CHAPTER IV: BANGALORE METROPOLITAN REGION

4.0. Overview of the Chapter
This chapter discusses Bangalore Metropolitan Region (BMR) physical setting and population growth, age-sex pyramid & dependency ratio, spatial growth and structure, present governance institutions such as elected urban local bodies, statutory authorities - planning authorities and other Parastatals. Followed by issues of governance such as organization and stakeholders’ issues, challenges in managing urban infrastructure and issues in planning and development.

4.1. Physical and population growth

4.1.1. Physical Setting – The Bangalore Metropolitan Region (BMR) is constituted by three districts namely Bangalore Urban, Bangalore Rural and Ramanagaram (Ramanagaram is a newly created district carved out from Bangalore Rural district that includes Ramanagaram, Channapattana, Magadi and Kanakapura taluks). Topographically, the Bangalore region is an ecologically sensitive region with respect to water resources. It is one of a handful of urban agglomerations in the World to be situated above the 3000 feet MSL. Bangalore Urban district is located on the Deccan Plateau in the south eastern part of Karnataka. It is situated in 12° 39' to 13° 18' North Latitude and 77° 22' to 77° 52' East Longitude. The district comprises four taluks Nelamangala, Dodballapura, Devanahalli, and Hoskote. The District is ranked as one of the top Five Technology Clusters in the world.

Bangalore rural district is located in the south eastern part of State of Karnataka. It is situated in 12°15' and 13°35 North latitude and 77°05' and 78°00' East longitude. The district is having scope for industrial growth and development, especially in milk and milk products, food processing and silk weaving industries.

Ramanagaram district is located approximately 50 km southwest of Bangalore. It is situated in 12° 54' to 13° 53' North latitude and 75° 04' to 76° 21' East longitude. It has four taluks viz. Ramanagaram, Channapattana, Kanakapura and Magadi. The District is known for its silk production and has Asia’s largest cocoon market.
The three districts in the BMR are further divided into eleven Taluks. The taluks in turn have eleven ULBs and 284 Gram Panchayats covering 2551 villages. Out of eleven ULBs one Municipal Corporation i.e. BBMP, three City Municipal Councils i.e. Ramanagaram, Channapattana, Doddaballapur and Seven Town Municipal Councils i.e. Devanahalli, Hosakote, Nelamangala, Vijayapura, Anekal, Kanakapura, Magadi. The Bangalore Metropolitan region has vast areas under reserved forests especially in the South and the South-West. Also the topography of the region has strong valley formations which provide an 'opportunity' and is viewed as a positive constraint for development. The sphere of influence of Bangalore Metropolitan region shows that, within a radius of 25 km from the center of the city, the area falls in the Bangalore Metropolitan Area, if radius of 50 km from the center of the city, the area falls in Tamil Nadu State. It has constraints for further increasing the jurisdiction towards South –East direction. The details of districts, Taluks, within BMR are shown in table 3 and map 5.

Table 3: Details of Bangalore Metropolitan Region and its Jurisdiction

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the District</th>
<th>Name of the Taluk</th>
<th>Jurisdiction (Area in Sq.Km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bangalore Urban District</td>
<td>Nelamangala, Doddaballapur, Devanahalli, and Hosakote</td>
<td>2,191</td>
</tr>
<tr>
<td>2.</td>
<td>Bangalore Rural District</td>
<td>Bangalore North, Bangalore South, and Anekal</td>
<td>2,259</td>
</tr>
<tr>
<td>3.</td>
<td>Ramanagaram District</td>
<td>Magadi, Ramanagaram, Channapattana, and Kanakapura</td>
<td>3,555</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>8,005</td>
</tr>
</tbody>
</table>

Source: BMRDA
Map 5: Bangalore Regional Setting - Sphere of Influence
4.2. Population Growth

The BMRDA Act in 1985 has demarcated Bangalore Metropolitan Region (BMR) comprising of Bangalore Rural District, Bangalore Urban District and Malur taluk of Kolar District. During the year 2005 Malur taluk was excluded from the BMR, the details are mentioned in the spatial growth structure of BMR. The decadal growth rate of population indicates that moderate growth. During 1971-81, the growth rate has increased to 46.88% and rests of the decades its declining trend (table 4 & box 5).

