

# MUNICIPALISATION RECOMMENDATIONS

Expert Committee : BBMP Restructuring

2016 - 2017



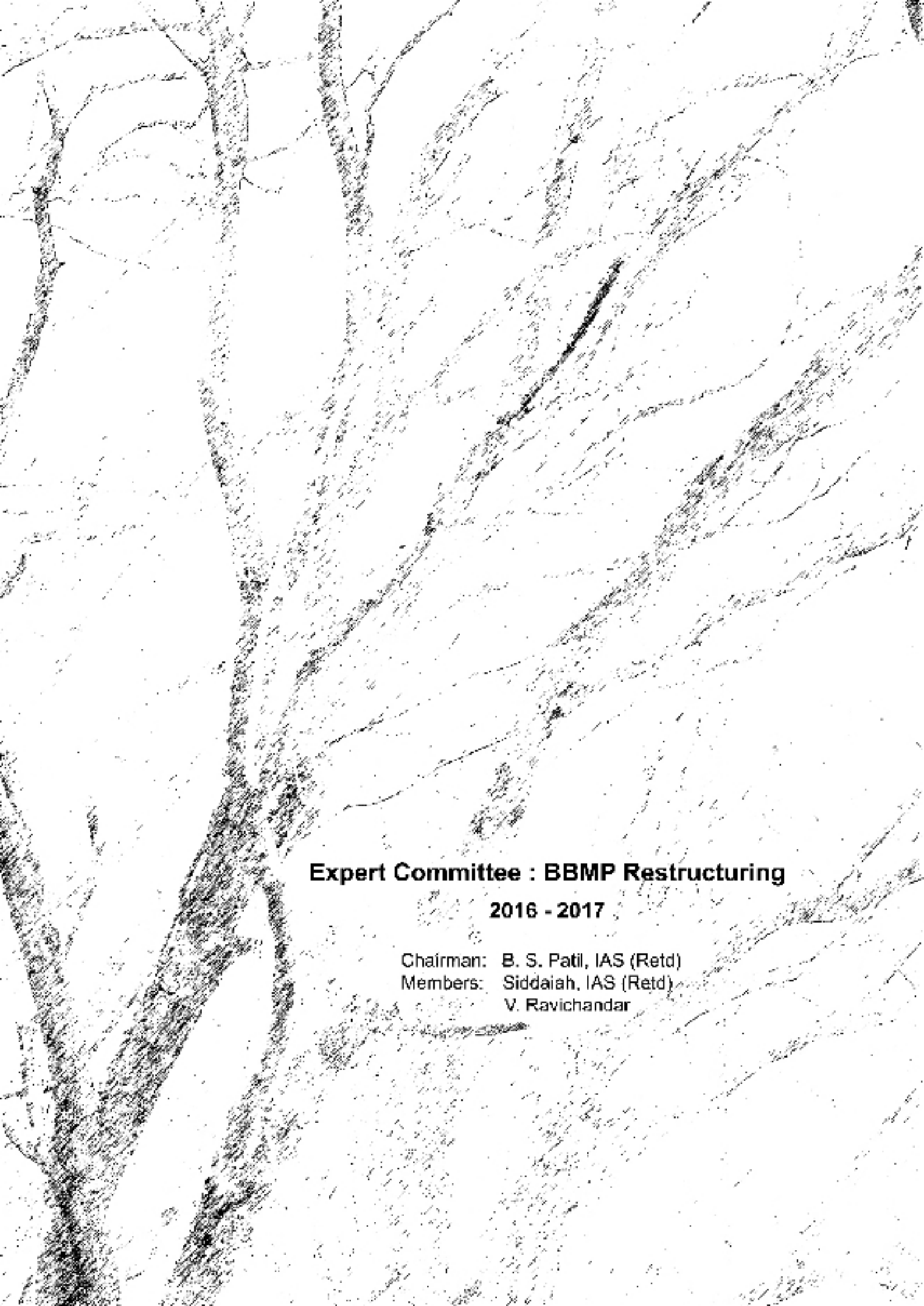
**BBMP**  
RESTRUCTURING

**Chairman:** B. S. Patil, IAS (Retd)  
**Members:** Siddaiah, IAS (Retd)  
V. Ravichandar



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# Municipalisation Strategy addressing Urban Expansion and Urban Villages

