

## *Safe and Inclusive Cities*



### **Patna: City Profile**

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*Poverty, Inequality and Violence in Urban India: Towards Inclusive Planning and Policies*

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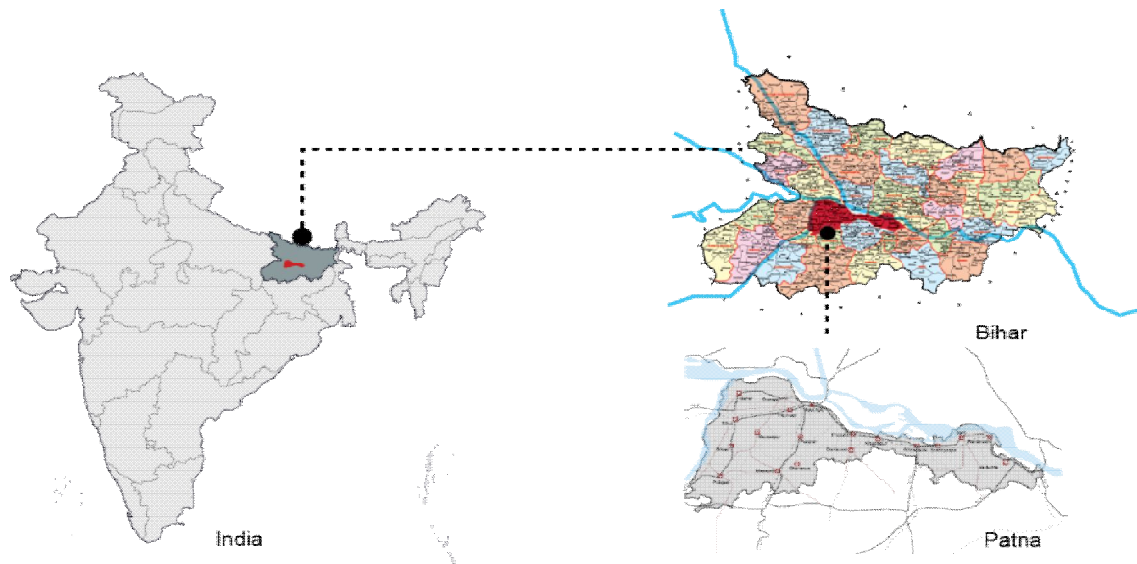
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## 1. Introduction

Patna, the capital city of state of Bihar, is located on south bank of river Ganges. It is located on 25° 37' North latitude and 85° 10' East longitude. Patna is a linear city expanding over about 107 sq kilometer area; it spreads about 33 kilometers in east west direction and about 7.2 kilometers in north south direction. Patna is centrally located in the Gangetic plain. The city is not only the headquarters of district, divisional and the state administration; it is focus of key urban functions like education, commerce and services for entire state. Patna is an ancient city with thriving history across ancient, medieval and colonial period. In post independence period it witnessed rapid growth in population and areal expanse particularly in the recent decades. The city performs multiple functions for the residents as well as rural and urban dwellers of the state, thus it continues to attract in-migration of population. Current population of Patna Urban Agglomeration is 2,046,652 (2011) and it witnessed 23.73 % growth during 2001- 2011.



**Fig 1: Location of Patna**

**Table 1: Patna- Population Growth 1872-2011**

<b>Year</b>	<b>Population</b>	<b>±%</b>
<b>1807-14</b>	312,000	—
<b>1872</b>	158,000	-49.4%
<b>1881</b>	170,684	+8.0%
<b>1901</b>	134,785	-21.0%
<b>1911</b>	136,153	+1.0%
<b>1921</b>	119,976	-11.9%
<b>1931</b>	159,690	+33.1%
<b>1941</b>	196,415	+23.0%
<b>1951</b>	283,479	+44.3%
<b>1961</b>	364,594	+28.6%
<b>1971</b>	475,300	+30.4%
<b>1981</b>	813,963	+71.3%
<b>1991</b>	956,418	+17.5%
<b>2001</b>	1,376,950	+44.0%
<b>2011</b>	1,683,200	+22.2%

*Source: Census of India (presented in Kumari, 2006)*

## 2. History of development of the city

### 2.1.Spatial Growth in the city

The historical process of development in Patna city is adequately explained by accounting the function that city played at different events of the time line. It was around the 490 BC, when the king of Magadha wanted to shift the location of the capital of the kingdom from Rajgiri to more strategically suitable place for both administrative and security reasons. Pataliputra was by then built by the king on a village ( Patligram) situated at the confluence of the Ganges and the Son river<sup>1</sup>. He decided this site on the banks of the Ganges as this location will help Magadh to dominate the riverine trade of the Indo-Gangetic plains. King was quite aware that all the Chinese travellers who were using river and sea routes through this river to travel to Nalanda.

The city was planned in an organized effort for security measures with a wall around the city. The seat of power was placed in the centre and surrounded by residential pattern governed by the caste system. Historians have also noted presence of specialist markets in the city, hierarchal street system and an elaborate drainage system.

A number of travellers who had come to India had recorded their experience about Pataliputra in their travelogues. According to *Megasthenes*, Greek ethnographer and author of the work *Indika*, "*Pataliputra was surrounded by a wooden wall pierced by 64 gates and 570 towers— (and) rivalled the splendours of contemporaneous Persian sites such as Susa and Ecbatana* "<sup>2</sup>.

A second set of the development of the city was during the time of Sher Shah Suri, (1488-1545). He built Patna over Patliputra as a fortified city. The remains of Suri's city are still there in the city as an extensive road system. Later Mughal king, Humayan (1508-1556) also acknowledged the importance of Patna. Peter Mundy's writing in 1632 AD, mentioned Patna as "*the greatest economic centre of the eastern India*".

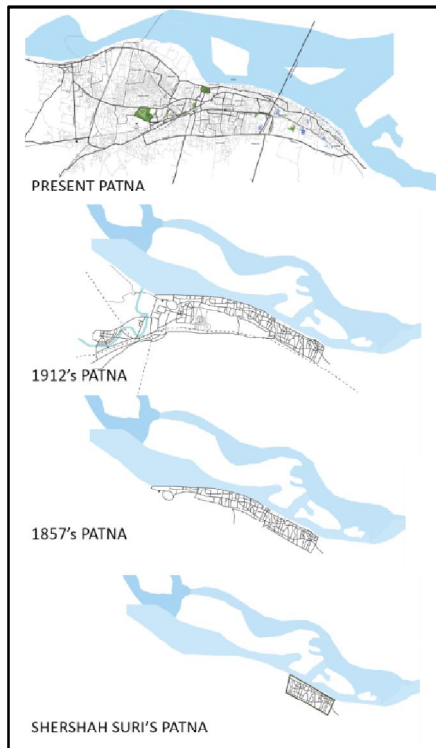
Patna experienced the most remarkable development during colonial administration. English and Dutch merchants first came to Patna in 1620 and by 1657 started using port of Patna for commercial reasons. They built factories for opium production, sugar and saltpetre on the western side, outside the city and also the necessary infrastructure for support. Their armed force camp was established in Danapur cantonment on the west of the main city in 1765. It was the only English military camp of East India Company at one point of time in the eastern region. During the early British period Patna enjoyed considerable economic prosperity and it rose to worldwide importance as a source of production and supply of sugar and Saltpetre.<sup>3</sup>

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<sup>1</sup> Master Plan, 1962

<sup>2</sup> History — Ancient History in depth: The Story of India: South India". BBC. 5 November 2009. Retrieved 1 February 2010.

<sup>3</sup> Dayal and Thakur, 1976



**Fig 2: Growth of the city**

Source: Survey map of India, British Library

After the mutiny of 1857, fortification was destroyed by the English troops and the city extended far beyond the fortified walls resulting in large development along the river's bank as Bankipore. Growth axis was from east to west as the lowland in south was vulnerable to flood. Under the British rule, from the middle of the 18th century to the World War 2, certain aspects of Patna's physical structure and pattern of growth have virtually paralleled to those of pre-industrial cities of the west.<sup>4</sup> During the rule of the British East India Company in Bihar, Patna emerged as one of the most important commercial and trading centres of eastern India, preceded only by Kolkata. The city saw the mix of culture in its architecture and space usage. Patna College, which was built during this period as a Dutch opium factory<sup>5</sup> is a combination of Dutch, British and Indian architecture. Like most other Indian towns, it is a collection of 'Period Pieces'.

When the Bengal Presidency was partitioned in 1912 to carve out a separate province, Patna was made the capital of the new province of Bihar and Odisha. The city limits were stretched westwards along the river line to accommodate the administrative base, and the township of Bankipore took shape along the Bailey road. This area was called as *New Capital Area*. This is when the city started growing linearly (East-West direction) due to the physical constraints by Ganges in the north and Punpun river in the south.

Like most of the Indian urban centres Patna has a congested old section (east Patna) adjacent to which may be found carefully planned and spacious sections (Western New Capital Area). New Capital Area was planned in a semi-circular pattern with a mix of residential and office space. The Patna Secretariat with its imposing clock tower and the Patna High court are two imposing Landmarks of this era of development). Architecture reflects either Indo-Saracenic influence (like the Patna Museum and the state Assembly), or overt Renaissance influence like the Raj Bhawan and the High Court. Some buildings, like the General Post Office (GPO) and the Old Secretariat bear pseudo-Renaissance influence. The British built several educational institutions in Patna like Patna College, Patna Science College, Bihar College of Engineering, Prince of Wales Medical College and the Patna Veterinary College. Meanwhile, Eastern Patna continues growing organically with mix influence of different religion. Streets are narrow and crooked with an irregular pattern. They are heavily encroached with spill over. Like all other Indian cities, there was a mix use between residential and commercial land use. Major

<sup>4</sup> L. R. Singh and R. D. Singh, *Spatio-Demographic Structure of Patna in Its Ecological Setting (Räumlich-demographische Struktur Patnas in ihrem ökologischen Zusammenhang)*,

<sup>5</sup> Abdus Sami, *Intra Urban Market Geography: A Case Study of Patna*, Pg. 56

markets or open space was around some public building. Population migrating to the city from different parts of Bihar for employment opportunities and higher education settled down in old city where it was easy to find cheap accommodation, resulting in higher population density in this part of the city. The urban morphology of Patna, thus, shows conflict between indigenous features of Indian mix-use core and hybridized European features of administrative capital of Bihar.

Post Independence, Patna, as capital of Bihar, has emerged as an important administrative, educational and medical centre. The growth and development have brought about significant changes in the morphological and demographic character of the city. Until the late 1960s, Patna has grown on either side of a main road (Asoka Raj Path) running east to west on a ridge, almost parallel to the river line and southern expansion was almost restricted to the old bypass road.

Patna, now, can be divided into three distinct zones according to functions and physical characteristics<sup>6</sup>. The eastern-most zone which constitutes old city and the ancient capital is full of derelict building along narrow lanes and bye-lanes with insanitary conditions. This zone contains one of the biggest centres of wholesale trade at Maroofgunj and Mansoorgunj and also many religious places like Patan Devi, Padari ki Haveli, Sher Shah Suri's Mosque and Patna Sahib Gurudawara.

Contiguous to this zone and towards its west is the middle zone or the central city, covering the area roughly between the Paschim Darwaza in the east and the Buddha marg in the west. This zone, which can be called the business and commercial core of the city, also houses the bulk of the institutional, cultural and district administration buildings. It is most overcrowded zone of the city and offers striking contrast within itself between the group of the fine buildings around Gandhi Maidan, the various institutional and cultural buildings mostly lined along the north of Ashoka Raj Path, and the extremely congested and dense areas with some notified slums.

The western-most zone which is the new capital area, differs significantly from the other two zones in its monumental buildings and well laid out ring and radial road pattern with wide avenue. The general conditions of the buildings in this zone are fairly satisfactory. Apart from governmental buildings, a considerable amount of private developments have also taken place in this zone. But in the absence of a proper Master Plan, most of these developments have taken place in haphazard manners. The construction of embankment as new bypass road realigned the liner character of the city and also created opportunities for over hundreds of thousand urban dwellers to seek residence in the developed sub-urban areas<sup>7</sup>.

Patna also plays the role of spirituality. It has become a gateway to Buddhist and Jain Pilgrimage centres of Vaishali, Rajgiri, Nalanda, Bodhgaya and Pawapuri. Being an important economic and cultural hub, the population and the city is growing at an unsustainable fast pace. Post 1980s, Patna has not experienced any planned growth or regulation. There were

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<sup>6</sup> Divya Saran, Residential Development of Patna, 1995, School of Planning and Architecture, Masters thesis

<sup>7</sup> Singh LR, Singh RD 1980



some planning attempts to sustain the growth but it does not implement well. The city is already crowded and is unable to cope with the population pressure.

**Table 2: Area and Population of Patna Urban Agglomeration Area (PUAA)**

Name of Place	2001 Area (in sq.km)	1991 Population (in Lakhs)	2001 Population (in Lakhs)	2011 Population (in Lakhs)
<b>Patna Municipal Corporation</b>	99.45	9.17	13.66	16.83
<b>Patliputra Housing Colony (outgrowth of PMC)</b>	0.64	0.04	0.05	0.03
<b>Digha-Mainpura (Outgrowth of PMC)</b>	6.99	0.35	0.53	NA
<b>Sabazpura (Outgrowth of PMC)</b>	0.39	0.01	0.02	0.07
<b>Khalilpura (Outgrowth of PMC)</b>	0.80	0.03	0.05	
<b>Badalpura (Outgrowth of PMC)</b>	0.67	0.01	0.01	.07
<b>Phulwarisharif Nagar Parishad</b>	6.48	0.35	0.53	0.81
<b>Danapur Nagar Parishad</b>	11.63	0.85	1.31	1.82
<b>Danapur Cantonment Area</b>	3.42	0.23	0.28	0.28
<b>Khagaul Nagar Parishad</b>	3.66	0.40	0.48	.44
<b>Saidpura (Outgrowth of Khagaul)</b>	1.66	0.02	0.05	0.07
<b>Total for PUAA</b>	135.79	11	17	

*Source: Primary Census Abstract, Census 2001, Directorate of Census, India*

### **Administrative division of the city and the changes over time**

Within Patna District boundary (Fig 3), Patna is divided into Patna Urban and Patna Rural as per Census definition. The Patna Urban Agglomeration Area (PUAA) (Fig 3) comprises of Patna Municipal Corporation Area (PMC), and its outgrowth of Patliputra Housing Colony, Digha-Manipu, Sabazura, Khalilpura and Badalpura; Danapur Cantonment Area, Danapur Nagar Palika Parishad area, Khagaul Nagar Palika Parishad area, and its outgrowth of Saidpura,

Phulwarisharif Nagar Palika Parishad area; apart from these it also consists of Fatwah Nagar Panchayat area, Maner Nagar Panchayat area and 104 villages<sup>8</sup>.

Patna Municipal Corporation is the Urban Local Body (ULB) as per 74th Amendment of the Indian Constitution for urban Patna. This civic administrative body administers an area of 110 square kilometres. The city is divided into 73 administrative wards which are managed through 4 circles namely New Capital circle, Kankarbagh circle, Bankipore circle and Patna city circle. Each ward elects councillors who jointly work with executive officer of the circle for the development work in the area. The corporation performs its function through Mayor (elected by ward councillors) and Commissioner (Executive head appointed by the state Government). The function of the Patna Municipal Corporation (PMC) includes water supply, drainage and sewerage, sanitation, solid waste management, street lighting and building regulation.

According to the official of Patna Municipal Corporation, at present, is facing lot of internal conflicts between departments which is affecting the planned activities of the city.<sup>9</sup> Problems like financial crunch, manpower, lack of capacity and local political interference are making working of corporation worse. Right now city and its suburbs are facing urgent problems related to traffic and transportation, housing, drainage, water supply, sanitation etc. As per a report put together by Centre of Science and Environment (CSE) in 2012, less than 10 percent of the city's population is connected to a sewage network; which means 90 percent of the city's excreta is discharged into open drains and eventually in the river.