**Table 4: Growth of Population of Bangalore Metropolitan Region**

<table>
<thead>
<tr>
<th>Census Year</th>
<th>Bangalore Rural District</th>
<th>Bangalore Urban District</th>
<th>Ramanagaram District*</th>
<th>Total (in millions)</th>
<th>Decadal variations</th>
<th>Decadal Growth Rate in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2.50</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1971</td>
<td>573740</td>
<td>2090229</td>
<td>701546</td>
<td>3.37</td>
<td>0.87</td>
<td>34.80</td>
</tr>
<tr>
<td>1981</td>
<td>735962</td>
<td>3344850</td>
<td>866798</td>
<td>4.95</td>
<td>1.58</td>
<td>46.88</td>
</tr>
<tr>
<td>1991</td>
<td>717525</td>
<td>4839162</td>
<td>955669</td>
<td>6.51</td>
<td>1.56</td>
<td>31.52</td>
</tr>
<tr>
<td>2001</td>
<td>850968</td>
<td>6537124</td>
<td>1030546</td>
<td>8.42</td>
<td>1.91</td>
<td>29.34</td>
</tr>
<tr>
<td>2011</td>
<td>987257</td>
<td>9588910</td>
<td>1082739</td>
<td>11.66</td>
<td>3.24</td>
<td>38.48</td>
</tr>
<tr>
<td>2016*</td>
<td>1068989</td>
<td>12045670</td>
<td>1110936</td>
<td>14.23</td>
<td>2.57</td>
<td>22.04</td>
</tr>
<tr>
<td>2021*</td>
<td>1140272</td>
<td>147404777</td>
<td>1140842</td>
<td>17.02</td>
<td>2.79</td>
<td>19.61</td>
</tr>
</tbody>
</table>

Source: Census of India, 2001 & Provisional Census of India, 2011

* 2016 & 2021 Population estimation & Projection by the researcher using exponential growth rate method

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* Newly Carved Ramanagram district population is taken all four taluk populations as per Census of India.
Box 5: Girls are still scarce in IT City

BANGALORE: Home to nearly 96 lakh people, Bangalore district is growing three times faster than the rest of Karnataka, cramming more than 4,300 persons into every square kilometre. Nearly 16% of the state's population resides in Bangalore today. Bangalore district, which includes the mammoth 198 wards of IT City, has the highest number of female literates in the state, but the sex ratio remains the most skewed in Karnataka, with Bangalore at the lowest at 908, compared to Udupi which has 1,093 per 1,000.

In fact, Udupi, Kodagu, Dakshina Kannada, Hassan and Chikmagalur have a healthy sex ratio of more than 1,000 females per 1,000 males. These are the Karnataka's big demographic highlights coming out of Census 2011, to be released on Wednesday.

While the rest of Karnataka slowed down its pace of population growth in the decade that passed by, Bangalore district grew at a maniacal 46.68%, pushing the population from 65,37,124 in 2001 to 95,88,910 in 2011. Today, 4,378 persons live in every sq.km space of the district -- nearly 10 times that of Dakshina Kannada (457), the second most densely-populated district in the state. Bangalore Rural, which has a density of 441 persons per sq.km, has moved up one position to occupy third spot.

Source: Mathang Seshagiri, TNN Apr 6, 2011, 01.14am IST, Times of India

4.2.1. Age –sex pyramid and dependency ratio

The age and sex wise demography profile of Bangalore Metropolitan Region population of 2001 shows that in the age group of 20-24 male constitute about 5.95 percent & female constitute 5.21 percent. Whereas in the age group of 25-29 male constitute about 5.41 percent & female constitute about 5.21 percent respectively and remaining age groups constantly decreasing. This profile shows a marked domination of the people in the age group of younger and it indicates that strong attraction of younger age group population for employment, the region has demographic dividend in future. (Figure 6 & Appendix II-2.15).

The Dependency ratios indicate the potential effects of changes in population age structures for social and economic development. The dependency ratio of BMR is about 52.68%. Out of which about 41.83% is young dependency and 10.68% Old Dependency. It indicates more than 50 percent are dependent population.
4.2.2. Population growth in ULBs in BMR

The population growth in different urban local bodies within the BMR during 1991-2001 shows that few Urban Local Bodies are having negative change, i.e. Hosakote Town Municipal Council, Vijayapura Town Municipal Council and Kanakapura Town Municipal Council. In case of Ramanagaram City Municipal Council, growth rate is increasing rapidly compared to all other Urban Local Bodies. The main reason is industrial townships situated in and around the Ramanagaram CMC. The average annual exponential growth of Ramanagaram CMC is 4.54%, followed by Nelamangala TMC is about 3.64 and Channapattana CMC is having least exponential growth is about 1.41% (Appendix II- 2.16).
4.3. Spatial growth and structure

In 1985, the Govt. of Karnataka constituted the Bangalore Metropolitan Region Development Authority under BMRDA Act and a statutory limit named ‘Bangalore Metropolitan Region (BMR)’ with an area of 8005 sq.km came into existence. The BMRDA Act had originally defined the BMR to comprise the entire area of the Bangalore Rural District, Bangalore Urban District and Malur Taluk of Kolar District. However, Malur Taluk was deleted from the BMR through the BMRDA (Amendment) Act, 2005 that was notified and brought into effect from 23rd March 2005. In accordance with BMRDA Act 1985, Structure Plan was prepared for Bangalore Metropolitan Region together with a technical report on Integrated Resources Analysis\textsuperscript{79}. The major objective of this project was to derive a broad based land use strategy. The report described in outline a mixed development strategy for land designation, delineation, reserving and acquisition. It highlighted the policy imperatives to encourage private sector participation for the provision of infrastructure, adoption of better levy approach to land conversion and designation of nature preserves. The Bangalore Metropolitan Region and its jurisdiction are shown in the Map 6.