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## List of Abbreviations

BBMP	Bruhat Bengaluru Mahanagara Palike
BCC	Beneficiary Capital Contribution
BDA	Bengaluru Development Authority
BESCOM	Bengaluru Electricity Supply Company
BIAAPA	Bengaluru International Airport Area Planning Authority
BMA	Bengaluru Metropolitan Area
BMR	Bengaluru Metropolitan Region
BMRL	Bengaluru Metro Rail Corporation Limited
BMRDA	Bengaluru Metropolitan Region Development Authority
BMTCL	Bengaluru Metropolitan Transport Corporation
BWSSB	Bangalore Water Supply and Sewerage Board
CLU	Change of Land Use
CMC	City Municipal Council
CPHEEO	Central Public Health and Environmental Engineering Organisation
CWSS	Cauvery Water Supply Scheme
DC	Deputy Commissioner
EPIP	Export Promotion Industrial Park
GBA	Greater Bengaluru Authority
GP	Gram Panchayat
IDR	Infrastructure Development Department
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
KHB	Karnataka Housing Board
KIADB	Karnataka Industrial Area Development Board
KLR Act	Karnataka Land Revenue Act
KM Act	Karnataka Municipalities Act
KMC Act	Karnataka Municipal Corporation Act
KSIIDC	Karnataka State Industrial and Infrastructure Development Corporation
KSSIDC	Karnataka State Small Industries Development Corporation
KTCPA	Karnataka Town and Country Planning Act
LPA	Local Planning Authority
LPCD	Liter Per Capita Per Day
MPC	Metropolitan Planning Committee
RSP	Revised Structure Plan
SC/ST	Schedule Caste/Schedule Tribe
TMC	Town Municipal Council
TPS	Town Planning Scheme
UGD	Underground Drainage
ULB	Urban Local Body
WRI	World Resources Institute

## Definition of terms

**Bengaluru Metropolitan Region (BMR):** BMR extends over 8005 sq.km and 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, Channapatna, Magadi and Kanakapura taluks). Local Planning Area of BDA falls within the BMR.

**Bengaluru Metropolitan Area (BMA):** BMA is spread over an area of about 1294 sq.km which comprises of local planning area of BDA and part of local planning area of Bengaluru Mysore Infrastructure Corridor Area Planning Authority (BMICAPA). BMA includes BBMP and 251 villages and approximately had a population of 90 lakh in 2011.

**Bruhat Bengaluru Mahanagara Palike (BBMP):** BBMP jurisdiction extends over an area of 709.49 sqkms and falls within the local planning area of Bengaluru Development Authority (BDA). The erstwhile Bengaluru Mahanagara Palike (BMP) that expanded over 225 sqkms was amalgamated with 7 City Municipal Councils, 1 Town Municipal Council and 110 villages to form BBMP in 2007.

**Municipalisation:** The process of bringing newer areas under municipal ownership is referred to as municipalisation in the Collins dictionary. Expansion of municipal limits, creation of statutory towns, intra city or intra-local body's transfer of assets and liabilities, absorption of government officials and servants are some of the activities associated with the process of municipalisation.

**Revenue Layouts:** Layouts that are not formally converted to non-agricultural land use through the procedure prescribed in the Karnataka Land Revenue Act are considered to have illegal status. These illegal layouts are typically developed without ensuring basic standards with regards to road width, accessibility to main roads and sewer lines, open spaces etc. Such layouts developed on sites with illegal status are called as revenue layouts and is a common phenomenon in the urban areas of Bengaluru city-region.

**Town Planning Scheme (TPS):** TPS brings together a group of land owners who voluntarily pool their land/plots for the purpose of implementation of master plan proposals. The plots, after deduction of land required for roads and other public amenities, are reconstituted and distributed back to the owners. In Karnataka, the T P Scheme is enabled through the Karnataka Town and Country Planning Act, 1961.

**Urban village:** Urban villages are the rural village settlement sites that got engulfed within the urban area limits, as part of the municipal jurisdiction expansion process. The rural village settlement areas also called as gramathana sites, which were earlier under the administration of rural bodies once engulfed into city limits, come under the administration of urban local bodies. These urban villages are generally cordoned off from the planned development initiatives of city master plans.

**Beneficiary Capital Contribution:** This is one time payment towards capital contribution from beneficiaries towards the cost of the Cauvery Water Supply Scheme Project; wherein nearly 3,000 km of water supply pipe network has been laid apart from the construction of reservoirs.

