distribution system for the newly merged area; revamping the water supply distribution system for the old municipal boundary; and an underground sewage scheme for the newly merged area.

Prime Minister Awaas Yojna (PMAY)

MMC has targeted 5,854 households under PMAY. Construction of 1,088 houses has been sanctioned and these are under various stages of completion.

Swachh Bharat Mission (SBM)

Under SBM, 48 community toilets have been constructed and are being used by people. Apart from this, with the help of a state and central government grant, 5,121 individual household toilets have been constructed and construction of 1,062 individual household toilets are under progress. Development of Swachh Iconic Places under SBM is being implemented with CSR support from Bharath Petroleum Corporation Ltd. Under this project, cleanliness in the temple precinct will be managed.

A significant proportion of households (13%) used public toilets or practised open defecation in NMA. Not much difference was found in the old municipal boundary and NMA in terms of access to electricity and a bathroom facility within premises (Table 3.20). Discussions with urban planners and academicians revealed that there is no shortage of financial resources but lack of proper planning and non-prioritisation of projects has led to deficiency in service levels and creation of non-compatible infrastructure in the city. Also, the high rate of construction activity on natural water bodies has reduced infiltration and ground water levels.

As reported by the MMC officials, the city generates approximately 450–650 MT of solid waste per day (441 grams per capita). Domestic waste forms the main component of waste generation followed by commercial waste (Table 80). Pilgrims (approximately 0.21 million people annually) are the major contributors to commercial and temple waste. The city has a solid waste composting plant at Velakkad, which produces 10 to 20 tons of compost every day.

Table 79: Access to Basic Amenities in Madurai

(in per cent)

Basic Amenities	India (Urban)		Tamil Nadu (Urban)		Madurai			
					MMC	Old Municipal Boundary	Newly Merged Areas	Total MMC
	2001	2011	2001	2011	2001	2011	2011	2011
Access to tap water	68.7	70.6	65.4	80.3	74.2	90.0	67.1	83.0
Access to water within premises	65.4	71.2	48.3	54.0	57.2	68.2	33.9	57.8
Access to safe drinking water	97.7	97.5	95.5	97.3	97.5	98.1	90.2	95.7
Access to toilet within premises	73.7	81.4	64.3	75.2	83.7	91.9	86.7	90.4
Access to sewerage	N.A.	32.7	N.A.	27.4	N.A.	82.3	28.9	66.1
No toilet within Premise	26.3	18.6	35.7	24.9	16.3	8.1	13.3	9.7
Access to bathroom facility within premises	70.4	87.0	66.4	85.2	76.3	93.6	90.2	92.5
Access to drainage	77.9	81.8	70.0	74.9	87.5	95.9	80.6	91.3
Access to electricity	87.6	92.7	88.0	96.1	93.6	98.8	97.5	98.4

Note: Water sources constituting tap water, well, hand-pump, tube-well/ bore well are considered as safe sources
Source: Population Census of India, 2001 and 2011

Table 80: Composition of Solid Waste Generated in Madurai, 2018

Type	Composition (%)
Domestic	64.0
Commercial	24.0
Medical	4.0
Others	8.0
Total	100.0

Source: Madurai Municipal Corporation, 2018

State of Housing

In Madurai each area exhibits its own characteristics. The old city has retained its traditional character and acts as a religious node but also witnesses overcrowded streets, stressed infrastructure and high density. The new or south city is planned and has better housing and infrastructure services. The NMA has added another dimension and still awaits planning and infrastructure development. A high floating population and growth of slums has put additional pressure on land and service delivery levels.

Housing quality in Madurai city,[18] is better than the average state urban and urban India (Table 81). While the houses classified as "good" in Madurai (84.0%), the average of Tamil Nadu state stood at 76.4 per cent. Table 81 reveals that there had been a stark decline in the proportion of "good" quality houses from 93.0 per cent

[18]*Due to non-availability of census data, the comparative analysis of old municipal boundary and NMA cannot be undertaken in this section*

in 2001 to 84.0 per cent in 2011 (Table 81). This is because of the deterioration in quality of houses in the old city and increase in the share of slum houses. A substantially high figure of 48.7 per cent households had one room or no exclusive room in Madurai in 2011. The "congestion factor"[19] was also high (46.5%) in Madurai as compared to state average (41%) and urban India (35%).