Map 6: Bangalore Metropolitan Region and its jurisdiction
It was only in 1997 through a regional approach the ‘Preparation of Bangalore Structure Plan 2011’ were initiated. The plan set out its vision and targets for the horizon year 2011. Prepared in 1998, the plan got statutory approval only in 2005. During this time, the context of the region along with the city of Bangalore was modified to a great extent as a result of various factors including several plans and policies. Furthermore, the region has been disaggregated into six Local Planning Areas (LPA’s) for which the Interim Master Plans (IMP’s) have been prepared for the horizon year 2021. This is over and above the Revised Master Plan (RMP) 2015 for the Bangalore Metropolitan area and the City Development Plan (CDP) for the BBMP under the JNNURM. What needs to be kept in mind here is that the IMP’s are transcending municipal jurisdictions, in the process overriding the main dispensation of the decentralisation agenda of the local bodies emerging as units of self governance responsible for their jurisdictions and accountable to their electorates.

It is notable in this context that while the Constitution of India Part 9A – Art 243ZE recommends the establishment of District Planning Committees (DPC’s)\(^\text{80}\) to incorporate the local development plans into District Development Plan (DDP), the Dr. Kasturirangan’s Report (KRR) observes that in context of the wide and comprehensive mandate of MPC, need for constituting DPCs might not be necessary or can be reviewed.

With the mandated 73rd and the 74th Constitutional Amendment Act coming into play, the existing spatial development framework as outlined above requires progressive reorientation towards the stipulations of these amendments. In the context of the BMR, the planning functions will be confined to the following:

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\(^{80}\) The District Planning Committee should have “regard to matters of common interest between the Panchayats and the Municipalities including spatial planning, sharing of water and other physical and natural resources, the integrated development of infrastructure and environmental conservation, the extent and type of available resources whether financial or otherwise”. 

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1. 295 local bodies as the lowest or third tier of governance;
2. 3 DPC’s for the three revenue districts of Bangalore Urban, Bangalore Rural and Ramanagaram\(^{81}\)
3. 1 MPC for the BMA (currently the BMR).

As far as the IMP’s are concerned, while they have not outlined a different development strategy vis a vis the BMR SP 2011, in terms of population projections, a 16 million population is estimated by 2021 possible to be achieved if a high CAGR rate of 3.3% from 2001-2021 is sustained and which is not possible in the long run. Thus both spatial restructuring and a realistic population allocation is the need of the hour. The efforts of the both the GoI (through the JNNURM scheme seeking to operationalise the decentralization agenda by mandating compulsory and optional reforms to avail central government funds) and the GoK at streamlining the multiple plans and bringing the BMR region’s jurisdictions in conformity with the decentralization agenda (through the Dr. Kasturirangan’s Committee’s agenda and the Karnataka Vision 2020 report) assume significance.

As per the Structure Plan, apart from BMA (BDA jurisdiction), the rest of the Bangalore Metropolitan Region [BMR] is divided into five Area Planning Zones (APZ’s) and six Interstitial Zones (IZ’s). The APZ’s are proposed along the corridors, which are (1) Bangalore-Bidadi (2) Bangalore-Nelamangala (3) Bangalore-Devanahalli (4) Bangalore-Whitefield, Hosakote (5) Bangalore-Anekal, Sarjapur-Hosur.

The Area Planning Zones (APZ’s) are areas where urban development is permitted subject to certain regulations. The Interstitial Zones are the areas lying between APZ’s where urban activities are restricted giving more emphasis to environmental – issues like conservation of forest area, agriculture etc. For planned urban growth, Local Planning areas under Karnataka Town & Country Planning Act-1961 are declared in the five APZ’s

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\(^{81}\) The KRR report recommends the reorganisation of the Bangalore urban district which currently comprises of the BBMP, the Anekal TMC and some adjoining rural areas be reorganised by removing the rural components. The urban district will then reflect its urban character by limiting it to the BBMP and Anekal TMC while merging the rural local bodies in Bangalore Rural or Ramanagaram district in an appropriate manner. In such an eventuality the no. of DPC’s will reduce to 2.
and IZ’s 1 & 2. The following are the Planning / Development Authorities functioning in the Bangalore Metropolitan Region (BMR).