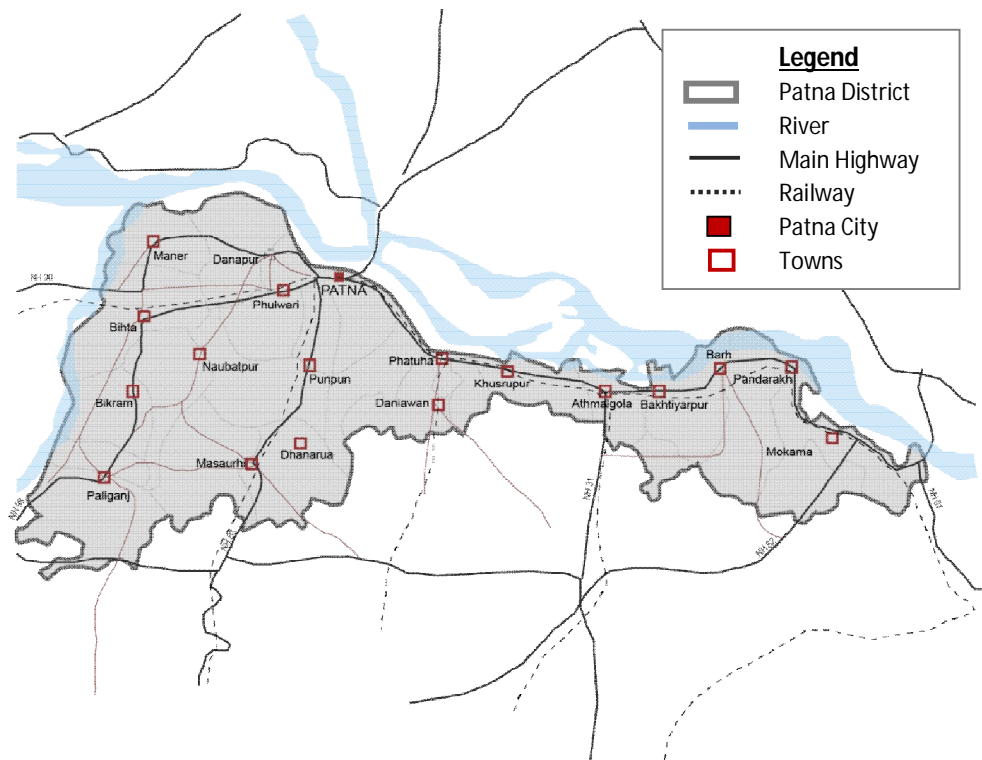
In 1980s, Patna Regional Development Authority (PRDA) was a body of the Government of Bihar<sup>10</sup> under the provision of Patna Regional Development Authority act 1978 after the disbanding Patna Improvement Trust. It was responsible for the infrastructure development of the Patna Metropolitan Region (PMR). The regional authority of PRDA is within the Districts of Patna, Saran and Vaishali with an area of administration of PRDA covers 234.70 square kilometres. River Ganges acts as the binding force between these different administrative divisions. There grouping is done into an administrative division which is ideal for efficient flow of Patna Regional Centric funds. PRDA updated the master plan in the year 1982 - 2001 and also for the year 2001 - 2021 before it was dissolved in 2006 in repelled of Bihar Regional Development Act, 1981, and the powers are being conferred to Patna Municipal Corporation.

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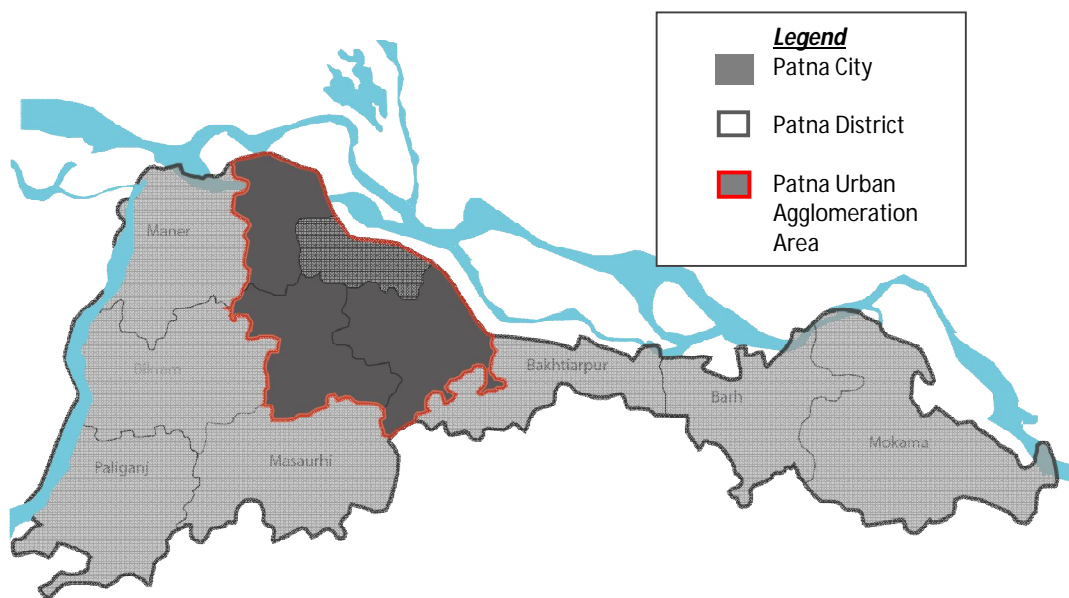
<sup>8</sup> City Development Plan, Patna

<sup>9</sup> As a part of the project, Interviews were conducted with PMC.

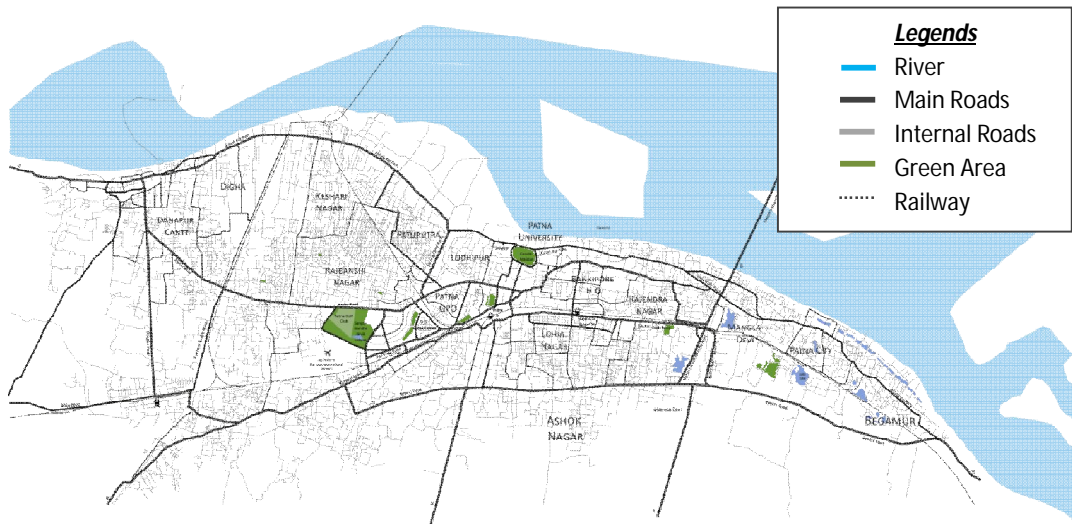
<sup>10</sup> Satija and Rodgers , 2011



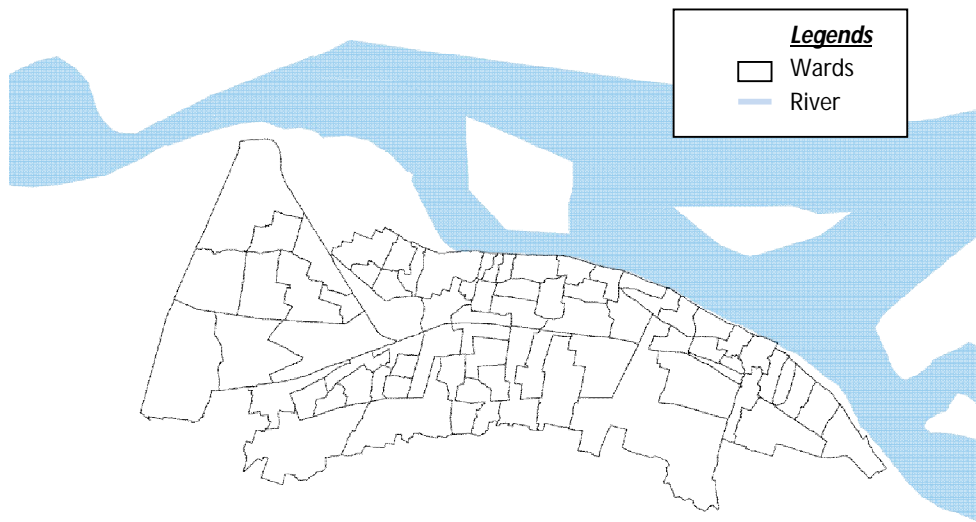
**Fig 3: Map showing Patna District**  
 Source: Census of India 2011 and Survey of India



**Fig 4 : Map Showing Patna Urban Agglomeration Area**  
 Source: Census of India 2011 and Survey of India



**Fig 5 : Map Showing Patna Municipal Corporation Area**  
 Source: Census of India 2011 and Survey of India



**Fig 6 : Map Showing Patna Municipal Corporation with 73 Wards**  
 Source: Support Programme for Urban Reform ( SPUR), Patna

### 3. History of planning and urbanization

#### 3.1.Spatial representation of Urbanization

The district of Patna has highest population in the state owing to the concentration of large population in urban area, i.e., Patna city. The urban expansion map prepared from satellite imagery using visual interpretation technique indicates that the total urban area of Patna District in 1991 was 196.91 Sq.kms and it expanded to 234.70 sq.km in 2008. In other words, the growth in urban area over seventeen years is 37.79 sq.km<sup>11</sup>.

**Table 2: Population of Patna District**

Name	Unit	Population (Census 1991)	Population (Census 2001)	Population (Census 2011)
Patna	District	3,618,211	4,718,592	5,838,465
Bihar	State	64,530,554	82,998,509	104,099,452

*Source: Census of India*

The city is experiencing a phenomenal growth of population with an increment of 22.20 percent during 2001-2011. In response to this growth the number of administrative wards has been increased to 73 in 2011 from 52 in 2001. Initial urbanisation was towards West of the city centre but after the construction of new bypass road on the south residential plots are being built in the south as well. These areas are being presently used for dumping of solid waste also. In fact, almost the entire stretch adjacent to of the bypass road is being used for dumping of city waste.

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<sup>11</sup> Indhira Gandhi, Madha Suresh and Stalin M, Study of Urban Sprawl of Patna City Using Remote Sensing and GIS,2012

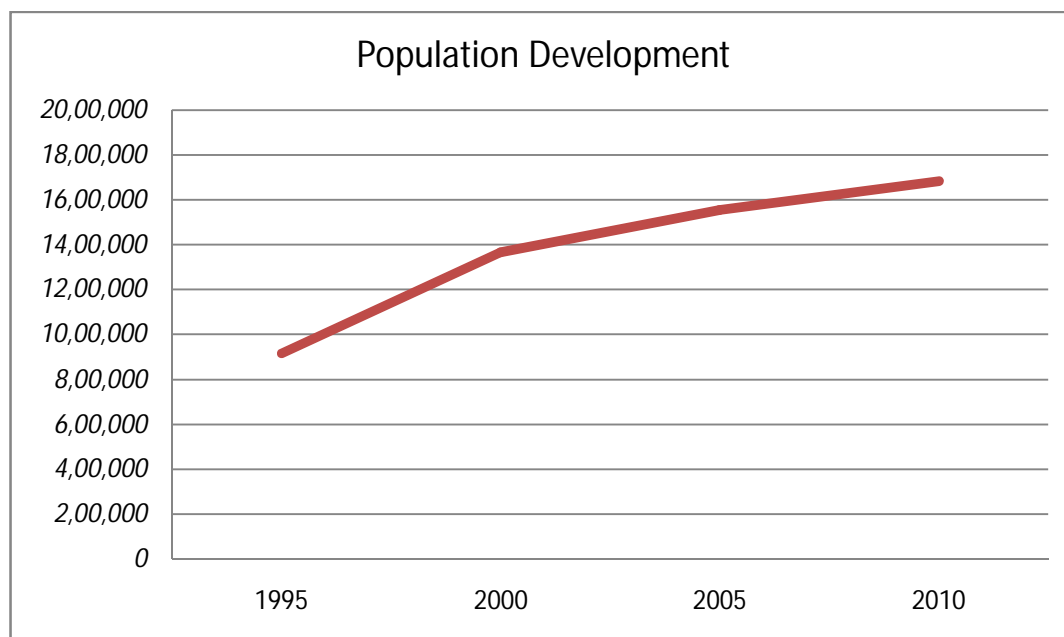


Fig 6 : Population Development for Patna City. Source: Census of India  
Source: Census of India

**Table 3: Distribution of Population in 2011**

S.No.	Population	No. Of Wards	Ward No.s
1	High	4	22,31,30, and 5
3	Low	3	23,39,25, and 9

Source: Census of India

The total PMC area is 100.105 sq km which is divided into 73 wards. Table 3 indicates the distribution of population. The western zones have a larger proportion of urban land with 34% of total land and housing 17.8% of total population<sup>12</sup>. Census population density in the city shows an increase of population in peripheral wards and some of the wards in Patna city have experienced a notable decrease of population but they still remain the densest wards. Commercial zones in the city centre, like Bankipore circle, have the lowest share of population. Commercial developments are usually seen on the projecting roads which present a picture of radiating ribbons which combine to form a clear nucleus. The highest concentration of residential population is found in and around the commercial area (Muradpur, Dariapur, Sabzibagh, Bakarganj) of the city. Residential areas like Rajendra Nagar, Bahadurpur, Kankarbagh, Lohianagar, etc. have experienced a fairly increase in the population. The increase in population and of overcrowding, especially in the core area of Patna, has led to enormous pressure on the physical infrastructure and traffic congestion. Initially, Urban structure of the

<sup>12</sup> Support Programme for Urban Reforms in Bihar (SPUR)

city is shaped by the assumption of fierce economic competition for location near the CBD which is attractive to all types of activities because of its accessibility to jobs, transportation node and market.<sup>13</sup> But with increasing population and lack of space in the city, new residential buildings are coming up in the outer wards.

### **3.2. History of planning and Housing Development**

Post Independence, in 1950s, as an enactment of Bihar Town Planning and Improvement Trust Act, Patna Improvement Trust was setup and first Master Plan (1961 - 1981) was framed to sustain the growth. Master Plan also introduced Area wise Development in many old localities which leads to the patches of planned development in Patna. The plan in reality was a rapid broad brush land use exercise<sup>14</sup>.

Furthermore, the Trust did not have adequate infrastructure or legal support to implement the Plan. A new Act was then enacted in the form of Bihar Regional Development Authorities Act, 1982, transforming an ordinance of 1975 under which the Patna Regional Development Authority (PRDA) was setup.

By 1980s, city and its suburbs were facing urgent problems related to traffic and transportation, housing, drainage, water supply etc. The population growth was putting pressure on all walks of life. A re-orientation of the whole land use system was immediately needed. After a series of meetings with technical and administrative personnel of Government of Bihar during 1979-81 directives were issued in 1980 to the Patna Regional Development Authority for preparing a revised Master Plan for Patna.

The objective of the new Master Plan was to redevelop and review in a phased manner especially for the existing slums and other blighted areas of the city by providing proper sanitary, health and other facilities. There was a constant increase in the slum population.

Master Plan focused on the residential requirements of the city. Seventeen new residential neighborhoods covering a total area of about 5000 acres were proposed to be developed in the city. Eight of these neighborhoods were proposed in the western zone, seven in the central zone and five in the Eastern zone.

However, this Master Plan was not successful. The direction of growth emerged from this plan but there were several problems with its implementation. Patna was experiencing a steep increase in the land prices along the educational and economic centers and following a piecemeal approach. Due to this spontaneous development, there was lot of encroachment of the public land, started especially in the form of slums. Rented housing was built with poor infrastructure and services as Master Plan did not cater any requirements for economically weaker section. The zoning and sub division regulations were rarely applied and growth seemed to continue despite the plan.