The housing shortage estimated by the Technical Group on Urban Housing Shortage (2012) for Tamil Nadu was 1.25 million accounting for 6.65 per centof the total housing shortage. However, this estimate of the housing shortage in urban India cannot be disaggregated to the level of cities, due to data limitations. Nevertheless, the severity of the housing shortage in Madurai can be assessed through the facts exhibited in Table 82.

Table 81: Distribution of Households by Quality and Number of Rooms in Madurai

(in per cent)

		2001			2011		
		India (Urban)	Tamil Nadu (Urban)	MMC	India (Urban)	Tamil Nadu (Urban)	MMC
Quality of Housing	Good	64.2	89.9	93.0	68.5	76.4	84.0
	Livable	32.2	9.3	6.6	28.6	22.4	15.4
	Dilapidated	3.6	0.7	0.5	2.9	1.2	0.6
No of Rooms per House	No exclusive room	2.3	5.9	3.9	3.1	4.7	3.7
	One room	35.1	37.3	44.5	32.1	36.7	45.0
	Two rooms	29.5	29.2	29.0	30.6	31.6	29.7
	Three/four rooms	25.8	22.8	18.8	27.7	23.4	19.2
	Five+ rooms	7.3	4.7	3.9	6.5	3.5	2.5

Note: The quality of housing is as per Census of India classification

Source: Population Census of India, 2001 and 2011

Table 82: Residential Housing Stock and Housing Inadequacy in Madurai

	Total Housing Stock (million)		Vacancy Rate (%)		Rented (%)		Congestion Factor (%)	
	2001	2011	2001	2011	2001	2011	2001	2011
India (Urban)	71.56	110.14	9.02	10.07	28.53	27.55	34.74	35.20
Tamil Nadu (Urban)	7.27	11.23	6.11	6.18	38.42	40.21	40.88	41.42
Madurai	0.24	0.33	4.37	5.09	58.94	59.98	46.40	46.50

Source: Population Census of India, 2001 and 2011

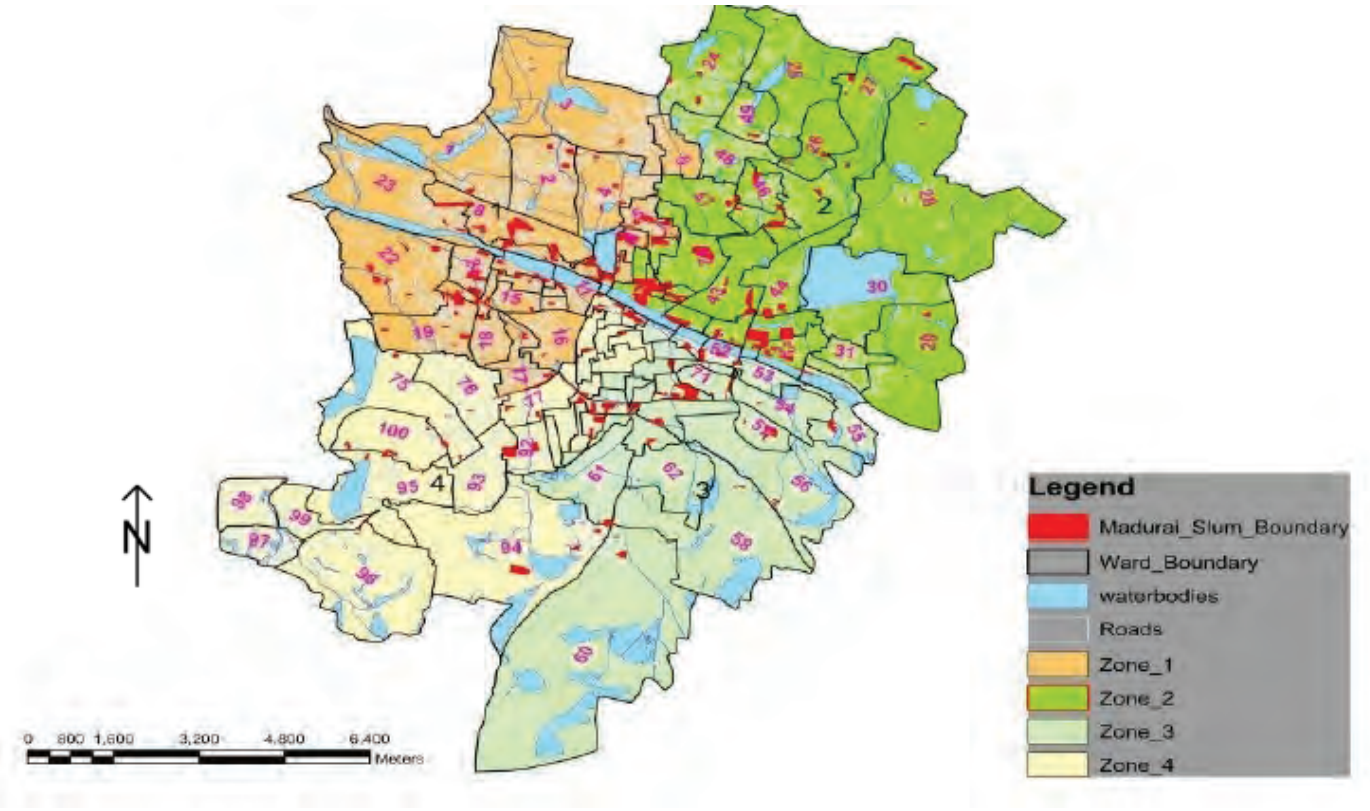
The share of rental housing is much higher (60%) in Madurai. Census 2011 pointed out that in Madurai city, out of 0.32 million residential housing stock, only 80 per cent of the houses are used for residential purposes; the remaining houses were used for commercial purposes which included shops, offices, guest houses, dispensary etc. Of the total housing stock in Madurai, five per cent houses were vacant at the time of the census survey. This shows that on one hand, the houses are lying vacant and physically unutilised or utilised for other purposes, and on the other, there is high congestion and shortage of housing for the poor.