Table 5: Authorities functioning within BMR

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Authorities functioning within Bangalore Metropolitan Region (BMR)</th>
<th>Area in Sq. Km.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bangalore Development Authority (BDA)</td>
<td>1219.50</td>
</tr>
<tr>
<td>2.</td>
<td>Bangalore – Mysore Infrastructure Corridor Area Planning Authority [BMICAPA]</td>
<td>426.24</td>
</tr>
<tr>
<td>3.</td>
<td>Ramanagaram-Channapattana Urban Development Authority [RCUDA]</td>
<td>63.06</td>
</tr>
<tr>
<td>4.</td>
<td>Anekal Planning Authority [APA]</td>
<td>402.30</td>
</tr>
<tr>
<td>5.</td>
<td>Nelamangala Planning Authority [NPA]</td>
<td>735.00</td>
</tr>
<tr>
<td>6.</td>
<td>Magadi Planning Authority [MPA]</td>
<td>501.52</td>
</tr>
<tr>
<td>7.</td>
<td>Hosakote Planning Authority [HPA]</td>
<td>535.00</td>
</tr>
<tr>
<td>8.</td>
<td>Kanakapura Planning Authority [KPA]</td>
<td>412.78</td>
</tr>
<tr>
<td>9.</td>
<td>Bangalore International Airport Area Planning Authority [BIAAPA]</td>
<td>792.00</td>
</tr>
<tr>
<td>10.</td>
<td>Area Planning Zone-1 [APZ-1] (Excluding RCUDA &amp; BMICAPA)</td>
<td>462.60</td>
</tr>
<tr>
<td>11.</td>
<td>All Interstitial Zones in Bangalore Metropolitan Region [IZ’s BMR]</td>
<td>2455.00</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>8005.00</strong></td>
</tr>
</tbody>
</table>

Source: BMRDA

4.4. Present Governance Institutions

4.4.1. Elected Urban Local Bodies (ULBs)

Under the jurisdiction of BMR, eleven elected ULBs including BBMP are functioning. The detail of BBMP is discussed in Chapter III. The rest of the Urban Local Bodies details within the BMR are discussed below.

All the Urban Local Bodies have elected and executive wings. In case of City Municipal Council and Town Municipal Councils, the Elected wing the President and Vice-President
are elected by the members of councilors and followed by the Standing Committees Chairman’s constituted as per the Karnataka Municipalities Act, 1964 (flow chart 7)

Flow Chart 7: Elected wing in City Municipal Council and Town Municipal Councils

The Executive wing is headed by the Municipal Commissioner as the Chief Executive Officer of the Corporation. He has responsibilities for the administration of the city and implementation of policies and programmes decided by the Council. The State Government appoints the Commissioner. Normally, he is a junior officer belonging to the Karnataka Administrative Services. The Commissioner exercise wide functions in administrative and financial areas. He participates in the meetings of the Councils and Committees and answers the questions raised by the Councillors. He acts as a link between the Government and Municipal Councils. He has wide powers of appointment and discipline as also supervision and control over the personnel. He also exercises financial discretionary and emergency powers (flow chart 8 & 9).
4.4.1.1. Ramanagaram City Municipal Council

City Municipal Council (CMC) Ramanagaram was constituted in 1995. It had a population of 79,394 according to the 2001 Census. The CMC has 31 Wards and equal number of Councilors. Ramanagaram City is the center for Sericulture activities. There are about 2000 Silk Reeling and Twisting Households units. It has one of the biggest cocoon markets in Asia. Ramanagaram is also famous for its huge rocks. The magnificent rocks that form the landscape of the Handi-gundi reserve forest in Ramanagaram are 2.6 billion years old.

4.4.1.2. Channapattana City Municipal Council

The CMC of Channapattana has population of 63,577 according to 2001 Census. The city is situated between Bangalore and Mysore. The CMC has 31 wards and equal number of Councilors. The city is world famous as ‘Toys city’.

4.4.1.3. Doddaballapur City Municipal Council

Doddaballapur City Municipal Council comes under the Bangalore Rural district. Dodda means big in the native Kannada. The name is given as there are two Ballapura in Karnataka one Dodda and another at Chikballapur. The city is near the historic regions of Muddenahalli-Kanivenarayanapura-Nandi, the site of the upcoming 22 Billion, 12,000-acre (49 km²) BIAL IT Investment Region, the largest IT region in India and one of the largest infrastructure projects in Karnataka's history. The population of Doddaballapur town is 71,606 as per 2001. The town is spread over an area of 18.0 km² with 15,200 no. of households in 31 wards. The decadal population growth rate is 31% with population density of 3,800 persons/ km². The population in 11 declared slums is 12,198. There are silk industries in the town and is predominantly agriculture based. New Bangalore International Airport at Devanahalli, which was commissioned three years back, is just 25 Km from Doddaballapur with a travelling time of 26 minutes and has given phenomenal boost to the growth in the region.

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82 Provisional Census of India, 2011 not released Cities/UAs population having below one lakh.
4.4.1.4. Devanahalli Town Municipal Council

The Town Municipal Council (TMC) Devanahalli was constituted in 1938. It is situated along Bangalore - Hyderabad National Highway No.7 at a distance of 34 Kms from Bangalore. Devanahalli town is a historic place where 'Tiger of Mysore' Tippu sultan was born, the birth place now comes under archeological department. The Town has the famous Venugopal swamy temple. The Nandi hills stands at 20 Kms North-West of the Town. The new international airport is just 6.5 kms from the Town. There is a proposal for development of a hardware park near Devanahalli. It has a population of 23,406 as per census 2001. The TMC has 23 wards and equal number of councilors and 5 Numbers of Nominated Councilors. Devanahalli TMC stretches to an area of 16.50 Sq. Kms

4.4.1.5. Hosakote Town Municipal Council

Hosakote TMC was established in the year 1906. It is situated along the Bangalore-Kolar Highway NH-4, at a distance of 27 Kms from Bangalore. Town has a population of 36,364 as per 2001 Census. TMC has 23 wards and equal number of Councillors. Many factories and industries are situated in Hosakote town surroundings and they have created many job opportunities. M.V.J. Medical college and Research centre is one of the popular college & Hospital in Hosakote town.