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<sup>13</sup> Hawley, 1950

<sup>14</sup> City Development Plan, Patna

Year	Events	Agency setup
1951	Bihar Town Planning and Improvement Trust, 1951 (Bihar Act XXXV of 1951) and prepared Master Plan for Patna	Patna Improvement Trust
1967	Master Plan approved by State Government vide Notification No. 4860 dated 20th June	-
1982	Bihar Regional Development Authorities Act	Patna Regional Development Authority
1979-81	Directives issued for Revision of Master Plan for Patna 1981-2001 (Not Notified by Govt.)	-
August, 1985	Constitution of sub-committee for scrutiny	-
1986	Draft of Revised Master Plan for Patna (1981-2001) prepared by PRDA	-
1989	Scrutiny of Master Plan completed	-
1990	Revised Master Plan-2001 approved PRDA	-
2006	Draft Master Plan 2021 prepared and approved by PRDA	
2007	Patna Municipal Act. 2007	Strengthen the Urban Local Body
2008	Draft Master Plan 2021 submitted to DoUD&H for Approval	-
2011	Revision of Draft Master Plan 2021 taken up by DoUD & H	CEPT, Ahmedabad is appoint to prepare DRAFT MASTER PLAN for 2021
2011	Preparation of Draft Bihar Urban Planning & Development Act is under taken by the department with assistance provided by CEPT, Ahmedabad	
2012	Bihar Urban Planning & Development Act, 2012	Formation of Bihar Urban Planning & Development Board (2014)
Source: CDP, Patna and Draft Master Plan Report, prepared by DCPL, Kolkata and updated by CEPT, Ahmedabad		

**Fig 7. Chronology of urban initiatives**

Source: Master Plan 2031, Patna

During 1981-91 some infrastructural projects were built in the city. The Mahatma Gandhi Setu over river Ganges was opened in 1983, which links Patna with North Bihar and provides an efficient and easy accessibility to the city. Construction of the New Patna ByPass in the south connecting the Gandhi Setu in the east with Anisabad flyover in the west, led to development of settlements in the southern and western Patna, south of the railway lines. There has been a large scale unplanned expansion by the unauthorized colonies. This part of the city also witnessed a marked increase in the construction of multistoried apartments by the private developers.



With time the city has undergone many morphological changes in the urban fabric. Due to crunch of space, the city expanded incorporating the surrounding flood prone villages adding an environmental hazard to city. Residential land is now slowly converting into commercial space as per the need of locality without any regulation.

PRDA initiated the preparation of Master Plan for year 2021 for improvement of Patna's infrastructure in terms of Sewerage, Drainage, Water Supply and Solid Waste Disposal. Draft Master Plan 2021 was submitted to the State Government in 2008 for approval. But due to the absence of any constitutional framework, master plan was not approved.

There are no government authorities to check the building controls and quality since last decade. As per a rule approved by urban development authority, a panel of 50 licenses architects was appointed in the city that had authority to approve building plans without any government interference. This panel did not have legal authority to check the building construction after the approval which led to the unmanaged illegal and poor quality construction in the city. Recently this act was derecognized and power to approve any building was returned back to Municipality. Since then municipality has started taking strong actions against all illegal constructions in the city. It had served notices to the owners and builders of 447<sup>15</sup> high-rises that had flouted stipulated norms.

Recently, Government of Bihar<sup>16</sup> took some more bold steps to improve the quality of urban centers in Bihar state as a six year partnership programme called Samvardhan (2010-2016). This partnership is between Government of Bihar and the United Kingdom's Department for International Development (DFID). The programme aims at catalyzing identified Urban Local Bodies (ULBs) to significantly enhance their capability to provide urban services and attract private investment thereby breaking the cycle of low urban revenues, weak capacity and inadequate services. Samvardhan will provide financial, technical and managerial support to enhance efficacy of ULBs and related departments of the State. Samvardhan aims to enable increased private investments in urban areas, better services on a sustainable basis to all urban citizens and create positive development impacts on urban poor.

In Patna, Samvardhan is working with Patna Municipal Cooperation (PMC) along with many other non-governmental organisations like Nidan. The areas under which this programme provides assistance are Urban Governance and Planning, Municipal Finance and Procurement, Municipal Infrastructure, Local Economic Development and Social Development, Poverty Alleviation and Livelihoods.

However, the state of affairs in urban governance has not been satisfactory. The Patna High court has recently commented on the bias in governance and disappointing state of public services. It stated, "*There is two type of Town: VVIP Area with all amenities and Facilities and*

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<sup>15</sup> Patna Municipal Corporation

<sup>16</sup> Series of interviews were conducted with different stakeholders as part of this research project

*Public area as Dustbin*"(sic). It, further, added that the capital city of Bihar looks like a slum and this has direct impact on city economy.<sup>17</sup>

Series of PILs<sup>18</sup> were filed in the High court against the municipality in the last few years. Some strong judgments were passed and high court is now keeping a check on the corporation. Recent media reports show court intervention on the waste management problem and also they have put a check on illegal high-rise apartment constructions. In the course of a PIL, Patna Municipal Corporation had to submit its working condition to the court. Different instructions were given to the corporation for the improvement of the city by the court.

The Government has also prepared Bihar Urban Planning & Development Act and proceeds for modification in Draft Master Plan – 2021. Under the provision of the Act, The Bihar Urban Planning & Development Board is constituted in 2014. The functions of the Board shall be to advise the Government in matters relating to planning and development and use of rural and urban land in the State; to guide, direct and assist the Planning Committee or any other Planning Authority/ (i.e.) constituted under the Section -9 of the Act. The Board shall advise on the delineation of the Planning Area(s) for purposes of planned development and direct the preparation of Development/ Master Plan by the Planning Authorities.<sup>19</sup>

The state Urban Development and Housing Department (UDHD) has released the draft Patna master plan prepared by the experts from the Centre of Environment Planning and Technology (CEPT), Ahmadabad. The new master plan had come after 33 years which covers over 1167 square km against the existing 250 square km, with urban area of over 600 square km and over 400 square km as green cover.

### **3.3. Land use**

The city of Patna is a centre of education, religion, trade and seat of political power of Bihar. With the increase in the functions of city, there is an unabated influx of population mostly rural population into urban areas. Now, more vertical expansion of the city is taking place in the city to accommodate this population but the existing infrastructure is not able to bear the effect. Perceptible changes have been seen in the urban land use especially in residential, commercial and transport uses.

The first planned development in the city took place in 1911 when, on the creation of the province of Bihar and Orissa, a new capital city was laid out in the western part of the city on a ring and radial road pattern along a central axis, highlighted by the secretariat and the Raj Bhawan as terminal features. In no part of the city except in this New Capital Area (which now functions as administration capital for Bihar state), there was any effort for planned development of the city. Vast residential areas improperly located in relation to each other,

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<sup>17</sup> Prakash Pathak (PRIA), 2014

<sup>18</sup> [http://www.telegraphindia.com/1130703/jsp/bihar/story\\_17074295.jsp#.VAQKO\\_mSxNI](http://www.telegraphindia.com/1130703/jsp/bihar/story_17074295.jsp#.VAQKO_mSxNI)

<sup>19</sup> Improving Draft Master Plan for Patna - 2021

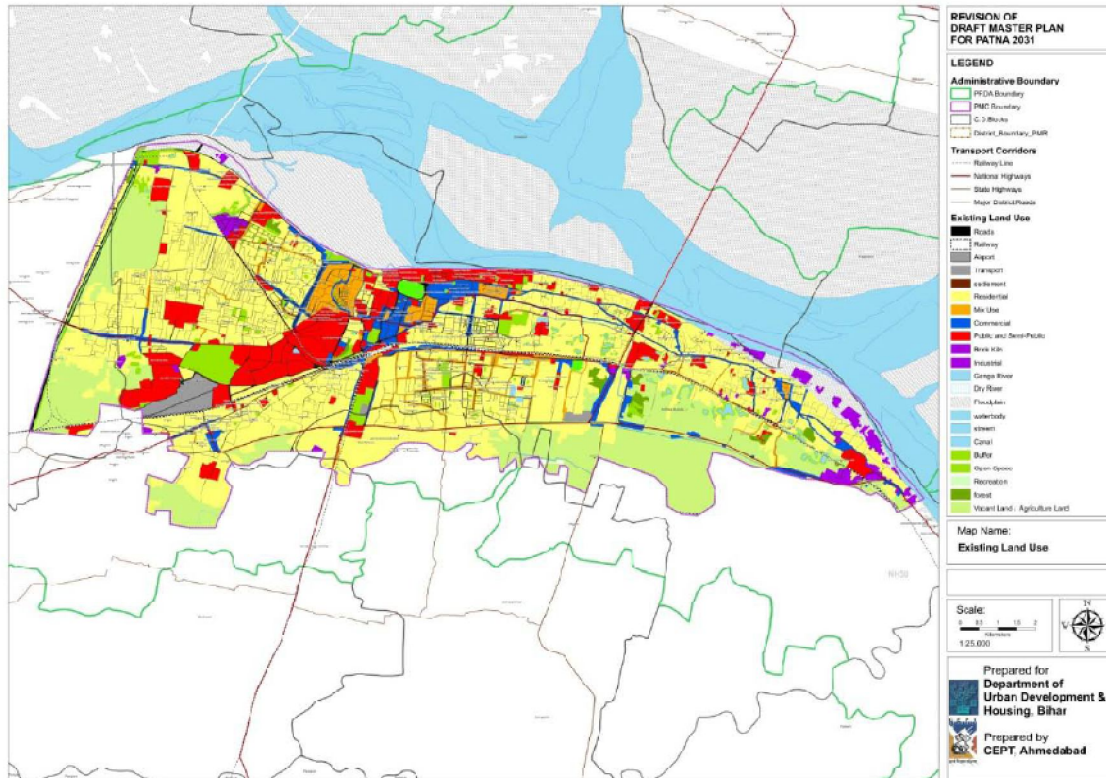
and also in relation to centers of employment and trade, have grown mostly without proper plan or even provision of basic amenities. There is, in terms of share, an increase in the residential land use and decline of industrial land (been stagnant) use from 1981 to 2001 as shown in Table 4.

**Table 4: Change in Land use**

<b>Land Use Categories</b>	<b>Area in Hectares 1981</b>	<b>% of total area</b>	<b>Area in Hectares 2011</b>	<b>% of total Area</b>
<b>Residential</b>	4746.95	48.80	6100.30	57.00
<b>Commercial</b>	404.72	4.10	508.50	4.7
<b>Institutional</b>	313.23	3.30	32.20	3.10
<b>Recreational</b>	161.51	1.70	163.00	1.50
<b>Industrial</b>	206.70	2.10	207.10	1.90
<b>Administrative</b>	213.04	2.20	226.00	2.30
<b>Transport</b>	602.58	6.20	812.80	7.50
<b>Open Land</b>	3069.52	31.60	2359.10	22.00
<b>Total</b>	9718.25	100.00	10700.00	100.0

*Source : Sahay, 2005*

The city area comprises of large business quarters, namely, Marufganj, Masurganj, Mirchiyaganj, Maharajaganj, etc. as indicated within the PMC. There are several wholesale markets for vegetables and agricultural goods but none of them have been planned nor do they have any waste management system. This leads to congestion of traffic and mismanagement of solid waste disposal system. The agricultural market is also located at the eastern tip of town and this causes major congestion on the bypass road as the trucks are parked for delivery of goods which again leads to congestion on the bypass road. Commercial establishments within the city are mainly lined along the arterial and major roads and there is extensive mixed land use for commercial and residential use throughout the city.



Source: CFPT, Ahmedabad

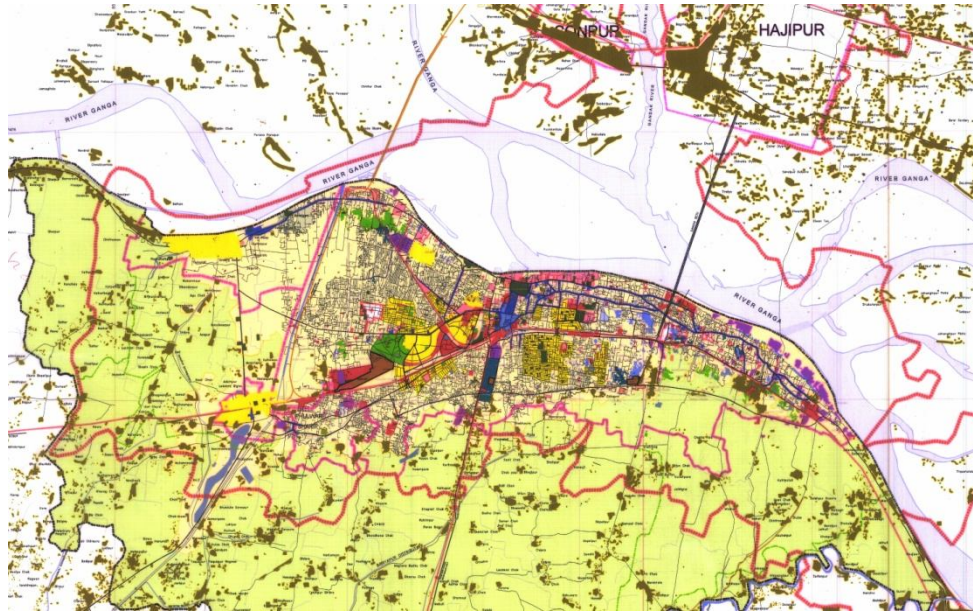
**Fig 8: Land Use in Patna Municipal Area**

Source: Urban Development and Housing Department, Patna

The predominant type of land use is residential. The most densely populated areas of Patna are mainly along the banks of the Ganges River. Over 90% of residential areas are unplanned, with 64% of the population of Patna living in areas identified as slums (CDP, 2006: 32). Most commercial land use is unplanned and occurs organically along the major transport routes of the city.

### Land and Housing Policy

The Patna Improvement trust under Land Acquisition Act started acquiring the land in 1950s. But this acquired land was not been completely built upon, and was captured by the various cooperatives and private developers. Later the developers directly negotiated with farmers and acquired big chunk of agricultural land. They either speculate on it or subdivide it with least regard to the planning standards and development controls. These remain, more or less, underdeveloped land areas and led to substandard housing (Fig.9).



- Planned area
- Unplanned Area

**Fig 9 : Planned and Unplanned Areas**

*Source: Urban Development and Housing Department, Patna*

The residential cooperatives have also resorted to illegal subdivision of land which has been under notification for acquisition by public agency and thereby negotiating the approach of public agencies for a planned settlement. This type of development was more common in western and southern zone where vast agricultural land was available. Some residential cooperatives (Kankarbagh area) were planned with basic infrastructure built before plotting.

There are few efforts by the government in the past to develop any kind of housing for the lower strata of the society. Certain corporate agencies house their staff but the 'housing satisfaction' in terms of coverage is very less. Due to this there is great demand in the rental market for those who are economically better off and who can afford to pay in regular market. But, for the lower classes, only slums and squatters are the option.

Urban Land (Ceiling and Regulation) Act have been repealed by Urban Development and Housing Department (UDHD) under the national level urban renewal scheme by Government of India. Large industrial estates are planned in newly developed Pataliputra housing colony within municipal boundaries under city business plan developed by government.

## Pattern of Housing in Patna

The housing sector on the city is characterised by the following four type of patterns:

**A. Organised/Public/Centralised**

The planned colonies developed by the formal housing agencies, where standards of services are relatively higher (Government housing in New Capital area).

**B. Organised/Intermediate/ Cooperative**

The planned colonies where the layout of the area is prepared by the government and the land handed over to the private cooperative to be developed as per plan. Here, the infrastructure is provided by the government (Central-Western Patna).

**C. Organised/Private/Unauthorised/Cooperatives**

The unauthorised colonies developed by the private colonies, where service levels are relatively lower than those legally specified. (Newly developed suburbs area)

**D. Squatters/Unorganised/Private/Illegal**

Squatter clusters which have sprung up around work centers or marginal lands such as along the roads and public open spaces like parks and playgrounds etc. where service levels are marginal with minimum level of amenities. (All over Patna)

**E. Traditional/Organic Housing and Urban Village**

It is in the old part of the city and urbanised villages. The population in this part has increased with predominant commercial uses in the character of the area (East Patna or old city).

Most of the city's residential area is constituted by unplanned/organic settlements; it is estimated that just over 10% of residential areas are actually planned, whether in the form of plotted land or apartments. The Bihar Housing Board has purposefully developed ten housing colonies over the past few years, and there have also been several private housing developments in the western part of the city. Table 5 shows the percentage of households in good, livable and dilapidated conditions.

**Table 5: Percentage of households with condition of Census House**

Conditions	Residence	Residence - other use	cum- Total
<b>Good</b>	61.3	2.6	63.8
<b>Livable</b>	29.3	1.5	31
<b>Dilapidated</b>	5	0.2	5.2
<b>Total</b>	95.7	4.3	100

Source: Census 2011

## **Slums/Squatter**

Slum is deemed to be an area of bad housing but all the areas with bad housing are not slums. A scientific definition of slum must have certain objective criteria to identify and delineate them for action. Patna, being one of the prominent economic centers of Bihar, has always

attracted people and the city has served as destination to these people since the time of Independence. These migration flows have furthered the extent of formation of slums.