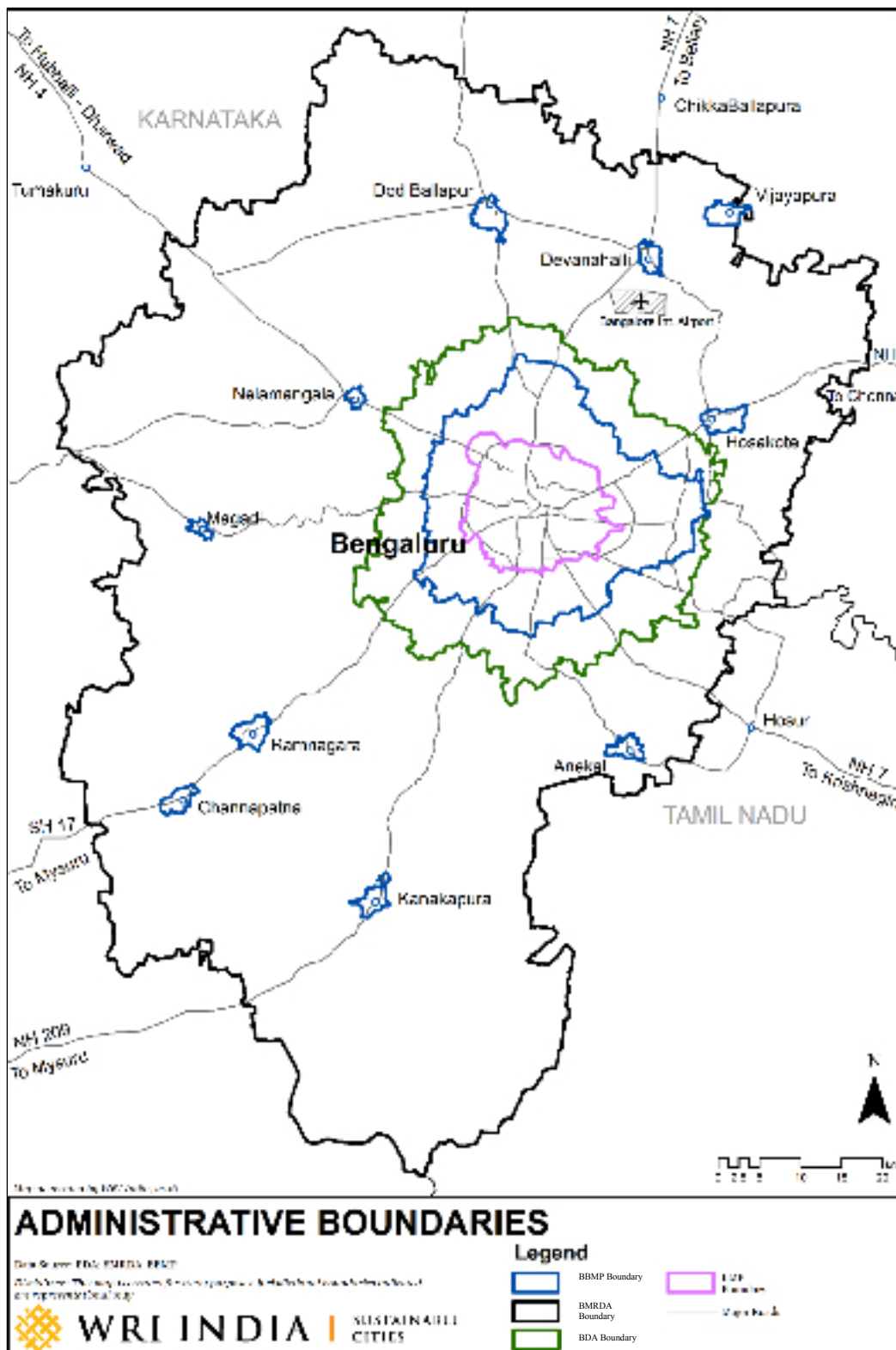


Figure 1: Jurisdiction of BMP, BBMP, BDA and BMRDA  
 Source: WRI India, Data source: BDA, BBMP and BMRDA

### Executive Summary

The erstwhile Bengaluru Mahanagara Palike (BMP) jurisdiction of 225 sq.km expanded to become the Bruhat Bengaluru Mahanagara Palike (BBMP) (709.49 sq.km) in 2007 to accommodate the city's rapidly expanding peripheries. Seven City Municipal Councils (CMCs), one Town Municipal Council (TMC) and 110 villages were added to the erstwhile BMP to form the current BBMP administrative jurisdiction. The newly added peripheral wards that were once under the jurisdiction of smaller urban local bodies and rural bodies were expected to get an upgraded quality of urban civic services such as treated piped water supply, access to underground sewerage systems and better road and transportation networks. However, the newly added municipal area did not see the expected change on the ground in terms of improved services.