4.4.1.6. Nelamangala Town Municipal Council

Nelamangala Town Municipal Council was established in the year 1944. It is situated on SH-4 & NH-48 on Bangalore - Pune road, about 27 Kms from Bangalore. Town has a population of 25,287 as per 2001 Census. TMC has 23 wards & equal no. of Councillors & 5 nominated Councillors. Town has an area of 14.10 Sq.Kms.

4.4.1.7. Vijayapura Town Municipal Council

Vijayapura Town Municipal was established in year 1917. Govt. of Karnataka has awarded certificate of appreciation to Vijayapura TMC in the year 1986-87 and 1992-93 for providing better basic amenities. Vijayapura is situated along Bangalore-Hyderabad National highway at a distance of 10Kms. It has a population of 29,540 according to 2001 census. TMC has 23 elected Members. Vijayapura stretches to an area of 16 Sq.Kms.
4.4.1.8. Anekal Town Municipal Council

Anekal TMC lies in a Bangalore district. It is situated in the southern part of the Bangalore metropolitan area around 40 kilometres from Bangalore. Anekal is known for the karaga festivals. It has a population of 33,157 according to 2001 census. The TMC has 23 ward and one elected members from each ward.

4.4.1.9. Kanakapura Town Municipal Council

Kanakapura situated in the Southern part of Bangalore around 56 km from Bangalore, it is situated on the right bank of the river Arkavati. The main tourist attraction of this place is Sangama, Mekedatu & Muthatthi. Malagalu (two km from Kanakapura) situated across the Arkavati river (now within Municipal limits) has a huge temple of Mahadeshwara with a spacious Navaranga, two Ardhamantapas and a Garbhagruha. According to 2001 Census the Kanakapura Town Municipal Council had a population of 47,060. The Kanakapura TMC consists of 27 Wards and 27 Elected Councillors and 5 Nominee Councillors.

4.4.1.10. Magadi Town Municipal Council

The Town Municipal Council (TMC) Magadi was established in the year 1870; it’s situated along with Bangalore - Kunigal State Highway No. 17 at a distance of 51 KM from Bangalore. Bangalore establisher "Nadaprabhu Kempegowda" native is Magadi, the Magadi fort comes under the purview of Magadi town limit, the famous tourist place Savandurga hill is 11km from Magadi the famous ancient temples are Sri Ranganatha swami temple and Someswara Temple. According to 2001 Census the Magadi Towns population was 25,031. The TMC Consists of 23 Wards and 23 Elected Councillors and 4 Nominated Councillors. Total area of Magadi TMC is 5.59 Sq.Kms.

4.4.2. Statutory Authorities

4.4.2.1. Planning Authorities

Hosakote Planning Authority, Nelamangala Planning Authority, Anekal Planning Authority, Kanakapura Planning Authority are all discussed in Chapter –VI under Spatial
planning. The Constitution of Bangalore Development Authority has been discussed in Chapter III.

**Bangalore Metropolitan Region Development Authority (BMRDA)** - Bangalore Metropolitan Region Development Agency (BMRDA) was constituted in 1985, primarily to prepare a Structure Plan for the region (8005 sq.km). The main functions are:

- to plan and co-ordinate and supervise orderly development of areas among the BDA, BMP and other parastatal agencies.
- Structure plan is not a Master Plan, but a key diagram for an overall development of land in BMR for management & development of infrastructure and transportation priorities.

State government, recently approved a structure plan prepared for the BMR by GHK Consultants in 1996, and declared BMRDA as a Planning Authority. Five local planning areas created within the BMR prepared an Interim Master Plan for five satellite towns, as spatial development frames, with an Outer Ring Road and a Satellite Ring Road network linking BMA to the satellite towns. These implants of satellite towns without reference to the regional economic and ecological attributes have completely negated the Master Plan precepts for Bangalore and the role of BDA within BMA.