Notwithstanding the predominance of slum area, no slum policy existed in the state of Bihar till December 2011. Since the latter date, Bihar State Slum Policy came into existence. It defines a slum as *“A compact area of at least 20 ‘slum like households’ of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking proper sanitation and drinking water facilities.”* This definition broadly follows the Census of India definition of a slum with a difference in the stipulated area – the Census considers clusters with a minimum of 60-70 households in identifying a slum. However, lack of objective and uniform parameters to delineate slums has led to different estimates of slum population and the official statistics are known to underestimate its size.

According to estimates of Census of India 2011, only 4.5 percent<sup>20</sup> of the total population resides in the slums of Patna. The Report of the Committee on Slum Statistics/Census, which was to inform with various issues the conduct of Slum Census 2011, noted that *“the underestimation of slum population in States like Bihar, Uttar Pradesh, etc. has resulted in less allocation of funds for slum development and basic services to the urban poor in these States”* (GOI, 2010: 16). After making *“suitable corrections”* the Report estimated 16.38 percent of the Bihar’s urban population as slum dwellers. In case of Patna this figure seems to be much higher. The City Development Plan of Patna submitted by the Urban development authority of Bihar for JnNURM in July 2006 estimated that 63.5 percent of Patna’s population resides in 110 slums.<sup>21</sup>

Slums in Patna are classified in to four types based on their physical location and socio-economic conditions. In a study recently done by Participatory Research in Asia (PRIA) shows that most of the slums are located on non tenable government land (on the basis of Bihar State Slum Policy), some were on the municipality land and some other on private land. Out of 110 slums, only 3 have been resettled.

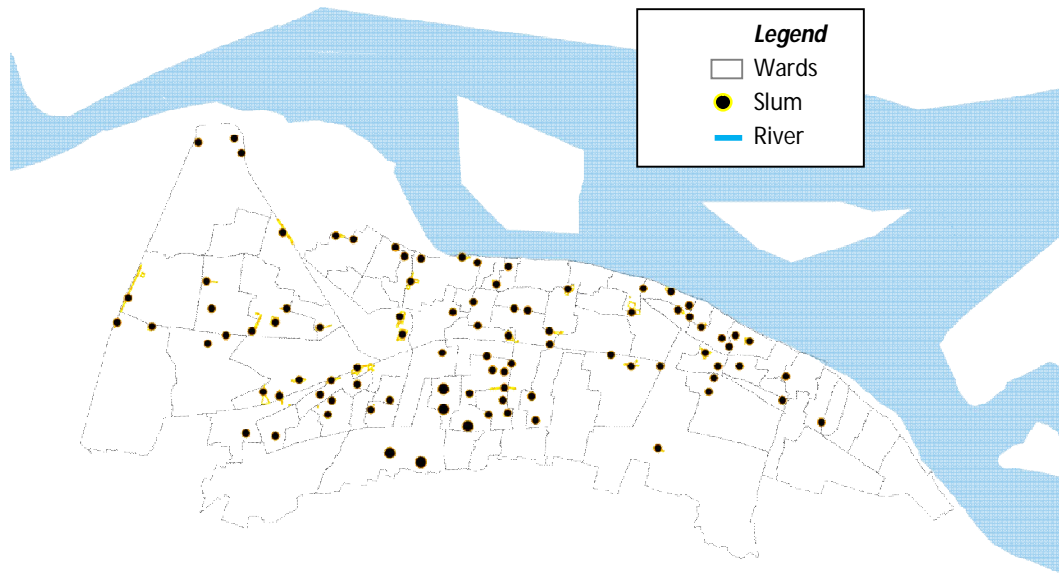
On the conditions of slums, the study notes that the slums situated on own land, in general, had better access to basic services, whereas slums located on government land had inadequate or no access to basic services. Further, the structure of dwellings varied depending on the status of land ownership: those on private/own lands have permanent concrete structures and those with no ownership rights lived in temporary/makeshift structures.

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<sup>20</sup> Census of India 2011

<sup>21</sup> Abhishek Jha, Slum Listing, PRIA's interface with Slum of Patna, PRIA, August 2,2012





**Fig 10: Location of slums in Patna Municipal Area**

Source: Support Programme for Urban Reform (SPUR), Patna

#### **Welfare initiatives and administration of basic services**

The Jawaharlal Nehru National Urban Renewal Mission (JnNURM) was launched by the Government of India (GOI) in 2005 to address poverty in urban areas. Under JnNURM, the Basic Services to the Urban Poor (BSUP) Sub-mission of JnNURM provides basic services including water supply and sanitation to all poor including security of tenure and improved housing at affordable prices and ensure delivery of social services of education, health and social security to poor people. Around INR 238.60 crores were sectioned by GOI. Work has been done for resettlement in Saidpura and Isopur areas in the city. Due to absence of proper guidelines for allocation, these resettlements have become a matter of conflict between the authorities and slum people.

Water and sanitation service provision is primarily the responsibility of Patna Municipal Council and Bihar Rajya Jal Parshad (BRJP)(Water Board). The Sarva Shiksha Abhiyan (SSA) was initiated by the GOI in order to extend free elementary education to all children between 6 and 14 years of age. Also the Mid Day Meal Scheme is in place that aims to encourage increased participation in primary education in addition to improve the nutritional status of children.

UNICEF has been supporting poor children and women in urban areas since 1961 under Urban Basic Service approach. In Bihar, UNICEF's only operation in urban areas is under the Muskan immunization initiative. Other non-governmental organizations also engage with specific dimensions of slum population. For example, Nidan, a Patna based NGO, is known to be active in seeking to empower the poor through community-based and pro-poor participatory interventions. Their primary focus is on social protection of unorganized laborers who reside in slumsbesidessystemic advocacy, education, health and livelihood programmes.



#### 4. Demography

Demographic changes in a city occur mainly due to natural increase of population and spatial mobility of population with streams of both in- and out-migration as well movements within the city. Elongated shape of the city and physical boundaries has got a direct bearing of life of population living therein. The city of Patna has experienced tremendous growth in last century. From a meagre 1.34 lakh urban population in Patna, it has increased to 9.56 lakh in 1991, 14.42 lakh in 2001 and 25.14 lakh in 2011 census.

Patna a city that existed since ancient times, houses people who are descendants of the populations of the past as well as those who migrated to the city in the recent decades. Due to increase of population both within the city's geographic boundaries of the past and boundaries extended in the course of time, the number of administrative wards has been increased currently to 73. Overcrowding of the interior wards in Patna seems to have affected the settlement preferences of the wealthier class. This class now prefers to reside in the outer zones of the city where there is more space than city core indicating a centrifugal tendency in the intra-city movement of this class as well. Moreover greater use of private vehicles and ribbon development of commercial zones<sup>22</sup> have significantly expanded the scope for the growth of the city. It can be seen that the population of city has experienced a huge increase majorly due to the migration.

#### Social Profile

Patna city represents populations of varied social and religious identities. Being largely influenced by political, religious and social factors, the city experienced differential growth patterns resulting in complex spatial-social patterns.<sup>23</sup> Population is broadly segregated on caste and class lines. The local caste groups represent all the pan-Indian official caste/class categories, viz. Other castes/classes (OC), Other Backward Classes (OBC), Scheduled Castes (SC) and Scheduled Tribes (ST). In Patna the OCs include caste groups of Brahmins, Bhumihars, Kyastha and Rajput; OBC include the Kurmis, Keoris and Yadavs; and SCs include the Bhumji, Chamars, Dhobi, Dhom Dusadh, Musahar, Nat and Pasi.

The vast majority of Patna's population belongs to the Hindu castes (83%). The majority among the 'minority' religious populations comprise Muslims (16%) and the remaining ones are Buddhists, Jains, Sikhs and Christians. The main languages spoken in Patna include Hindi, Magahi, Bhojpuri, Maithili, Bengali and Oriya.<sup>24</sup>

The population pattern in the city in terms of socio-religious composition and their distribution, however, does not represent the same distribution patterns of the Bihar state at large. Analysis of census data shows that both the proportion of SC (10.2%) and ST (0.27%) in urban Patna is less than their shares in the total population of the State (15.7% and 0.9% for SC and ST respectively). Concentration of SC and ST is often taken as a proxy for poverty.

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<sup>22</sup> Abdus Sami, Intra Urban Market Geography: A Case Study of Patna

<sup>23</sup> Singh LR and Singh RD 1980

<sup>24</sup> Satija and Rodgers, 2007; Census, 2001

Social segregation in spatial terms is evident to an extent in the distribution patterns of population ward-wise in the city. This, however, does not reveal starker segregation within respective wards. Significant to note, for instance, is the concentration of SC population in certain wards and sparse presence in some others. The wards in Western, Eastern and central parts have higher concentration of SCs ranging from 13% to 22%. Whereas the new wards that emerged in the surrounding areas of the city have low proportion of SCs ranging from 4% to 11%. One of the wards (ward no. 41) has as low as 2% of them.

Patna's sex ratio was 882 females per 1000 males in 2011. This figure is significantly lower than Bihar's state-level sex ratio of 918 females per 1000 males (Census, 2011). This difference is largely due to higher levels of male migration for work to the city. It is also reflected in Patna's age structure - majority of the city's population falls between 15-44 years. Ward No. 73 and 11, located respectively in the eastern and western part of the city, had the lowest sex ratios in the city in 2011 (respectively 630 females per 1000 males and 826 females per 1000 males) suggesting that these are high in-migration areas. Both these wards are located in the outer region of the city that is currently witnessing major construction activity and could be attracting more male worker population. On the other extreme, ward number 43, a well planned area of the city, has the highest sex ratio (945 females per 1000 males). This part of the city is result of cooperative housing society and higher female sex ratio may be a reflection of predominance of permanently settled families.

#### Variation in Sex ratio in Patna town (1961-2011)

YEAR	NUMBER OF FEMALES PER 1000 MALES
1961	767
1971	793
1981	812
1991	824
2001	836
2011	882

Source : Census of India(cited in Kumari, 2006)

State/District	Census 2011			Census 2001		
	Male	Female	Total	Male	Female	Total
<b>Schedule Caste %</b>						
Patna	10.17	10.24	10.21	9.57	9.72	9.63
<b>Scheduled Tribes %</b>						
Patna	0.14	0.13	0.27	0.37	0.37	0.37

## Crime trends in Patna: A general overview

Indian National Crime Records Bureau (NCRB) crime statistics for Bihar show that State-level crime, although definitely high in the early 1990s, dropped steadily throughout the decade, with the overall rate of crime dropping from 147 per 100,000 in 1992 to 107 per 100,000 in 2001. Although crime began increasing again in 2002, to 110 per 100,000, it subsequently reached its apogee in the 2000s in 2009, to 128 per 100,000. At the same time, however, while the rate of decline of violent and non-violent crime was essentially the same in Patna during the 1990s, during the 2000s – and more specifically from 2005 onwards – there was a major decline in violent crimes such as murder, robbery, dacoity, or kidnapping, with the increase in crime during this latter decade almost wholly due to an increase in non-violent crime such as burglary.<sup>25</sup>

The trend in Patna has been very similar, although it should be noted that the proportion of crime in the city is considerably higher than at the state, even taking into account the concentration of population. Overall crime dropped during 1992-2001 from 640 per 100,000 to 329 per 100,000, but then increased between 2002 and 2009 from 357 per 100,000 to 516 per 100,000. At the same time, major violent crime declined significantly in the city in the 2000s as compared to the 1990s, with murder, in particular, falling dramatically from 14 per 100,000 in 2002 to 8 per 100,000 in 2009. Very similar declines can be observed regarding other violent crimes such as kidnapping, robbery, and dacoity, which all remained relatively constant during the 1990s, but fell dramatically during the 2000s, while non-violent crimes such as burglary or theft have all increased tremendously (table below).

**Table 6: Crime and rates of crime in Patna 2003 & 2009**

Categories	2003	Crime Rate per 100000	2009	Crime Rate per 100000
Total cognizable crime	6545	383.4	8806	515.9
Murder	260	15.2	137	8
Dacoity	59	3.5	16	0.9
Robbery	594	34.8	179	10.5
Burglary	377	22.1	537	31.5
Theft	1367	80.1	2247	131.6
Riot	127	7.4	227	13.3
Kidnapping	150	8.8	242	14.2
Preparation and Assembly for	25	1.5	0	0
Rape	15	0.9	24	1.4
Molestation	31	1.8	8	0.5
Sexual harassment	0	0	1	0.1
Dowry deaths	35	2.1	27	1.6
Arson	31	1.8	4	0.2
Violence against SCs	NR	NR	NR	NR
Violence against STs	NR	NR	NR	NR
Juvenile delinquency (cognizable crimes)	NR	NR	NR	NR

<sup>25</sup> Dennis Rodgers and Shivani Satija, (2011), Understanding the Tipping Point of Urban Conflict: Violence, Cities and Poverty Reduction in the Developing World- Patna Sub City Study Preliminary findings, Brooks World Poverty Institute, University of Manchester (UK) & Institute for Human Development, New Delhi (India).

Source: NCRB (<http://ncrb.nic.in/>)

Patna's crime clearly varies significantly from a distributional perspective. Although the exactitude of the statistics is doubtful – they do not tally with aggregated NCRB figures, including especially non-violent crimes – as table below highlights, disaggregated Police data concerning crime in Patna suggest that the decline in major forms of violence and rise in non-violent crime is unevenly distributed through the city. Some areas, such as Sultanganj or Alamganj Police jurisdictions in the North of the City, for example, correspond squarely to the general dynamics. Others, such as Malsalami or Didarganj Police jurisdiction in the East of the city, for example, have experienced a rise in both violent crime and non-violent crime, while Buddha Colony Police jurisdiction experienced a decline in both violent and non-violent crime, and Phulwarisharif Police jurisdiction experienced a rise in violent crime and a decline in non-violent crime, for instance (Satija and Rodgers, 2011).

**Table 7: Disaggregated Patna crime 2003 & 2009**

Police Jurisdiction	Murder		Dacoity		Loot		Kidnapping for ransom		Kidnapping		Theft	
	2003	2009	2003	2009	2003	2009	2003	2009	2003	2009	2003	2009
<b>Pirbahore</b>	10	4	2	1	18	6	-	-	11	8	90	40
<b>Gandhi Maidan</b>	2	2	5	-	39	8	1	1	2	7	106	71
<b>Kadmakan</b>	13	8	4	1	32	5	3	-	4	9	88	50
<b>Kotwali</b>	7	3	-	1	56	4	2	-	9	5	200	109
<b>Buddha Colony</b>	6	4	2	-	38	6	2	-	1	10	73	44
<b>Patliputra</b>	8	3	-	-	30	13	2	1	2	8	37	31
<b>Digha</b>	10	4	7	-	7	2	1	-	9	13	15	14
<b>Rajneev Nagar</b>	-	1	-	1	-	11	-	-	-	2	-	18
<b>Sachiwalya</b>	2	-	-	-	13	2	-	-	-	3	32	20
<b>Gardani Bagh</b>	16	5	2	1	33	6	1	-	8	5	77	31
<b>Shastri Nagar</b>	9	2	4	-	46	12	13	-	3	19	101	107
<b>Sri Krishna Puri</b>	9	-	5	-	37	5	1	-	2	5	64	51
<b>Hawaiyada</b>	-	1	-	1	-	3	-	2	-	2	-	15
<b>Kankar Bagh</b>	13	6	1	1	19	18	1	1	9	7	75	62
<b>Patrakar</b>	3	2	-	-	13	14	2	-	2	3	37	45

<b>Nagar</b>												
<b>Jakkanpur</b>	18	5	-	1	25	4	3	1	4	9	31	<b>34</b>
<b>Parsa Bazar</b>	7	7	-	-	-	-	-	-	1	11	11	<b>18</b>
<b>Phulwari sharif</b>	8	9	3	1	12	4	1	-	8	18	57	<b>30</b>
<b>Beur</b>	-	8	-	-	-	1	-	-	-	5	-	<b>11</b>
<b>Janipur</b>	2	2	-	-	10	01	-	-	2	1	3	<b>8</b>
<b>Sultanganj</b>	27	6	-	-	20	8	2	-	6	4	27	<b>10</b>
<b>Alamganj</b>	22	5	4	1	26	5	-	-	6	11	27	<b>26</b>
<b>Khajekal</b>	5	4	3	1	4	1	-	-	6	6	30	<b>12</b>
<b>Chowk</b>	12	4	1	1	15	6	-	-	3	9	27	<b>23</b>
<b>Agamkuan</b>	13	5	3	1	23	13	2	-	7	6	34	<b>36</b>
<b>Mehdiganj</b>	2	-	1	-	1	-	-	-	2	1	1	<b>1</b>
<b>Bypass</b>	-	2	-	1	-	1	-	-	-	-	-	<b>11</b>
<b>Bahadurpur</b>	-	1	-	-	-	2	-	-	-	3	-	<b>11</b>
<b>Malsalami</b>	4	11	1	-	3	-	-	-	1	6	10	<b>23</b>
<b>Danapur</b>	19	12	7	-	26	9	2	-	9	7	77	<b>35</b>
<b>Khagaul</b>	3	1	1	-	6	2	-	-	2	5	14	<b>9</b>
<b>Rupaspur</b>	-	2	-	-	-	6	-	1	-	3	-	<b>8</b>
<b>Shahpur</b>	5	2	1	-	1	-	-	-	1	4	9	<b>7</b>
<b>Akilpur</b>	1	2	-	-	-	-	-	-	1	2	-	<b>1</b>
<b>Didarganj</b>	2	4	2	2	4	5	-	-	1	3	14	<b>18</b>
<b>Total</b>	<b>258</b>	<b>137</b>	<b>59</b>	<b>16</b>	<b>557</b>	<b>183</b>	<b>39</b>	<b>7</b>	<b>122</b>	<b>220</b>	<b>1367</b>	<b>1040</b>

Source: Patna Police

## 5. City Economy

Patna is the largest urban and commercial centre of Bihar state. It is also an important business centre of eastern India. Being an old trade centre and with agricultural growth in the recent decades, the eastern part of Patna (locally called as Patna City) emerged as a leading grain market of the state. The major sectors of employment are transport, storage and communication, manufacturing, trade, hotels and restaurants, public administration, finance, healthcare, education and business.