- Treated piped water supply (Cauvery water) reached less than 50% of the newly added areas, and hence rely heavily on bore wells, hand pumps and private tankers;
- Piped sewerage covers only 44% of the newly added areas of the BBMP;
- 110 villages lack planned underground sewage lines and use soak pits and septic tank systems for sewage disposal;
- Road density and networks are low in the newly added areas and the width of road networks in revenue layouts developed in the peripheral wards are insufficient to provide services such as public transport, water supply or sewer lines.

Fragmented and dispersed developments abound in the areas outside the erstwhile BMP, intensifying the challenge of provision of municipal services to such areas. These peripheral areas (particularly the 110 villages) were dotted with fragmented parcels of development with disconnected road networks and inadequate infrastructure provisions such as water supply, sewerage and storm water drains. Such developments occurred because prior to the amalgamation with the municipal corporation of Bengaluru, granting of building permissions in the areas outside the jurisdiction of BMP, were carried out by local bodies such as City/Town Municipal Councils and Village Panchayats. These local bodies did not assess the impact of such building activity on the surrounding environment, infrastructure, traffic and future growth. In addition, they lacked the financial capacity to provide quality infrastructure provisions to service these developments within their jurisdictions. When these areas became part of the larger municipal corporation (i.e BBMP), it created an additional financial, technical and administrative burden on the capacity of the municipal corporation which was not foreseen, thereby failing to meet the objectives of the expansion.

Further to this, multiple agencies such as Bengaluru Water Supply and Sewerage Board (BWSSB), Bengaluru Electricity Supply Company (BESCOM), Bengaluru Metropolitan Transport Corporation (BMTTC), Karnataka Housing Board (KHB), Karnataka Industrial Area Development Board (KIADB) and Bengaluru Development Authority (BDA) operate within and beyond the BBMP jurisdiction. The jurisdictions of such agencies vary from that of the BBMP and they report to different state level departments. Planning, development works and service provision is carried out by these agencies without much coordination and interaction amongst them. With little interaction at the ward level, by these parastatal bodies priorities as per actual needs are often not met.

Considering the rapid pace of growth outside of the BBMP and of the surrounding villages, it's jurisdiction will inevitably need to expand to cover the entire Bengaluru Metropolitan Area. Areas outside the jurisdiction of the BBMP have been experiencing speculative growth patterns, with rapid increase in construction activities as well as a rise in applications for land use conversions and land use changes. As a result, coordinating urban built up increase with planned infrastructure provision has become a significant challenge in the metropolitan region. In future, when such areas become part of the municipal corporation, they would have already been developed unsustainably and in a fragmented manner causing a lock in of infrastructure that will be difficult and expensive to unwind.

In the current system, the municipalisation of new areas is determined by their demographic characteristics, the percentage of population engaged in non-agricultural activities and annual revenue generation. However, these criteria alone proved to be insufficient for the orderly transition of rural peripheries into an urban set up. The current approach of municipalisation which largely deals only with bringing an area under municipal ownership, need to be revisited to prevent a disorderly integration with the city that is inherited from the unplanned peripheries.

Challenges in the current approach of municipalisation include:

- Lack of a clear road map for municipalisation has resulted in:
  - Disparity in infrastructure provision between the core BMP and the newly added areas of BBMP;
  - There has been jurisdictional expansion without functional and administrative autonomy of zonal offices;
  - There is a critical lack in coordination between parastatal agencies and the municipal corporation;
  - Urban villages and informal settlements in the municipal expansion process have been poorly integrated;
- Isolated pockets of development outside BBMP and within the BDA area are straining a planned development approach in the periphery;
- Rampant land use conversions and land use changes in peripheries puts a strain on infrastructure provisions and lack dovetailing with regional planning frameworks;
- Parastatal agencies having functional autonomy play a significant role in shaping the land development trends in the areas outside the BBMP limit with little coordination.

This report strives to understand the challenges faced in the previous expansion of BMP to BBMP, current growth trends and on ground realities, stakeholder challenges and makes recommendations on how things could be improved in the future in the city and its region.

The recommendations made have the following 3 focus areas:

- Recommended processes and criteria to guide the future inevitable expansion of the BBMP when it extends to cover the Bengaluru Metropolitan Area (BMA) jurisdiction;
- Recommendations for the BBMP to tackle its current challenges, and
- Recommendations for challenges faced in the Bengaluru Metropolitan Region (BMR).