The population of Bangalore Metropolis was 61.7 lakh in 2001 and that of Bangalore Municipal Corporation is 43 lakh. The Revised Master plan (2015), which is finally approved by Government, projected the population to 88 lakh by 2015, and to one crore by 2025 and suggested an addition of 300 sq.km to the urbanisable area for population holding capacity. 2011, provisional Census of India data reveals 85.20 lakhs exceeding the projection of Revised Master Plan. It is pertinent to note that entire urban population of Karnataka was 1.79 crore (2001) in 237 towns including Bangalore. But the five satellite towns initiated by State government, namely Ramanagaram – Channapattana, Hosakote, Kanakapura, Magadi, and Nelamangala are planned for 50 lakh by 2021. That is in two decades (2001 – 2021); BMR will have population of 1.70 crore, which is almost the entire urban population of the State of 2001.
4.4.2.2. Other Parastatals

*Karnataka Urban Water Supply and Drainage Board (KUWS&DB):* Constituted under Karnataka Urban Water Supply and Drainage Board (KUWS&DB) Act 1973, KUWS&DB is a corporate body formed to regulate and develop drinking water and drainage facilities in the urban areas of Karnataka. The functions of the boards is to,

- Plan, design and execute water supply and sewerage / sanitation schemes on behalf of the local bodies of the state
- Plan, design, execute, operate and collect water charges in respect of board's water works
- Operate water works belonging to the local bodies on an agency basis and
- Obtain open market borrowing and other loans from the funding agencies and re-lending the same to the local bodies and servicing the same.

In line with above functions, the board generally develops the projects and transfer the function of distribution to the local bodies. The board retains the operations of head works and the transmission of water and collects bulk water charges from the respective local body.

In terms of organisational structure, the board is headed by a Chairman, who is supported by a Managing Director. In addition to a Secretary, Finance Advisor and Internal Audit Officer, the MD is supported by two Chief Engineers (one each for south and north parts of the state). While the southern region is divided into six zones, the northern is divided into eight zones and each zone is headed by an Executive Engineer. Each of the Zonal Engineers is supported by appropriate number of Assistant Executive Engineers. However, KUWS&DB is not involved in any of the planning, preparation of estimates & DPRs, scrutiny of estimates, implementation monitoring etc with respect to the sub projects of water supply and UGD system under KMRP. The Chief Engineer of KUIDFC, who is the Chairman of the Technical Committee, located at Dharwad Regional office accords approval for the estimates exceeding Rs.2 crore.

*Directorate of Municipal Administration (DMA):* The Directorate of Municipal Administration in the state was started in 1984-85 in order to co-ordinate the functional
activities of Municipalities in the State. The Directorate of Municipal Administration (DMA) through its authority to regulate and monitor the functions of the urban local bodies of the state is also relevant for developing the project towns. DMA exercises administrative control on the following matters at the state level.

- Exercising control over the functioning of the municipal corporations and local bodies
- Preparing and sanctioning town planning schemes and development plans
- Financing local bodies to enable them to meet civic requirements like water supply, sewerage, sanitation and transport, and development of new towns

The department is headed by a Director/Commissioner and is supported by Joint Directors, Assistant Directors, Superintendent Engineer, Executive Engineers etc.

4.5. Issues of Governance

4.5.1. Organization and Stakeholders issues

Planning in the form of land use zoning and regulation are vested with Bangalore Development Authority (BDA) and other planning authority within the BMR, a parastatal agency, in spite of the 74th Constitutional Amendment Act, passed by the national parliament in 1993. This Act requires that the planning function be vested with the (elected) Urban Local Body and not with any parastatal agency. But, in the case of Bangalore, the BBMP and other Urban Local Bodies have not been granted adequate powers by the State to plan, decide and administer their city. Further, the State has created numerous other organisations of its own to manage various services such as water supply, transport, traffic management, energy, housing and law & order etc. The result is the existence of many parastatal organizations, each acting in its own geographic area, leading to complication and confusion in coordinating different activities. Apart from the issue of a common geographical unit and the lack of coordinated effort, even basic information related to different sectors is extremely difficult to collect, collate and to correlate. For effective planning it is imperative that all the basic information be gathered across a common geographical unit with the effect of creating a robust city information system.
In addition to the official bodies, civil society of Bangalore is known for its vibrant community participation. The spectrum of their activities ranges from literacy and green brigades to urban governance, ensuring continuous interactions with the local administration. Notable spheres of activity of these non-governmental organisations (NGOs) include: improving urban governance by Citizens Voluntary Initiative for the City (CIVIC) and JANAAGRAHA; improving living conditions in slums by AWAS, APSA, Paraspara, etc.; addressing child literacy by Prerana and the India Literacy Project; taking on environmental issues by the Environment Support Group, Hasiru Usiru, etc. Apart from the NGOs, there are numerous resident welfare associations, trade and commercial organisations, and professional organisations that have played a major role in some of the important activities of local bodies and influencing their decision-making. Civil society has contributed considerably in shaping the policies and governance structures and has always intervened whenever there is any apathy on the part of the administration towards activities of interest to society at large. An experiment to promote public private partnership and bring together citizens, NGOs, industry representatives and the erstwhile local bodies resulted in ‘Bangalore Agenda Task Force (BATF)’. This experiment was about to be benchmarked as one of the ‘best practices’ in urban local governance, when it faced strong criticisms from several civil society groups for setting aside priorities favouring the urban poor and was accused of making a back door entry towards policy making (Ghosh, 2005). In the event, the activities of BATF came to a standstill with the change of guard at the State government two years ago and it is currently dormant. Another instance of strong action by civil society groups, was seen when the local government started tree felling and pruning for road widening. Members of the green brigade, Hasiru Usiru, staged protests, held an all night vigil stormed the Commissioner’s office and also moved to High Court and finally got the actions stayed. The High Court also ruled later that Hasiru Usiru members should inspect the trees along with the designated Tree Officer from the Forest Department before any tree felling and pruning of branches was begun.
4.5.2. Challenges in managing urban infrastructure