**Table 8 : Distribution of workers by Industry in Patna city compared to all India (Cities) in 2004-05 and 2011-12**

Industry	Year	India Cities			Patna City		
		Male	Female	Person	Male	Female	Person
<b>Agriculture, etc</b>	2004-05	1.5	4.2	2.0	7.6	0.0	7.4
	2011-12	0.9	1.8	1.1	6.5	17.3	7.5
<b>Mining &amp; Quarrying</b>	2004-05	0.3	0.0	0.2	0.0	0.0	0.0
	2011-12	0.1	0.0	0.1	0.0	0.0	0.0
<b>Manufacturing</b>	2004-05	28.4	29.4	28.6	9.1	19.6	9.3
	2011-12	28.5	25.8	28.0	22.1	21.2	22.0
<b>Electricity, Gas &amp; Water supply</b>	2004-05	0.8	0.1	0.6	0.0	0.0	0.0
	2011-12	0.8	0.6	0.7	1.1	0.0	1.0
<b>Construction</b>	2004-05	8.2	3.6	7.3	9.9	0.0	9.7
	2011-12	7.7	2.6	6.8	3.7	3.5	3.7
<b>Trade, Hotel &amp; restaurants</b>	2004-05	26.9	10.8	23.9	38.7	0.0	37.8
	2011-12	25.5	12.8	23.1	18.9	3.3	17.5
<b>Transport, Storage &amp; Communication</b>	2004-05	10.6	2.2	9.0	9.9	0.0	9.7
	2011-12	11.0	1.5	9.2	29.2	0.0	26.5
<b>Finance, Business, Real Estate, etc</b>	2004-05	9.1	7.4	8.8	12.9	0.0	12.6
	2011-12	12.2	10.7	11.9	3.3	0.0	2.9
<b>Public Admn, Health, education, etc.</b>	2004-05	14.3	42.3	19.5	11.9	80.4	13.5
	2011-12	13.4	44.1	19.2	15.3	54.7	19.0
<b>Total</b>	2004-05	100.0	100.0	100.0	100.0	100.0	100.0
	2011-12	100.0	100.0	100.0	100.0	100.0	100.0

Source: Unit level data from NSSO, 61<sup>st</sup> and 68<sup>th</sup> Rounds

Patna, given its location as trade center since pre-Independence times, has not emerged as a major manufacturing centre. The prominent commodities manufactured in the city, however, are synthetic leather footwear, printed products, steel fabricated products and electronic goods.

The large industrial establishments of Patna include Shri Lakshmi Cold Storage Ltd., Pradip Lamp Works, Shri Baidynath Ayurvedic Bhavan Ltd., Ambuja Electocasting Ltd., Bata India Ltd., Modi Steels Ltd, etc. The municipal corporation area comprises of large business quarters, namely Marufganj, Masurganj, Mirchiyaganj, Maharajaganj, etc.<sup>26</sup> The Bihar State Electronics Development Corporation Limited (BSEDC) has developed the first Software Technology Park of Bihar in Patna a few years back. There are also several brick kilns lined along the bypass road in Patna. Majority of the big, medium, small and household industries are located in Patna city circle (Old Patna city area). In Patliputra, an industrial estate of BIADA (Bihar Industrial Area Development Authority) was established over an area of 104.14 acres which consists of 139 industries. The rest of industrial development is done under the registration of

<sup>26</sup> SPUR: CITY BUSINESS PLAN

DIC (District Industry Center). Major industrial expansion is taking place in ward number 69 towards the bypass road.<sup>27</sup> Significant service sector growth occurred in healthcare and education.

**Employment Pattern:** An overview of various sectors and the share of employment that these sectors contribute are presented in Table 8. The employment pattern based on the distribution of workers in terms of percentage shares in different sectors is as follows:

**The highlights of employment pattern in Patna for the year 2011-12**

- Workers involvement in tertiary or service sector was highest in Patna followed by secondary and primary sector.
- The five major sectors of employment in descending order were (i) transport, storage and communications; (ii) manufacturing; (iii) public administration, education, health & others; (iv) trade, hotel & restaurants; and (v) agriculture.
- Females are largely employed in three sectors: (i) public administration, education, health & others and (ii) manufacturing; and (iii) agriculture.
- Males are largely employed in (i) transport, storage and communications; (ii) manufacturing and (iii) trade, hotel & restaurants.
- Highest increase in sector-wise share of workers is recorded in (i) trade, hotel & restaurants; (ii) manufacturing; and (iii) transport, storage and communications during 2004-05 to 2011-12.

Further details of employment according to industry categories are presented in Table 9 and Table 10. These tables also reflect the features of the economy besides labour and employment.

**Table 9: Top Industry on the basis of employment Share**

Industry (2-digit)	Male	Female	Persons
Travel agency, tour operator and other reservation service activities	17.9	0.0	16.2
Retail trade, except of motor vehicles and motorcycles	12.0	3.3	11.2
Public administration and defence; compulsory social security	11.5	4.9	10.8
Land transport	10.7	0.0	9.7

<sup>27</sup> SPUR: CITY BUSINESS PLAN

<b>Animal production, and related service activities</b>	6.5	17.3	7.5
<b>Manufacture of paper and paper products</b>	5.9	0.0	5.4
<b>Manufacture of fabricated metal products, except machinery and equipment</b>	5.2	0.0	4.7
<b>Wholesale trade, except of motor vehicles and motorcycles</b>	4.6	0.0	4.1
<b>Manufacture of other non-metallic mineral products</b>	4.1	0.0	3.7
<b>Education</b>	1.4	26.5	3.7
<b>Construction of buildings</b>	3.7	0.0	3.3
<b>Manufacture of wearing apparel</b>	0.0	20.6	1.9
<b>Personal service activities</b>	0.0	14.7	1.4
<b>Services to buildings and landscape activities</b>	0.0	5.3	0.5
<b>Civil engineering (Construction of Roads etc)</b>	0.0	3.5	0.3
<b>Activities of households as employers of domestic personnel</b>	0.0	3.3	0.3

The industries (at 2-digit level) in Patna city employing more than 5 per cent share of total workers in the year 2011-12 were (i) Travel agency, tour operator and other reservation service activities, (ii) Retail trade, except of motor vehicles and motorcycles (iii) Land transport, (iv) Public administration and defense; compulsory social security, (v) Animal production, and related service activities, and (vi) Manufacture of paper and paper products. The industries where concentration of female employment is more than 5 per cent are (i) Education, (ii) Manufacture of wearing apparel, (iii) Animal production, and related service activities, and (iv) personal service activities.

The occupations (in terms of NSSO's occupational categories at 3 digit level) representing more than 5 per cent share of employment in 2011-12, presented in Table.10, were (i) Transport Labourers and Freight Handlers (ii) Entrepreneur (Directors and Chief Executives) (iii) Shop Salespersons, (iv) Administrative Associate Professionals (v) Agricultural, Fishery and Related Labourers (vi) Market Gardeners and (vii) Manufacturing Labourers. The Occupations where concentration of female employment is more than 5 per cent are (i) Secondary Education Teachers, (ii) Textile, Garment and Related Trades Workers, (iii) Nursing and Midwifery Associate Professionals, and (iv) Market Gardeners.

**Table 10 :Top Occupations on the basis of employment Share**

<b>Occupation (3-digit)</b>	<b>Male</b>	<b>Female</b>	<b>Persons</b>
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<b>Transport Labourers and Freight Handlers</b>	18.5	0.0	16.8
<b>Entrepreneur (Directors and Chief Executives)</b>	16.1	0.0	14.6
<b>Shop Salespersons</b>	9.4	3.3	8.8
<b>Administrative Associate Professionals</b>	8.5	0.0	7.7
<b>Agricultural, Fishery and Related Labourers</b>	7.3	0.0	6.6
<b>Market Gardeners</b>	4.9	15.5	5.9
<b>Manufacturing Labourers</b>	5.9	0.0	5.4
<b>Secondary Education Teachers</b>	1.4	21.6	3.3
<b>Street Vendors and Related Workers</b>	2.7	7.1	3.1
<b>Motor Vehicle Drivers</b>	2.9	0.0	2.7
<b>Textile, Garment and Related Trades Workers</b>	0.0	20.6	1.9
<b>Nursing and Midwifery Associate Professionals</b>	0.0	18.0	1.7
<b>Middle and Primary Education Teaching Associate</b>	0.0	4.9	0.5
<b>Other Office Clerks</b>	0.0	4.9	0.5
<b>College, University and Higher Education Teachers</b>	0.0	3.5	0.3
<b>Blacksmith, Tool Makers and Related Trades Workers</b>	0.1	0.6	0.2

**Table 11: Distribution of Workers (5+ age) by Education level in Patna city compared to all India (Cities) in 2004-05 and 2011-12**

Education level		India Cities			Patna City		
		Male	Female	Person	Male	Female	Person
<b>Not literate</b>	2004-05	10.4	28.2	13.7	6.8	6.8	6.8
	2011-12	8.6	19.7	10.5	8.8	23.0	9.9
<b>Below primary</b>	2004-05	8.0	7.5	7.9	7.9	19.6	8.2
	2011-12	6.3	5.9	6.2	14.8	3.9	13.9
<b>Primary</b>	2004-05	12.1	11.1	11.9	15.1	0.0	14.7
	2011-12	10.6	8.7	10.3	11.2	12.0	11.3
<b>Middle</b>	2004-05	19.6	12.2	18.2	12.6	0.0	12.3
	2011-12	16.1	11.8	15.3	19.8	14.9	19.4
<b>Secondary</b>	2004-05	16.6	9.0	15.2	13.4	0.0	13.1

	2011-12	16.7	9.9	15.5	14.8	9.3	14.3
<b>Higher secondary</b>	2004-05	12.5	9.1	11.9	14.1	56.8	15.1
	2011-12	14.8	12.3	14.4	8.3	0.0	7.6
<b>Graduate and above</b>	2004-05	20.8	22.9	21.2	30.1	16.9	29.8
	2011-12	26.9	31.8	27.8	22.4	36.9	23.6
<b>Total</b>	2004-05	100.0	100.0	100.0	100.0	100.0	100.0
	2011-12	100.0	100.0	100.0	100.0	100.0	100.0
	2011-12	100.0	100.0	100.0	100.0	100.0	100.0

Note: Indian cities include those cities which had 10 million and above population in 2001

Source: Unit level data from NSSO, 61<sup>st</sup> and 68<sup>th</sup> Rounds

The change in the composition of workers based on their levels of education or absence of education has been significant in Patna city between a brief duration of 2004-05 and 2011-12, as shown in Table.11. This change, importantly, has not been in tune with the trends for all other cities combined in India. Major difference in terms of education levels of workers has been that there was significant increase in the proportion of workers without education and with little education (up to secondary level education) while the size of this section of workers has declined in all other cities. This indicates that the employment growth has been relatively more in the low-skilled informal sector than that requires higher levels of education. Percentage share of educated (secondary and above) workers (5+ years) in Patna city was much lower (45 per cent) when compared to all India cities (58 per cent) in 2011-12. In terms of trends, the share of educated workers (secondary and above) in Patna has decreased from 58 per cent in 2004-05 to 45 per cent in 2011-12. But in case of all India, the same has increased from 48 per cent to 58 per cent during this period. More importantly, the share of educated workers with higher secondary and graduate level education has declined in Patna from about 45 percent to 31 percent. For all cities in India, however, this section of workers has increased from about 33 to 42 percent. Or in other words, this section which represents better paid employment has not grown proportionately along with low-paid employment in Patna. In case of females, the share of educated (secondary and above) workers in Patna was 46 per cent as compared to 54 per cent for all India in 2011-12. Although there has been a significant increase of female graduate workers from about 17 to 37 percent, the educated workers in general (secondary and above) has declined significantly, from about 74 to 46 percent.

**Table 12: Labour Force Participation Rate and Work Force Participation Rate in Patna city compared to all India (Cities) in 2004-05 and 2011-12**

LFPR/WFPR	Year	India Cities			Patna City		
		Male	Female	Person	Male	Female	Person
LFPR	2004-05	58.6	15.2	38.2	42.2	1.5	24.4
	2011-12	58.4	15.3	38.1	40.3	7.6	26.2
WFPR	2004-05	56.6	14.5	36.8	37.5	1.2	21.6
	2011-12	56.8	14.6	36.9	37.1	5.1	23.2

Source: Unit level data from NSSO, 61<sup>st</sup> and 68<sup>th</sup> Rounds

Labour force participation rate (LFPR) and work force participation rate (WFPR) in Patna have been lower than all India rates for cities as shown in Table 12. Both these rates have slightly increased in Patna city while they remained almost at same levels for all cities. In case of Patna, this slight increase owes largely to their increase in case of females. However, both female LFPR and WFPR are significantly low in Patna compared to the all India (cities) situation for this gender. Further, nearly three-fourths of the population was out of labour force in Patna city in 2011-12 while it is less than two-thirds for all cities.

**Table 13: Work Participation Rates by Social Groups in Patna city compared to all India (Cities) in 2004-05 and 2011-12**

Social Group	Year	India Cities			Patna City		
		Male	Female	Person	Male	Female	Person
ST*	2004-05	56.8	20.8	39.0	-	-	-
	2011-12	61.6	16.8	42.4	66.7	50.0	57.1
SC	2004-05	55.1	18.4	38.0	50.2	4.1	36.3
	2011-12	54.2	16.7	35.9	33.1	5.9	18.9
OBC	2004-05	57.6	15.1	38.4	40.7	0.1	22.3
	2011-12	57.0	11.8	35.8	37.4	2.7	23.5
Others	2004-05	57.7	53.2	56.9	24.8	85.8	26.2
	2011-12	49.3	47.9	49.0	14.3	11.5	14.1
Total	2004-05	56.6	14.5	36.8	37.5	1.2	21.6
	2011-12	56.3	13.1	35.9	36.7	4.3	22.7

\*Due to very small sample size computation has not been done for STs in Patna for 2004-05.

Source: Unit level data from NSSO, 61<sup>st</sup> and 68<sup>th</sup> Rounds

Work participation rate across all social groups is presented in Table 13. It has declined across all groups for males in Patna, with higher declines for SCs and 'Others'. Yet, WFPR is higher among SCs than OBC and Others. Significant to note that male WFPR among 'others' is lower than SC and OBCs in Patna in contrast to other cities - it has been highest among 'others' in all

Indian cities. The pattern among females in Patna is different with women among 'Others' representing higher WFPR, although it is much lower than for all cities. The changes in WFPR for females across social groups in Patna as revealed by the figures in the table, however, may not be reflective of the actual scenario owing to issues of small sample size and very low WFPR rates in general for females in the city.