Slums in Madurai

Madurai had a high proportion of its population (27.2%) living in slums. The emergence of industrial units in and around Madurai city brought people from neighbouring Ramanathapuram, Theni, and Virdhunagar districts resulting in slum growth. The number of slums in Madurai increased from 36 in 1967 to 127 in 1981

[19]*Percentage of households having more than 2 members living in no exclusive room or just one room*

Figure 56: Location of Slums in Madurai City, 2013



Source: Slum Free City, Plan of Action, Madurai Corporation, 2013

to 331 in 2011. Slums are mostly concentrated along the banks of the Vaigai and Kiruthammal rivers, near the railway line and in the fringe areas of the city (Figure 56). A high proportion of slums in MMC are located on state government land (53%). Nearly one half of the total slums (176) are tenable,[20] whereas 23 slums are located in vulnerable locations.

The level of services is better in the slums located in the old municipal boundary as compared to the slums in NMA. In Madurai, 88.8 per cent of the slum households had access to tap water, but only one half of the total slum households had access to water within premises. Discussions with city officials revealed that MMC has

Table 83: Profile of Slums in Madurai, 2011

Slum Population	278,153 (27.2%)
No. of Slum Households	72,799
No. of Slums	331
Notified Slums	142 (43%)
Non-notified Slums	189 (56%)
Developed Slums	126 (38%)
Area Covered by Slums	22.65 sq. km (14.97%)

Source: Population Census of India, 2011 and Madurai Municipal Corporation

[20]*Tenable slums are located on lands earmarked for residential land use and environmentally safe areas. Untenable slums are located in the unhealthy and environmentally risk areas*

ensured that there should be at least one tap for 25 households in slum areas. Though 81.9 per cent of slum households had access to a toilet within premises, a high percentage of households in NMA use public toilets (25.3%) and also resorted to open defecation (22.3%).

The Tamil Nadu Slum Clearance Board, an agency responsible for development of slum areas has undertaken infrastructure improvement works in 126 slums. The city has now adopted the approach of re-locating the slum population towards the periphery to cleanse and sanitise the city, which again corroborates the hypothesis of exclusionary urbanisation.