Plan proposals provide an almost set pattern of urban development, and urban growth in the country. Discussing “Growth and Space in Urbanization - Issue of Governance” Sri Sivaramakrishnan K.C, Former Secretary, Union Ministry of Urban Development, and an eminent urbanologist says “In any city big or small, if the question is asked who is in-charge of this city, the answer is painfully simple – no one”. This raises the issue of popular perception that Master Plans for Urban areas serve as better tools for providing orderly social and economic growth, environmental improvement and managing growing demands for developed land. The current practice of “Planning” for economic development at the national level and statutory land use planning by Master Plans at the city level for development and governance have indeed failed miserably and in fact brought a bad meaning to planned development of urban areas.

Urban activities require the support of infrastructure. Broadly, urban infrastructure can be divided into physical, social and economic infrastructure. Physical infrastructure encompasses on improvement of roads, water supply, sanitation, underground drainage system, waste water treatment, solid waste management, electricity, telecommunication network etc.

Bangalore Water Supply and Sewerage Board (BWSSB) and Karnataka Urban Water Supply and Drainage Board (KUWS&DB) are the parastatal agencies responsible for drinking water supply and wastewater collection and treatment in the BBMP area and Bangalore Metropolitan Region (BMR). Bangalore is on a ridge and does not have its own year-round sources of water. Drinking water is pumped from the river Cauvery, a distance of about 100 km over an elevation of 500 m with an energy expenditure of 75 MW for approximately 900 million liters per day (MLD). Apart from the river Cauvery supply, ground water and water from the river Arkavathy are also tapped. However, while water supply distribution is 100% in the former Bangalore City Corporation limits and BWSSB limits, only about 20% of the Municipal Council households are serviced. In view of the rapid growth of the city and its region it remains a challenge to service the remaining areas.
Regarding collection and treatment of wastewater, the sewerage system is based on the city’s four natural river valleys already noted and BWSSB and KUWS&DB are the nodal agency. There are three major treatment plants with a total capacity of about 450 MLD (the outlets of Koramangala and Challaghatta valleys are combined to form the K&C Valley Treatment Plant at Bellandur). Wastewater stress on natural water bodies is evident from the fact that the present wastewater treatment capacity in the city is around 450 MLD as against an estimated generation of domestic wastewater of 700 MLD. Although more secondary wastewater treatment plants are in progress, they are yet to be completed. Another problem is the frequent clogging of storm water drains, resulting in pollution of natural water bodies. Hence it is now proposed to rehabilitate and remodel all the major trunk sewers to prevent any discharge into the storm water drains.

Addressing mobility in Bangalore city, an overview of transportation and traffic reveals the following facts. Bangalore city is estimated to have vehicle population of about 2.6 million while the current city population is about 7 million. The vehicle to person ratio is far higher than any other city in India. This has led to increased congestion in road networks across the city and frequent traffic jams. Manning signaling at traffic islands has also become unmanageable with the amount of traffic plying across junctions. Again, in this sector different components related to mobility are vested with different parastatal bodies.

Public transportation forms one of the key functionalities for mobility in any urban area. In Bangalore where the working population is around 2 million, the Bangalore Metropolitan Transport Corporation (BMTC) operates on any given day with 4144 schedules, 4262 buses, 60,475 trips, and carries 3.5 million passengers. It earns Rs. 20.5 million per day and pay Rs. 0.955 million to the government as taxes (Bangalore Metropolitan Transport Corporation, 2006). Further, according to recent estimates, there are about 1.6 million two-wheelers, 0.32 million motor-cars, 80,000 auto rickshaws, and 0.17 million other vehicles totaling to around 2.2 million vehicles on road (Regional Transport Office, 2006). In general Bangalore has over a period promoted mixed land use which at some level has led to inefficient usage of land. With the City’s
compartmentalized approaches to widening of roads or construction of flyovers and grade separators, the problem of mobility is far from being solved.

4.5.3. Issues in planning and development

To understand the development characteristics of the Bangalore metropolitan area, it may help to distinguish three concentric zones – zones which correspond closely with previous current local authority areas. The first zone would comprise the erstwhile city corporation area of 226 km². The second zone would include the areas of the former 8 neighbouring municipal councils and 111 villages, which together form the peri-urban areas and are now incorporated into the Greater Bangalore City Corporation. The third zone would include other villages extending up to the Bangalore Metropolitan Area limits as proposed by Bangalore Development Authority.