BBMP's expansion to BMA/ BDA jurisdiction:

1. Proactive priming of urban and rural local bodies in the city's periphery to be taken up in coordination with the Bengaluru Development Authority (BDA) to ensure preparedness for future amalgamation with the BBMP;
2. Identification of under-provisioned and rapidly developing peri-urban areas through dynamic spatial mapping using satellite imagery of the on-ground situation of areas in transition between BBMP and BDA jurisdictions, as a precursor to inform proactive planning;
3. The BBMP (or the future Greater Bengaluru Authority (GBA)) should lead any further municipal boundary expansion exercises following clear guidelines and processes which should be mandated in the KMC Act 1976 or through the proposed GBA Act;
4. A Municipalisation Committee should be set up to oversee the orderly transition of predominantly rural communities to an urban landscape in a timely manner that serves as a model for other peri-urban regions in the State;

Addressing BBMP's current challenges:

5. Empowerment of ward committees to address the current issue of accountability, disparity in municipal services and ensure improved infrastructure facilities in the newly added urban areas of BBMP;
6. Enhance the role of the existing and well-functioning Coordination Committee in the short term and setting up of an empowered Greater Bengaluru Authority (GBA) in the long term to ensure coordination of all government agencies operating in BMA;
7. Undertake detailed activity mapping to assign clear roles and responsibilities across various scales and hierarchies of government agencies;
8. Urban village settlements that get engulfed into urban limits should be retrofitted with context specific infrastructure standards, planning regulations and budgetary allocations to facilitate affordable housing for lower income groups and prevent slum formation;

Addressing BMR's challenges:

9. Rampant land use change and conversions in Bengaluru's regional peripheries should be streamlined through more stringent criteria and restricting the powers of rural local bodies to grant development permissions through amendments in KTCP Act, 1961 and Karnataka Land Revenue (KLR) Act, 1964;
10. The Revised Structure Plan of the BMRDA should serve as the guiding document to grant or refuse development permissions in areas outside of master plan conurbations in LPA's;
11. Disincentivize speculative land use change and conversions in far flung peripheries through the imposition of land value taxes and penalties on undeveloped properties.

## 1. Recommendations towards ‘Municipalisation of Urban Expansion Areas and Urban Villages’

With several challenges having been documented and continuing to persist post the expansion of the Bengaluru Mahanagara Palike (BMP) (225 sqkm) to become the Bruhat Bengaluru Mahanagara Palike (BBMP) (709.49 sqkm) in 2007, the recommendations made have the following 3 focus areas:

- Recommended processes and criteria to guide the future inevitable expansion of the BBMP when it extends to cover the Bengaluru Metropolitan Area (BMA) jurisdiction;
- Recommendations for the BBMP to tackle its current challenges, and
- Recommendations for challenges faced in the Bengaluru Metropolitan Region (BMR).

BBMP’S EXPANSION TO BMA/ BDA JURISDICTION:

### 1. Proactive priming of urban and rural local bodies in the city’s periphery to be taken up in coordination with the Bengaluru Development Authority (BDA) to ensure preparedness for future amalgamation with the BBMP:

Out of the 251 villages within the Bengaluru Metropolitan Area/BDA area, a significant number of villages exhibit urban characteristics. For instance, a considerable number of home constructions and plotted developments cropped up in the southeast part of city’s periphery (outside BBMP limit) due to the presence of information technology and biotechnology industries. The village panchayats governing these areas lack the technical and financial capacity to handle such pockets of development and hence these settlements inhabit a no-man’s-land of governance, being neither integrated into the Panchayati Raj system, nor established as new 'municipal' areas (Expert Committee: BBMP Restructuring 2015). Some of these larger settlement areas at a later stage could even be designated as Nagar Panchayats. In the absence of clear guidelines as to how to manage growth in such transition areas, they developed into unplanned urban pockets with poor road networks and inadequate open spaces, resulting in a later day pressure on the BBMP/ Municipal Corporations when they are to be brought under their jurisdiction. It is therefore recommended that a proactive priming of the urban and rural local bodies in the city’s periphery in coordination with the BDA (agency that prepares the city’s master plan) should be taken up for effective integration with the BBMP in future. The following steps could be undertaken as part of the proactive priming process:

- BDA could explore the provisions of the KTCPA, 1961 that enables the use of Town Planning Scheme (TPS) for ‘an area in the course of development’. Use of TPS in the city’s periphery ensures that road networks and plots/sites required for social infrastructure amenities such as health, education and open spaces are reserved without being lost to rapid development;
- Infrastructure gap assessments followed by prioritisation and infrastructure provisioning for the areas that are already built up should be undertaken by the local bodies with additional budgetary and technical support from the State Government;