**Table 14: Work Participation Rate by quintile groups in Patna city compared to all India (Cities) in 2004-05 and 2011-12**

Consumption Quintile	India Cities		Patna City	
	2004-05	2011-12	2004-05	2011-12
Poorest	34.4	33.8	22.4	27.4
Q2	35.2	34.7	17.8	31.8
Q3	38.8	37.2	28.5	22.1
Q4	37.1	40.3	23.5	16.6
Richest	38.7	38.3	13.3	17.3
<b>Total</b>	<b>36.8</b>	<b>36.9</b>	<b>21.6</b>	<b>23.2</b>

Source: Unit level data from NSSO, 61<sup>st</sup> and 68<sup>th</sup> Rounds

Table 14 presents further information about Work Participation Rates according to categories based on household consumption levels (quintiles). WFPR in the lower quintile groups (Poorest, Q2 and Q3) was significantly higher than that among the higher quintile groups (Q4 and Q5). This is in the reverse order for all cities in India. The pattern of WFPR based in consumption levels closely overlaps with the same based in social groups where SC, OBC and Others respectively represent an order from lower to higher consumption quintiles. In other words, higher WFPR among SC compared to 'others' and higher WFPR among the lower quintiles suggests that SCs represent lower consumption levels. This is also reflective of the nature of growth in employment where there is relative increase (or increase in share) of WFPR among low and uneducated sections.

**Table 15: Distribution of workers based on the Status of Employment in Patna city compared to all India (Cities) in 2004-05 and 2011-12**

Status	Year	India Cities			Patna City		
		Male	Female	Person	Male	Female	Person
<b>Self-employed</b>	2004-05	39.0	38.8	39.0	50.8	26.4	50.2
	2011-12	37.3	35.5	37.0	52.5	41.8	51.5
<b>Regular</b>	2004-05	51.5	52.1	51.7	40.2	73.6	41.0
	2011-12	55.0	58.1	55.6	37.5	54.2	39.1
<b>Casual</b>	2004-05	9.4	9.1	9.4	9.0	0.0	8.7
	2011-12	7.7	6.4	7.4	10.0	4.0	9.4
<b>Total</b>	2004-05	100.0	100.0	100.0	100.0	100.0	100.0
	2011-12	100.0	100.0	100.0	100.0	100.0	100.0

Source: Unit level data from NSSO, 61<sup>st</sup> and 68<sup>th</sup> Rounds

The contrast between the city of Patna and other Indian cities in all the indicators of employment discussed above presents itself also in terms of the status of employment as presented in Table 15. On the whole in Indian cities there was marginal decline in the share of self-employed and casual workers and a considerable increase in regular employment, from about 52 to 56 percent. Whereas this trend was in the reverse order in Patna city. There was a marginal decline in the share of regular employment and an increase of self-employed and casual workers. Importantly, about half of the workers in Patna city were self-employed both in 2004-05 and 2011-12, which was less than 40 per cent in Indian cities at large. The share of regular workers, the category which represents better employment, was much lower in Patna city (nearly 40 percent) than in all Indian cities (about 55 percent). Although females in Patna represented a very low level work participation rate compared to females in urban India in general, the share of regular workers within this gender was comparable to Indian case. But it was much higher earlier and has declined between 2004-05 and 2011-12 in contrast with urban Indian trend where it increased.

Unemployment rate according to Usual Principal Status (UPS) for both genders is much higher in Patna city compared to all Indian cities. As given in Table 16, it has slightly declined in line with all India cities but is still about three times more than that of urban India. The trend in unemployment rate was divergent between genders in Patna. It has declined for males but increased remarkably in case of females while it declined for both the genders in all Indian case.

**Table 16: Unemployment by UPS status in Patna city compared to all India (Cities) in 2004-05 and 2011-12**

Year	India Cities			Patna City		
	Male	Female	Person	Male	Female	Person
<b>2004-05</b>	4.1	6.3	4.5	11.8	25.9	12.1
<b>2011-12</b>	3.0	4.9	3.3	8.1	39.1	11.8

Source: Unit level data from NSSO, 61<sup>st</sup> and 68<sup>th</sup> Rounds

### Informal Sector

Patna economy has strong presence of informal sectors. There is a continuous flow of population from rural Bihar and other towns of the state to Patna, in one hand, it is increasing its population density, but at the same time improving the city's economic condition. Young

people coming from other parts of the state transferring human and financial resources to the city of Patna. Therefore, there is a huge difference in per capita income between Patna and rest of the state. For example, the per capita income in Patna district is over Rs. 37,737 compared to Rs. 4,398 in the district of Sheohar. In terms of per capita expenditure the difference is quite obvious too i.e., Rs. 3,821 for the state of Bihar compared to Rs. 29,390 in Patna (Bihar Times, 22-03-2010).

People from other parts of Bihar move Patna for better economic opportunities. Apart from salaried jobs, a large number of population also look for self-employed sectors by establishing own business, industrial-manufacturing units and agro-based industries. Opening up of new shops for different products as wholesale and retail outlets is increasing by leaps and bound in different parts of the city. With the increasing of per capita expenditure from existing city residents, is making small businesses including small scale industries, 'truck farming' and transport related industries even more profitable. This is another reason why people from rest of Bihar and even neighboring states like, Jharkhand and Chhattisgarh moving to the city of Patna.

### **Emergence of Informal Sector employment**

Patna municipal area had a total population of 18,11,000 residing in 72 municipal wards as per 2011 census. The total number of street vendors in Patna city is approximately 18819 (as per SPUR survey). Informal sector in the form of a multitude of small/petty trading and casual labour is the outcome of large sections of unemployed and under-employed in rural areas and other small neighbouring towns looking forward to cities like Patna for employment and enter the city to move up in the economy ladder. Thus, Patna has a large wage paid service sector and an equally large informal sector comprising of traditional bazaar etc. This sector plays a significant role in the city's economic growth.

Informal activities in form of street vending as a profession have been in existence in almost every city since time immemorial. However, their number has increased manifold in recent years. Women constitute a large number of street vendors in almost every city. Some studies estimate that street vendors constitute approximately 2% of the population of a metropolis. Urban vending is not only a source of employment but provide 'affordable' services to the majority of the urban population. The role played by hawkers in the economy, as also in the society needs to be given due credit and facilitating inputs for organized growth. These informal sector units locate themselves strategically near work centers, commercial areas, outside the boundary of schools, colleges, hospitals, bus stations, religious and tourist attraction places, etc. Table shows the types of vendors in an informal set up in the PMC.

As per study carried out in Patna by NIDAN (a local NGO working for welfare of vendors), majority of the street vendors belong to category of vegetable and fruit sellers. Many vendors are also engaged in selling clothes, meat products and items of daily use. (*Source: Survey of Vendors in 28 Urban Local bodies of Bihar, Submitted to SPUR, Patna*).

**Table 17: Details of vendors in PMC**

	Fix	Moving	Total
<b>Male</b>	19681	2838	22519
<b>Female</b>	5643	793	6436
<b>Total</b>	25324	3631	28955

Source: SPUR Data

#### **Vending in Patna and associated issues:**

There is large presence of vendors in Patna Urban Area particularly in the commercial areas along major roads and pathways. In an important study carried out by NIDAN, a local NGO, various issues emerged that have planning implications. According to the study there are 28,432 street vendors in Patna. In the survey carried out at 14 important vending sites of Patna, it was found that 32% of them resided in city while the rest lived in the outskirts of the city or in the neighbouring districts. The main reason, given by 92% of the sample, for choosing vending as a profession was because there were no other jobs available which gave them dignity, Other important reasons for choosing this profession were, entry was easier and investment was low. Profiles of vending sites were prepared for 12 sites in Patna. A representative profile from the Report for site near GPO Golamber is presented below. This site is located near General Post office on Harding park road, Patna.

<b>Vending Site near GPO Golamber</b>	
<b>Features of Vending Site</b>	<b>Observations</b>
Ownership of Vending Area	Road construction Dept. (PWD)
Total Number of Vendors	69
Type of Vending	Pottery and Basket – 10 , Juice/Fruit Shop – 30 Readymade Garments – 10 , Food Items/Eateries – 3 Others -16
Area under Vending	3015 Sq Ft.
Length of stretch used for Vending	400 Ft.
Width of Adjacent Carriage Way	21 ft.
Area Required for Parking (Yes/ No)	Yes ( during evening)
Type of structure used for Vending	Not any kind of permanent structure are present, they take away their products during night.
Availability of Footpath of Pedestrian	Yes, but generally encroached by vendors
<i>Source: Study on Street Vendors at Patna (Bihar), Submitted to Centre for Civil Society (CCS), New Delhi, NIDAN, Patna (2010)</i>	

The study carried out analysis of various aspects of vending activities and the solutions. Observations highlight that the growth of unregulated vending activities particularly in congested areas have resulted in congestions and safety related problems for traffic movement. Key findings from the study of prominent vending sites of Patna are presented below:

<b>Vending and Associated Features in Patna Urban Area</b>		
<b>Features</b>	<b>Problem identified</b>	<b>Problem solving approach</b>
Pedestrian Movement	Negligible space available for pedestrian movement.	Sufficient width has to be reserved for pedestrian movement. Vending activity has to be allowed within demarcated width of footpath.
Traffic Congestion/ Parking	Parking activity on carriage way during evening and festive time	Temporary barracking of footpath with limited entry and exit points. Provision of parking space for small period of time on temporary basis
Safety Concerns	Vending activities happening on Footpath which force buyers to buy the commodities either by standing on the footpath or on the road. ☒☒Vending activities extends up to carriage way which may cause any accident to the buyers or the riders.	Temporary barracking of footpath with limited entry and exit points.
Registration of vendors	No vendors are registered. Tax collected illegally by police or any local contractor.	Registration of authentic vendors has to be done. Tax has to be paid by the registered vendors directly to the Corporation.
Source: Study on Street Vendors at Patna (Bihar), Submitted to Centre for Civil Society (CCS), New Delhi, Nidan Patna 2010		

Based on the Survey, NIDAN came forward with a proposal of creation of vending zones, registration of vendors and protection of livelihood of vendors. 14 different sites have been referred to be suitable for development of vending zones. These identified sites were surveyed by the team of Nutan Rajdhani Anchal (New Capital Circle) to assess the feasibility of those sites from the point of view of vending zones. Majority of the street vendors appear to favor the system of vending zones and they express their willingness to cooperate towards this end. Most of the vendors have supported the proposed system of vending zones and have expressed wiliness to pay for it. Fourteen sites have been identified by NIDAN to develop vending zones on the pilot basis. These sites are listed below: 1) Near GPO Golamber/roundabout; 2) In front of Biscoman Bhawan; 3) In front of Intermediate Council, Bihar; 4) In front of Tara Mandal/Planetarium; 5) Bander Bagicha Gali from Dakbunglow Road side; 6) Near Mahavir Mandir Auto Stand; 7) Near Income Tax Golamber; 8) Harding Road (Near Rly. Gumti No. 1); 9) In front of Vishwesaraiya Bhawan and New Secretariat; 10) Near Sinha Library & BSEB; 11) Near Bhumi Vikas Bank; 12) Opposite Rajbanshi Nagar Bus Stop; 13) Punaichak Mod from Bailey Road; and 14) Veer Chand Patel Path.



Administrators from departments relating to urban development agreed on the need of identification of Vending Zones. To regulate traffic in congested areas, Patna traffic Police often resorts to encroachment clearing drives. During such drives vendors are asked to vacate the roads. Study by NIDAN also highlighted issues of harassment of vendors by police. Vending and traffic management are usually seen in conflict with each other. Under directions for New Patna Traffic Plan released by District Administration, traffic police personnel are expected to carry out survey and identify Vending Free One Way zones; notifications in this regard shall also be issued. Commissioner, Patna Municipal Corporation is expected to identify vending zones. According to the Traffic Plan, an agency must identify the right vendors and process of their registration must be initiated. Further, road from Kankarbagh to Malahi Pakhri (residential areas in Eastern Patna) and area around Rajendra Nagar Telephone Exchange can be developed as Vending Zone while Nala Road must be made a Vending Free Zone.

## **6. Infrastructure and Services Planning, scarcity, access ; Compare to other capital cities in India (Policies)**

### **Water and Sanitation**

Patna has plenty of water and sewage related problem. It depends on ground water for main source of water. The Bihar Rajya Jal Parishad is responsible for capital works and the Patna Jal Parishad is responsible for Operation and Management.

The city needs about 215 million litres per day (MLD) of water, and gets 202 MLD. Only 60 percent of population is covered by the water supply system.

The public water supply system comprises 98 tube wells (11 non-functional) that pump water directly to the distribution mains. The only form of treatment is by online electro-chlorinators. The distribution system includes 23 overhead reservoirs of which only the one's at Agam Kuan, Guljarbagh Press, Guru Govind Singh Hospital and High Court (all maintained by PHED) are functional.

As per city development plan, Patna also has 30,000 public stand posts and approximately 23,000 public hand pumps. The tube wells operate for 15 hours a day and about 65% of them are less than 5 years old. The ground water level is at 2-8m and piped water supply covers 60% of households. The gross water supply in the city is around 186 MLD with about 91 litres per capita per day (lpcd) as per 2011 population.

The sewerage system in Patna was established in 1936. Right now the solid waste is poorly managed by the municipality. The city has four sewage treatment plants located at Saidpur (45 MLD), Beur (35 MLD), Pahari (25 MLD) and Karmali Chak (16 MLD) although the quantum of sewage reaching the plants is very less since the sewage system is completely dilapidated.<sup>28</sup>

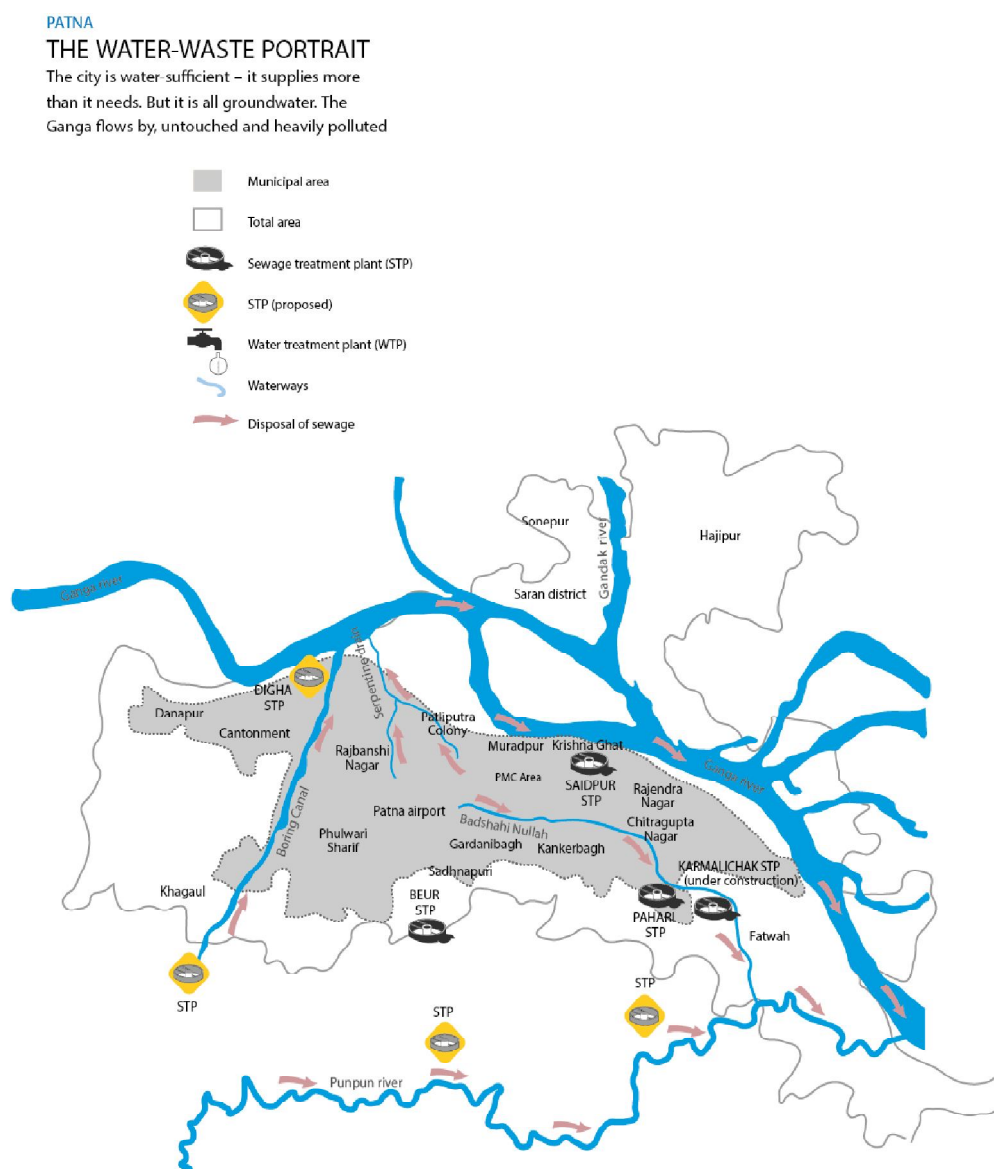
As per Census 2001, 62.51% of the households had water closet latrines, and 20.37% had pit latrines. Open defecation was practiced by 9.01% of households. It is estimated that the town

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<sup>28</sup> City Development Plan, Patna

has a sewer length of 27.4 km. The municipal corporation area has only 21 public toilets which are poorly maintained. The sewerage system is inadequate for a town of Patna's size leading to spillage and accumulation in low lying areas. Further, water bodies make the living environment unhygienic.