Table 84: Access to Basic Amenities in Slums of Madurai, 2011

(in per cent)

Basic Amenities	India (Urban)	Tamil Nadu (Urban)	Madurai		
			Old Municipal Boundary	Newly Merged Areas	Total MMC
Access to tap water	74.0	80.6	90.4	72.9	88.8
Access to water within premises	56.7	39.3	55.7	20.7	52.5
Access to toilet within premises	66.0	61.0	84.9	52.3	81.9
Use of public toilet	15.1	15.9	11.4	25.3	12.7
Open defecation	18.9	23.1	3.7	22.3	5.4
Access to bathroom facility within premises	81.0	78.2	88.2	66.3	86.2
Access to drainage	81.2	71.1	93.1	66.6	90.7
Access to electricity	90.5	93.4	98.0	91.8	97.4

Source: Population Census of India, 2011

CONCLUSION

Madurai city has been one of the main political and economic centres of South India from ancient times. It has also been an academic centre of learning for Tamil literature, art, music and dance for centuries. The morphology of the city is influenced by the "Meenakshi Amman Temple" around which the initial development of the city took placed in 16th century in form of concentric squares. The spatial form of the Madurai has metamorphosed in British period with the replacement of central form of planning from functional zone based planning. The current spatial growth pattern shows a continuous expansion of the city along with major transport corridors. However, major deviations are evident in the development of the city with respect to the Master Plan (1995). The city has grown more in the north direction as compared to south. One of the major constraints for the growth in the south is inadequate water supply and poor quality of ground water. The pattern of land-use and land cover in Madurai city shows a doubling in the built-up areas during 2001-2018. Unfortunately, the development took place on wetlands and waterbodies which is adversely impacting the natural drainage and water availability in the city and poses one of the major challenges to the city.

The population growth pattern of Madurai UA and city shows a declining trend since independence. In recent two decades, there has been a sharp decline in the urban population of Madurai city, which is attributed to decline in the natural growth, saturation of core and decline in in-migration. The economic sustainability of the Madurai city is highly dependent on the tertiary sector especially trade, hotel and restaurants which is based on religious tourism of Meenakshi temple. It is evident that temple plays a major role in the city economy. Manufacturing sector along with banking, insurance and real estate are other sectors, which contribute in the economy of Madurai. The district level GDP shows that Madurai contributed 4.15 percent to the total GDP of the Tamil Nadu state. However, the demand for employment in Madurai is still very low and does not match with the supply of skilled professionals trained at technical institutes in city. Of late, the government of Tamil Nadu has taken several steps such as establishment of SEZs and industrial parks to generate the employment.

A review of last three Five Year Plans of state government of Tamil Nadu shows that in education, government has taken several initiatives to universalize elementary, secondary and higher secondary education, to ensure compulsory elementary education under Right to Education Act (RTE), and to upgrade the existing school infrastructure. The high literacy rate (90.9 %) and low gender gap (7.8 %) in Madurai city in 2011 are reflection of the efforts taken by state government in different Plan periods. In addition, the city corporation has taken several steps to reduce the emotional and mental stress among children. However, privatization of education at all levels is a major concern in Madurai city. It is also affecting the quality of education in Madurai, which was a regional hub of education until recent past.

There has been considerable progress in the basic health infrastructure in Madurai city over time. There are 31 Urban Primary health centres under Madurai M. Corp., which provides maternal and child health care services, and are equipped with the diagnosis facilities for non-communicable diseases. A regional cancer centre is also established at the Rajaji government hospital. Several state governments' programmes on health such as Chief Ministers' comprehensive healthcare scheme, Dr. Muthulakshmi Reddy maternity benefit schemes, right to health for migrant children are running in the city. The impact of these initiatives is evident in the health outcomes of Madurai. The recent estimates of National Family Health Survey-4 (2015-16) show that the health outcomes in Madurai in terms of vital statistics, reproductive and child health and nutrition are much better as compared to national figures.

It could be concluded from the above that although the education and health outcomes of Madurai city is better but there is missing link between urbanisation and economic development as the city is facing high unemployment rate. The economy is highly dependent on tourism and lacks diversification. This lack of economic vibrancy has resulted in a decline of demographic growth. It is important to promote the small and medium enterprises and utilize the growth potential of special economic zones and industrial parks to create sustainable economic development. Also, to address the challenge of adequate water supply, efforts should be made to prevent water bodies and discourage construction activities on water bodies.

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