Traditionally, planning has been restricted to land use planning, being vested with BDA for the region under Bangalore urban agglomeration, and with Bangalore Metropolitan Region Development Authority (BMRDA) for the larger peripheral area comprising the rest of Bangalore Urban District. BDA obtains the land, develops it as residential layouts which eventually are handed over to the city corporation, often involving the extension of city limits. Land use plans are formalised through the Comprehensive Development Plans (CDP) prepared every 10 years at present to call it as Master Plan.

However, another organisation similar to BDA, the Karnataka Industrial Area Development Board (KIADB), is responsible for development of industrial areas. These industrial estates are situated for most part in the outskirts of the city and KIADB has powers under the law to take over agricultural lands for the purpose. Generally, however, the regulation and enforcement of land use zoning regulations are dismal, leading to a large number of illegal developments and encroachments on public land – problems which have led Karnataka State to constitute a legislative committee to look into irregularities in and around the city. In the particular case of growth occurring around outer industrial areas, the urban local bodies are generally unable to provide basic infrastructure and services, thus further aggravating inefficient utilisation of land and other natural resources.
With such instances prevailing especially in the areas of the former Municipal Councils, the new Corporation faces a great challenge to deliver basic infrastructure and services.

On 3rd December 2005, the Ministry of Urban Development, Government of India, launched the Jawaharlal Nehru National Urban Renewal Mission (JNNURM). This countrywide programme addresses renewal of urban areas for 63 cities encompassing nearly 70% of total urban population, its primary aim being to link the revitalisation of urban infrastructure with a specific agenda of institutional reforms. Bangalore is one of the beneficiaries under this programme with an estimated outlay of US $ 1.7 billion over the next six years. The key mission of this programme is to support reforms-driven, fast track, planned development with focus on improving efficiency in urban infrastructure and service delivery mechanisms, through community participation and ensuring accountability of urban local bodies and parastatals towards citizens. JNNURM is made operational with two sub-missions:

Urban Infrastructure and Governance (UIG) - The sub-mission on UIG focuses on major infrastructure projects for water supply, sanitation, sewerage, solid waste management, road network, urban transport and redevelopment of inner (old) city areas with a view to upgrading infrastructure therein, shifting industrial and commercial establishments to conforming areas, etc.

Basic Services to Urban Poor (BSUP) - The sub-mission on BSUP focuses on integrated redevelopment of slums combining housing, water supply, drainage, storm water drains, solid waste management, street lighting, and community halls.

In accordance with the JNNURM guidelines, the erstwhile Bangalore City Corporation prepared the City Development Strategy Plan (CDSP) for both UIG and BSUP (Bangalore Mahanagara Palike, 2006). The CDSP outlines only an investment plan and financial strategy for taking up various initiatives envisaged in the mission. Under BSUP, 218 declared slums in the former City Corporation limits would be taken up by KSCB for redevelopment. Further, there are 169 slums under the erstwhile City Corporation jurisdiction that remain undeclared, which would be redeveloped by the new Corporation. There are, in addition, 155 slums in the neighbouring former municipal council areas that
would be redeveloped by the new Corporation and KSCB. However a draft community participation law has not been enacted in Karnataka State and most of the infrastructure projects and redevelopment plans have been administered by ULBs and parastatal agencies and not through community participation as envisioned by the mission. The result is a continuation of top-down rather than bottom-up modes of planning and delivering infrastructure and services. This calls for introspection on the implementation and achievement of the mission objectives. However, with various initiatives under JNNURM underway, it does offer hope, and perhaps promise, and in improving the essential urban infrastructure and services in city. At present, Government of Karnataka passed the community participation law leaves out the community.

The rationale of declaring the BMRDA as a planning authority for overall supervision of developments within BMR without adequate capacity building for plan preparation, enforcement and implementation of the master plan will be the worst scenario for Town and Regional planning precepts.

Similar are the five local planning areas within the BMR who have to prepare Interim Master Plans for the five satellite towns. Already the state government has called for global tenders to develop Bidadi integrated Township project. For this township an area of 9684 acres has been earmarked with indicative Land use.

Such a policy decision without adequate survey or an analysis of existing conditions of land uses, economic base and social status of Bidadi will completely negate the concept of Town and Regional planning or even the concept of Interim Master Plan preparation under the KTCP Act. It is a moot point whether such adhoc and laissez faire decisions would really help the BMR development on a regional perspective and BMA as a Metropolitan support structure for the urban developments in the Region (BMR). Without basic analytical studies or basic framework for consideration and development within the BMR, the adhoc or laissez faire decisions of the government as have been done, will not only be detrimental to the regional growth, but also to the Metropolis itself.
4.6. Summary

Bangalore Metropolitan Region (BMR area) spatial and population growth trends has changed over the decades, in population growth is declining, whereas in Urban Local Bodies population within the BMR has increasing immensely. The Bangalore Metropolitan Region has organisation and stakeholder’s issues, faces real challenges in managing the urban infrastructure and issues in planning and development.