Underground sewerage system is one of the best methods of waste disposal. However, only 20% of the total households in urban areas of Patna are covered with underground sewerage system. This increases the dependencies on the septic tank and low cost sanitation systems in the remaining 80% of areas in Patna. Around 15% of population in Patna is dependent on public shared toilets. The city has a floating population of approximately three lakh in numbers that depends on public or community toilets.



**Fig 11 : Water and Sanitation**  
 Source: Centre of Science and Environment, 2007

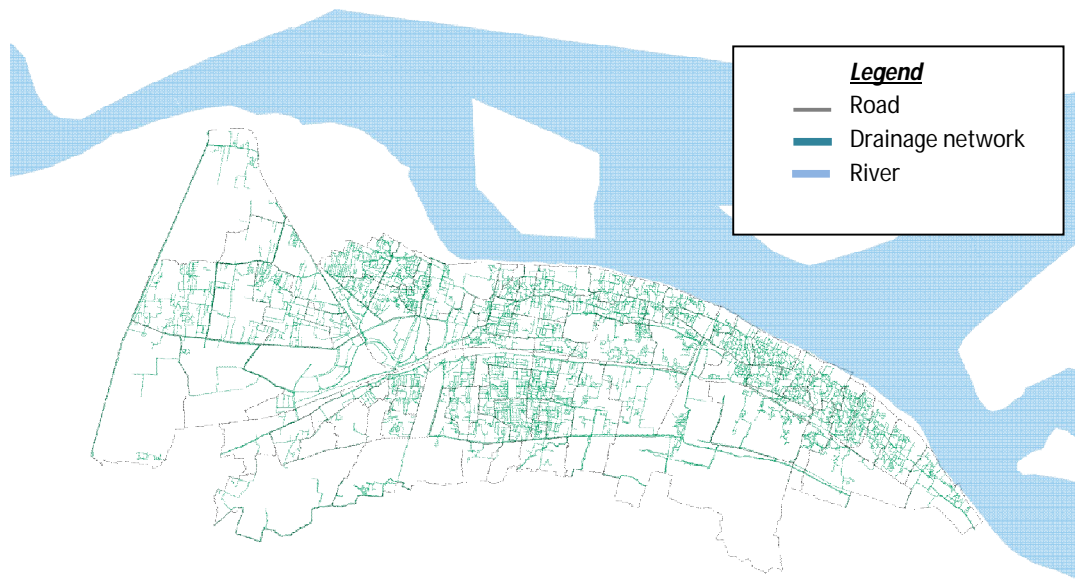
In their study (2007), Centre of Science and Environment has found out that less than 10 per cent of the city's population is connected to a sewage network; which means 90 per cent of the city's excreta is discharged into open drains and eventually into the river. From the drains, it possibly percolates into the ground water which is pumped up and supplied for drinking.

### **Sewerage and Drainage**

Many areas of Patna are prone to water-logging, yet the city's drainage system is widely considered to be inefficient and antiquated. It is moreover extremely partial, and major areas of the city do not have any systematic form of drainage. The city's drainage system generally overlaps with its underground sewerage system, which was built in the 1930s. Further, flooding, particularly during the monsoon period, frequently causes partly or wholly untreated effluent to flow into open drains. Managing storm water drainage is one major challenge in Patna, particularly during monsoon period. Even though separate sewerage system has been adopted in Patna, the same does not function in reality. Storm water drains, open drains, and storm outfall carry sullage, septic tank effluent and even untreated sewage. When sewerage network gets choked the residents usually connect individual domestic sewage outlets to the storm drainage system. Therefore open drains get silted. The existing drainage pumping plants at Pahari, Jogipur (Kankarbagh), Rajendra Nagar, Antaghat, Kishanghat, Mandiri, Mithapur, Rajapur, Punaichak, SP Verma Road and Kurjee are old and not working at the designed capacity. The construction of unplanned colonies further aggravates the water logging problem (CDP, 2006: 59).

The major mode of sewerage disposal is through individual septic tanks and low cost sanitation. The underground sewerage system is known to be the best methods of waste conveyance and disposal. But, due to high capital and operation cost, and the constraints of topography, urban areas depend on other mode of waste disposals. In fact, only 20% of the total households in Patna urban agglomeration areas are covered with underground sewerage system, increasing the dependency on the septic tank and low cost sanitations. Septic tank and low cost sanitation are supporting around 80-85 per cent of households, which may pollute shallow ground water with microbial pollution.

There are sewage treatment plants at Saedpur and Beur in the South and Southwest of the city, and Pahari in the North. The total length of the sewerage network is 33.4 kilometres. Not surprisingly, only 20% of total households in Patna are connected, and the majority must depend on septic tanks, although a third of the population does not have access to such facilities and must use low cost sanitation methods whereby the septic tanks are cleaned by cesspool cleaners (CDP, 2006: 56).



**Fig 12: Patna Drainage**

Source: Support Programme for Urban Reform (SPUR), Patna

There is no public collective system to dispose of solid waste, resulting in the general disposal of waste on the side of roads and other open spaces, which adds to pollution and health hazards. There is no proper treatment or transporting of garbage, although a civil society initiative called the “Chakachak Patna Solid Waste Management Programme”, which entails door to door collection of solid waste in the city, has recently been initiated. The city generates approximately 680 metric tonnes of solid wastes every day. 40% of this is domestic waste and the rest is industrial and commercial waste (CDP, 2006: 63).

## Electricity

Electricity coverage in urban Bihar has improved markedly during the past decade, and there are now 266,375 individual domestic electricity connections in Patna District.

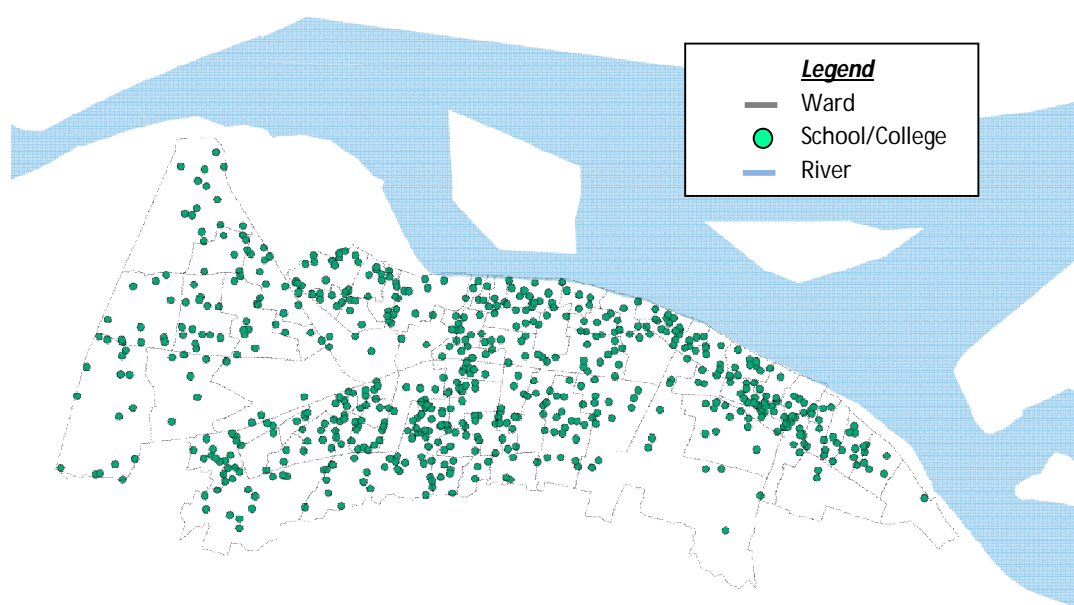
The whole responsibility of electric supply in Patna and its suburbs rests on Patna Electricity supply Undertaking (PESU) under the control of Bihar Electric State Electricity Board (BSEB). The PESU receives power through four sub grid stations, namely, Jakkarnour, Khagaul, Fatwah and Gaighat. For convenience, PESU is divided in two zones: West and East. These two zones are further divided into divisions and each division has certain sub stations. In 1975, there were 7 sub-stations, which increased to 15 in 1987 and today, it has reached to more than 40. It indicates increasing electricity demand in the city. It is unclear how much of the population of Patna this covers, and how supply is distributed, although it is widely reported that illegal connections proliferate in slums and poorer neighbourhoods (CDP, 2006). The PMC levies a tax on all electricity connections, but the collection rate is very low. Power surges and cuts are furthermore very frequent, although these affect different areas of the city differently. The

richer areas and the new business centre of Patna to the West of the city, around Boring Road in particular, have an advantage from better supply than the poorer Eastern side of the city.

## Education

Bihar has the lowest literacy rate in the country, 63.82% as against the 74.04% national figure (Census of India, 2011). The literacy rate in Patna is higher than the state-level rate, around 80.98%, but still lags behind that of other urban areas in India more generally. In 2001, Patna ward number 41 had the lowest literacy rate in the city, around 50%, with 59% of males and 41% of females literate. Ward number 38 had the highest literacy rate of 84%, with 55% of males and 45% of females literate (see annex B).

There were over 3,500 schools (both primary and secondary) in Patna district in 2010-12. These are not distributed evenly within the city, however. For example, wards numbered 2, 40 and 4 have 8-10 schools each, while wards 6 and 53 have none. Furthermore, Bihar has one of the lowest enrolment ratios and its drop-out rates at the primary level are the highest in India (see table 17), although these have reportedly begun to improve since 2006. Students from remote areas in Bihar and other parts of the eastern India come to Patna for preparatory coaching in their attempts at competitive examinations either for higher education or for jobs in civil services. A large number of engineering colleges, medical and management schools and other educational institutions including IIT, ITI have been set up during the recent past. Emergence of Patna as an education center, especially with increasing private institutions, has also contributed to the increase in city's population.



**Fig 13: Educational centres in the Patna**

Source: Support Programme for Urban Reform (SPUR), Patna

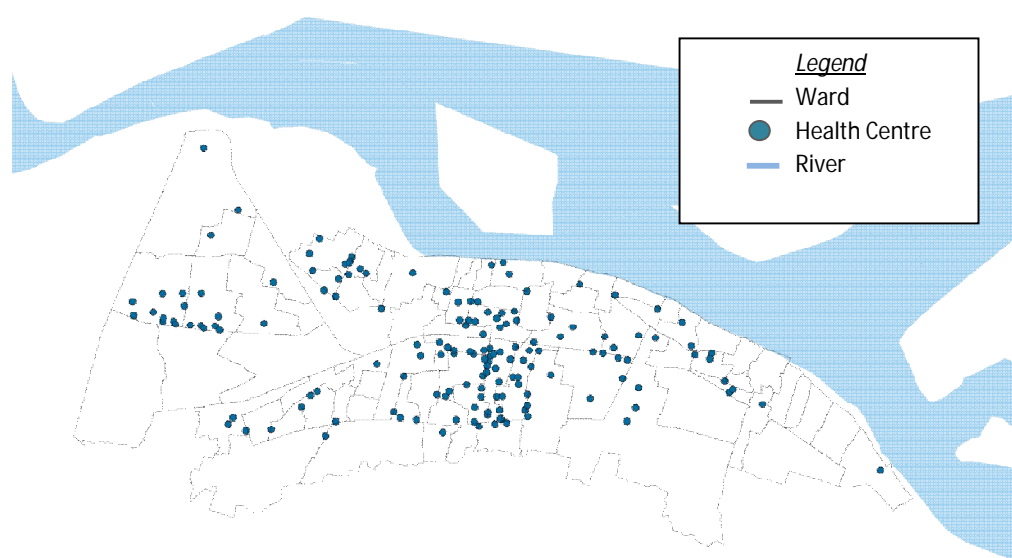
Table 17: Enrolment rates in Bihar and India, 2010-12???

Total	6-11 year olds			11-14 year olds	
	Boys	Girls	Total	Boys	Girls
Bihar	78.7	95.1	61.2	30.1	21.1
India	94.9	104.1	85.2	58.8	49.7

Source:

## Health

There are 24 Primary Health Care Centres, 60 Additional Primary Centres, 32 Urban health posts, one leprosy hospital, five allopathic hospitals and two medical hospitals in Patna district. Like schools, health care centres are distributed unevenly within the city. Access to public health services is often difficult, and many inhabitants of the city – including the poor – often resort to private services, which are extremely widespread, although not well regulated.



**Fig 14: Health centres in the Patna**

Source: Support Programme for Urban Reform (SPUR), Patna

One of important functions of Patna Urban Area is to provide key medical services and facilities to residents as well as people from different parts of the state. There are numerous public and private health facilities available in Patna. There are government owned hospitals, health centers, dispensaries and health-educational institutions. Besides there are numerous

private nursing homes, clinics, hospitals and laboratories. Not only local people, patients come from different corners of the state to get specialized medical care. Department of Health (GoB), State Health Society and Patna District Health Society manage government health services of Patna Urban Area; services have coverage area also in the surrounding small towns and rural areas. According to the Society, a range of public medical facilities are available in Patna Urban Area. Patna district has four Sub- Divisional Hospitals (SDH); among these Guru Govind Singh Hospital (GGSH) is located in Patna Urban Area. Health facilities in Patna include: (i) four Urban Hospitals – Rajendra Nagar, Rajvanshi Nagar, NGR Hospital and Gardanibagh; (ii) four dispensaries- Urban Gulzarbagh, Urban Jayprabha, Urban Marufganj and Urban Kankarbagh and (iii) five Primary Health Centres - Patna Sadar, Phulwari, Punpun, Sampatchak and Danapur- cum- Khagaul.

Table 18. **Public Health Facilities in Patna**

Sub Division Hospital	Urban Hospital	Dispensary	Primary Health Centre
Guru Govind Singh Hospital (GGSH)	Rajendra Nagar, Rajvanshi Nagar, New Gardiner Road, Gardanibagh	Urban Gulzarbagh, Urban Jayprabha, Urban Marufganj, Urban Kankarbagh	Patna Sadar, Phulwari, Punpun, Sampatchak

As presented in the table, different government health facilities In Patna Urban Area provide medical services to more than 28 lakh inhabitants- local population as well as people living in the surrounding areas. Primary Health Centres located at Gulzaribagh, Marufganj and Sampatchak cater to about one lakh population each. Gurugobind Singh Sub divisional hospital caters to about 2.25 lakh population. Danapur Khagaul complex has a Subdivisional hospital and a Primary Health Centre. As the complex is located in peripheral part of urban area, it covers large population from surrounding hinterland also.

Table 19: **Patna Urban Area: Population being served by different health facilities ( as per norms of State Health Society, Bihar)**

Patna Urban Area	Population @ census 2011	Average Annual Growth Rate (based on decadal growth rate)	Population		Estimated population
	2011-12		2012-13	2013-14	2014-15
Danapur- khagaul	397817	2.23	406688	415757	425029

Rajendra Nagar	245616	2.23	251093	256693	262417
Rajvanshi Nagar	272479	2.23	278555	284767	291117
NGR Hospital	128426	2.23	131290	134218	137211
Gardanibagh	242354	2.23	247758	253284	258932
GGSH	212209	2.23	216941	221779	226725
Gulzarbagh	81061	2.23	82869	84717	86678
Jay Prabha	143811	2.23	147018	150296	153648
Marufganj	101041	2.23	103294	105598	107953
Kankarbagh	129112	2.23	131991	134935	137944
Patna Sadar	215031	2.23	219826	224728	229668
Phulwari	273129	2.23	279220	285446	291812
Punpun	138143	2.23	141224	144373	147592
Sampatchak	106866	2.23	109249	111685	114176
<b>Total Population</b>	<b>2687095</b>		<b>2747016</b>	<b>2808276</b>	<b>2870902</b>

Source: Bihar Health Society, Patna

Table : Patna Urban Area- Medical Professional in Government Health Facility

		Patna Sadar			Phulwarisharif			New Gardiner Road		
<b>Doctors - Regular</b>										
Sl	Designation	Sancti one d	In Positi on	Vac ant	Sancti oned	In Positi on	Vacan t	Sancti oned	In Positi on	Vacan t
1	Medical Officer	4	4	0	3	3	0	5	5	0
2	Dental Doctor	1	0	1	0	0	0	0	0	0
3	Ayush Doctor	0	0	0	0	0	0	0	0	0
4	Nurse Grade 'A'	0	0	0	0	0	0	6	0	6
5	A.N.M.	30	29	1	21	21	0	4	4	0
6	Lab Technician	4	3	1	1	0	1	0	0	0
7	X-Ray Technician	0	0	0	0	0	0	1	1	0
8	Pharmacist	4	2	2	2	1	1	3	3	0
9	Health Worker	3	0	3	3	1	2	0	0	0
<b>Doctors on Contract basis</b>										
1	Medical Officer	4	0	4	4	4	0	12	5	7
2	Dental Doctor	0	0	0	0	0	0	0	0	0
3	Ayush Doctor	6	5	1	3	3	0	0	0	0
4	Nurse	8	2	6	6	1	5	6	3	3



	Grade 'A'									
5	A.N.M.	21	0	21	17	17	0	0	0	0
6	Lab Technician	0	0	0	1	1	0	0	0	0
7	Family Planning Counsellor	0	0	0	0	0	0	0	0	0

To provide health facilities and services to large number of population various professional are available in government centers, for example doctors (specialists and general medicines) dentists, Ayush doctors (specializing in traditional medical system of Ayurveda), Nurses, Auxillary Nurses and others. There are also supports staff like pharmacists, technicians and health workers. To support doctors and support staff, government has hired medical professionals and nurses on contract basis (as presented in the table for key medical centers).

Large number patients get specialized treatment and care in government hospitals. There are facilities for beds for stay and cure in these hospitals. Sri Guru Gobind Singh Sadar Hospital, Patna Medical College Hospital and Nalanda Medical College Hospital together have about 2000 beds for patients.

Table : Government Health Facilities and Number of Beds in Patna Urban Area

S. No.	Name of Facility	No. of Beds
1	Danapur	4
2	Patna Sadar	6
3	Phulwari Sharif	6
4	New Gardiner Rd. Hospital	30
5	Rajendra nagar Hospital	30
6	SDH Danapur	36
7	SDH GGS Hospital	132
8	SDH Masaurhi	20
9	NMCH	650
10	PMCH	1250

### Transportation

The existing circulation pattern of Patna is of linear type due the geographic location of the city between two rives on North and South. The city of Patna has approximately 1,300

kilometres of road network, only 346 kilometres of which are surfaced dominantly as east west orientation of arterial road. The NH 30, NH 31 and NH 2 pass through the town. Patna is located about 100km from the national East –West Expressway. The major corridors are the Ashok Rajpath, Patna-Danapur Road, Bailey Road, Harding Road and Kankarbagh Road. There is an international airport serving the region. The Patna Railway Station is the main station but it is not fully broad gauge. The National Waterway-1 skirts Patna. This is a 1354km stretch in the River Ganga from Allahabad to Haldia via Varanasi, Patna and Farakka.

The network is highly inadequate. Functionally the roads do not have any hierarchy pattern. In Patna, less than 10% of the area is under circulation against the norm of 15-20%.

Moreover, the vehicular population growth is quite high, from a mere 4,384 registered motor vehicles in 1981 to 7.5 lakh in 2010-11. Out of which 30 per cent of these vehicles are cars, SUVs and autos, 20 percent heavy<sup>29</sup> vehicles and 50 percent moterbikes. Additional to this around 10,000 odd cycle rickshaws are registered that ply in new capital area alone. This number could be four times more in all the four circles of Patna city combined, that share road space with lakhs of motor vehicles on any given day. It is believed that growth of personalized vehicles is steep due to non-availability of mass transport system. It is worth nothing that bicycle and cycle rickshaw still remains an important mode of transportation in the city. This indicated the dominance of low capacity modes operating in the city thus causing distortion in model mix and resulting in unsafe and uneconomical travel conditions.



**Fig 15: Road and Railway in Patna**

Source: *Support Programme for Urban Reform (SPUR), Patna*

Railway infrastructure in Patna was built by the British in 1862 to support the transport of raw materials and finished goods<sup>30</sup>. The city is a major railway hub with five major stations. These are, Patna Junction, Rajendranagar Terminal, Gulzarbagh Station, Danapur Patna Sahib Station

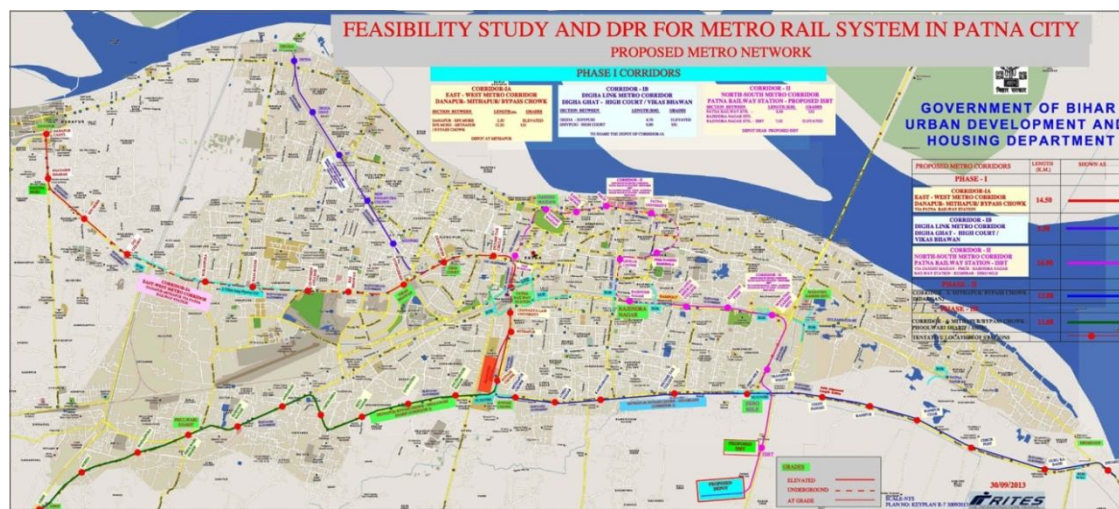
<sup>29</sup> <http://timesofindia.indiatimes.com/city/patna/Will-Patna-get-Metro-rail/articleshow/10794826.cms>

<sup>30</sup> Intra Urban Market Geography

and Station. Through daily passenger and goods train services, Patna is well connected to Gaya, Jehanabad, Biharsharif, Rajgir and Islampur cities of Bihar. A new station, Patliputra station, is going to be soon commissioned in the city. This will cater to the western Patna and Danapur division and would take much pressure from Patna Junction.<sup>31</sup>

There are two major bus stands; the New Main Bus Stand and the Gandhi Maidan Bus Stand in Patna serving as a transportation hub for inter city movement in the region. Both the stands are located in the city centre and western centre of the city. Public transport for intra city movement comprised of only 12 per cent of the total vehicular movement<sup>32</sup>.

Public transport system in Patna primarily relies on its intermediate public transport sector<sup>33</sup> which includes cycle rickshaw, auto and informal buses with fixed route service. They provide cost effective mobility and connectivity and meet more than 90% of public transport demand. They also cater to poor as easy source of employment. Rail and Bus transport plays a negligible role in urban transportation system as rail only caters to inter-city movement of passengers and plays negligible role in satisfying the intra-city demands and city bus service under Bihar State Road Transport Corporation is insignificant. Only a few private buses are operating under the royalty system of BSRTC which has led to highly unreliability of service and its inefficient operation coupled with deteriorating road network has resulted in high percentage of intermediate public transport.



**Fig 16: Proposed Metro Plan**

Source: Rites

It is expected that Patna metro rail network will be in service by the end of 2016. The Planning Commission of India has given all the required approvals for this forthcoming project. The

<sup>31</sup> Danapur Division of ECR

<sup>32</sup> Abhay Negi, DGM of Rites Ltd.

<sup>33</sup> Road accident Analysis:a case study of Patna city - Sanjay lumar singh and Ashish Misra

project is set to cover a distance of 40 km which will cost around Rs 8, 000 crore. Rail India Economic Service (RITES) has conducted a comprehensive study for the construction of Patna metro project. This planned metro project will ease the age-old traffic problem of the city to some extent.

### **Infrastructural Schemes**

Bihar, being least urbanised state of India, needs massive investment in urban development. Being the capital city Bihar, Patna has always received assistance in every possible way by the Government. Infrastructure of city is being maintained by both urban local body and state government. The most visible efforts are from national schemes and also by the International agency like World Bank to develop Patna as effective Urban Centre for Bihar.

Government of Bihar has also taken an initiative called Support Programme for Urban Reform (SPUR) in Bihar (Samvardhan). It is six year partnership programme (2010-2016) between the Government of Bihar and the United Kingdom's Department for International Development (DFID). The programme aims at catalyzing 28 Urban Local Bodies of Bihar to significantly enhance their capability to provide urban service and attract private investment thereby breaking the cycle of low urban revenues, weak capacity and inadequate services.

SPUR is providing financial, technical and managerial support to enhance efficiency of Patna and other urban related development of the state. There activities includes from building of data base for Patna by using Geographic Information System (GIS) and baseline survey of all the existing slums of Patna to framing detail project report for JnNURM .

Jawaharlal Nehru Urban Renewal Mission (JnNURM), Launched in 2005 was directed towards development of urban centres. This scheme also managed to draw attention towards urban poor by reforming governance to include the urban poor in the development context. The scheme has two sub missions: Urban Infrastructure and Governance (UIG) oversee by Ministry of Urban Development (MoUD) and Basic Service to the Urban Poor (BSUP) overseen by Ministry of Housing and Poverty Alleviation (MoHUPA).

Under the guidelines provided by JnNURM, Patna Metropolitan Planning Committee is been established. This Committee Patna intends to make a vibrant, beautiful modern, efficient urban area. The members of the MPCP will include public representatives such as MPs, MLAs, and other elected local body members and some senior government officials. This committee will prepare a detail plan for the development of Patna.

The aim of such committee is to make the state capital an economically and environmentally sustainable area. Patna facilitates the development of its catchment areas as well as the entire state, especially its neighbouring areas such as Maner, Fatuha, Sonapur and Hajipur. An integrated approach to developing educational institutions and residential colonies with advanced infrastructure in these areas would reduce pressure on the ever increasing city of Patna.

A number of projects have been implemented in Patna in relation UIG, for a total outlay of INR 7,584,400,000 in 2006-10. This included INR 4,983,900,000 for aimed at improving water supply, as well as INR 583,600,000 for a municipal Solid Waste Management Programme (Economic Survey of Bihar, 2011: 184-86). As part of the second component, providing basic services to poor, 19,124 houses have been sanctioned for construction at an estimated cost of INR 6,259,500,000 (Economic Survey of Bihar, 2011: 187).

In Patna, by 2012, funds released under JnNURM for most of the urban infrastructure development projects are either in the initial stages of execution or yet to take off. Factors like poor financial conditions of ULB and lack of strong institutional and legal framework to strengthen them. The project aimed to provide houses to 22,372 poor people, however only 544 houses have been made under the scheme.<sup>34</sup>

JnNURM lapsed in the March 2012 and the urban development department was not able to utilize central funds. Although out of proposed 70 semi low floor and non-AC buses under the urban transport scheme of JnNURM, first lot of 20 semi-low floor buses will be launched in the city soon. These buses will be covering ply on only two busiest routes of the city ( Gandhi Maidan to Saguna Mor via Bailey Road and Gandhi Maidan to Danapur via Digha-Kurji)<sup>35</sup>  
In Bihar 10 schemes have been approved under centrally sponsored program of Urban Infrastructure and Governance (UIG), seven schemes would be implemented in Patna Municipal Corporation area.

	<b>Name of Scheme (2013-14)</b> <i>(Source: Annual Report, Department of Urban Development, Government of Bihar)</i>	<b>Estimated Budget (in lakhs)</b>
1.	Solid Waste Management in Danapur, Khagaul, Phulwari	1155.81
2.	Khagaul Water Supply Scheme	1315.43
3.	Danapur Water Supply Scheme	6896.45
4.	Phulwarisharif Water Supply Scheme	2470.26
5.	Patna Water Supply Scheme	42698.00
6.	Solid Waste Management in Patna Urban Area	3695.70
7.	Purchase of Buses for Patna Urban Area	3990.00

Source: Support Programme for Urban Reform (SPUR), Patna

Activities under Solid Waste Management in Patna have already started. As per Urban Development Department, Bihar about 85 percent of works on above mentioned programs have been completed except urban transport projects. Approval has been given to buy 260

<sup>34</sup> <http://timesofindia.indiatimes.com/city/patna/Unrest-over-renewal-mission-failure-in-Bihar/articleshow/26984191.cms>

<sup>35</sup> <http://timesofindia.indiatimes.com/city/patna/20-new-buses-to-hit-Patna-roads-today/articleshow/40218981.cms>

new buses for Patna Urban Area. A Special Purpose Vehicle has been created for operation of buses.

Under Centrally Sponsored Scheme of Basic Services of Urban Poor (BSUP), construction Of 22372 houses is proposed for urban poor families in Patna and Bodhgaya with expected expenditure of 70998.40 lakh. 432 houses have been constructed already in four zones of Patna Urban Area.

Urban Area	Target of Construction of Houses	Estimated expenditure (in lakh)
Patna	203772	65541.36

To improve the public transport system, mass rapid transit system for the city of Patna is being approved by Planning Commission of India in 2011. The Metro rail will be introduced on three routes under the public-private partnership modes expected to run by 2016.<sup>36</sup> RITES has been entrusted with the task of preparing DPR for implementation of Metro Train Services. Government of Bihar invited suggestions for route alignment; the suggestions have been sent to RITES for consideration.

A second initiative is the National Slum Development scheme. This centrally-sponsored scheme has provided for measures<sup>37</sup> to promote both the physical and social infrastructural development of urban slums of Patna. The various measures include: (1) the construction of new houses and upgrading of dwellings in slums; (2) the improvement of housing conditions, as well as local infrastructure such as roads, lighting, water, sanitation and drainage; and (3) the improvement and/or construction of social amenities such as schools (including adult education), recreational facilities, primary health care facilities and community infrastructure. The State Government released Rs.84.48 lakh during 2003-06 (Rs.20 lakh during 2003-04, Rs.27.5 lakh during 2004-05 and Rs.36.98 lakh during 2005-06) to Patna Municipal Corporation for execution of schemes under N.S.D.P. but the corporation failed to utilise the amount.<sup>38</sup>

Other centrally sponsored initiative is the Indira Awas Yojna (IAY) Housing scheme, which gives grants to SC/ST and those below the poverty line to help them construct houses as well as convert temporary dwellings into more permanent ones, as well as the Local Area Development Programme, which facilitates the improvement of both physical and social infrastructure at a neighbourhood level.

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<sup>36</sup> UDHD

<sup>37</sup> Urban Tipping point

<sup>38</sup> CHAPTER – VII Review of Implementation of NSDP in the State of Bihar

And also the most ambitious project of central government launched in 2011, Rajive Awas Yojana to make India slum free, could not mark any important change in Patna. At the end of year 2013, many DPRs were prepared from 38 cities of Bihar, but out of these only few were given a green signal for implementation. Out of those selected also are the two settlements of Patna, Adalatganj and Yarpur, where in-situ gradation has been proposed. Governement of India has approved DPRs for projects under Patna phase 1,2 and 3.

Government of Bihar is also implementing schemes for urban areas under state budget. Budha Smriti Park has been constructed under state sponsored scheme. Besides, total 70 parks and 32 deluxe urinals have been constructed in Patna Municipal Corporation are under under state sponsored schemes.