- Informally developed settlement areas, old village settlements (gramthana sites) and private layouts should be given high priority while planning for peripheral areas;
- Administrative and governance systems such as tax accounting, infrastructure services standards and citizen interfaces also need to be consistent. The infrastructure provisioning standards followed by the smaller urban local bodies and rural bodies adjoining the BBMP jurisdiction should be made similar to the standards followed within BBMP. This will help to better integrate infrastructure development when such areas become part of the larger corporation at a later stage. This could include the use of similar road width standards for different hierarchies of roads, similar diameters for trunk water or sewerage pipelines etc. for easier and faster integration of such infrastructure provision with BBMP.

Similarly, such proactive planning exercises could be carried out by all the urban and rural local bodies in coordination with the respective local planning authorities in the BMR, so as to have planned development within their jurisdictions.

### **2. Identification of under-provisioned and rapidly developing peri-urban areas through dynamic spatial mapping using satellite imagery of the on-ground situation of areas in transition between BBMP and BDA jurisdictions, as a precursor to inform proactive planning:**

Spatial mapping using satellite imagery of the on-ground situation will help to plan and prioritise areas in transition that require intervention. The use of technology will help to remotely track development on ground to identify and map all areas with urban characteristics within BDAs jurisdiction. In addition, non-spatial data must also be captured spatially such as land use conversion applications (agriculture to non-agriculture use), development permissions for layouts and gated communities, building licences and plan approvals etc. The spatial and non-spatial data should then be mandatorily shared with the urban and rural local bodies to assist them to undertake proactive efforts of planning, infrastructure provisioning and service upgradations in these transition areas.

### **3. The BBMP (or the future GBA) should lead any further municipal boundary expansion exercises following clear guidelines and processes which should be mandated in the KMC Act 1976 or through the proposed GBA Act:**

In the current system, it is largely the State government that is involved in the decision-making process to expand the municipal jurisdiction of Bengaluru city with lesser interactions with the affected local government bodies. Section 4, Chapter II of the Karnataka Municipal Corporation (KMC) Act 1976 defines the conditions (which include demographic characteristics, non-agricultural employment and revenue generation) by which an area can become a part of a corporation. The previous amalgamation was largely justified on population size, and no further guidelines for the transition of semi-urban and rural areas were provided. With the municipal corporation to attain greater functional autonomy, as per the BBMP Restructuring Expert Committees' proposed three tier



governance structure (GBA at the top tier, multiple municipal corporations at the mid-level and wards at the third tier), the process of municipal boundary expansion needs to be better streamlined through a well-defined process. In addition to the criteria present in the KMC Act, 1976 for amalgamation of an area into a larger urban area, factors such as proximity to the city, contiguity with city agglomeration boundary, dependence on city for employment etc. should be included. The process for municipal jurisdiction expansion should include the following steps and be mandated through the KMC Act 1976 or the proposed GBA Act:

- BBMP or the proposed GBA should submit a resolution for municipal expansion taking into account criteria specified (including newly proposed criteria) in the KMC Act, 1976 to the proposed Metropolitan Planning Committee (MPC) which should be set up at the BMRDA Scale. The MPC having representatives from higher and lower tiers of governments as well as State departments should be the decision-making authority for municipal boundary expansion;
- BBMP or proposed GBA (consisting of multiple municipalities) should demonstrate its capability to provide services (water supply, sewerage, storm water drains) and social amenities through an outlay plan for the area in coordination with relevant parastatal agencies;
- Assessment of the financial implications of municipal expansion is important. The current nature of expenditure such as the operation and maintenance cost for the infrastructure services in the extension areas, its coverage in terms of quality and quantity should be assessed in advance to understand the budgetary implications of expansion. The debts and liabilities and assets of the local bodies operating in the extension areas will help the corporations to estimate the financial implications on the municipal corporations;
- Coordination and participation of the affected urban and rural local bodies in the process of municipal expansion: As mandated in the KMC Act, BBMP or the proposed GBA should conduct adequate number of discussions with the local bodies for the effective integration of ongoing central and state level schemes. This will ensure that such areas are not disadvantaged by losing out on several schemes that existed prior to expansion;
- Phasing plan for the municipal expansion should have clear targets with timelines, including what municipal services will be assured to the newly added areas;
- Monitoring and review of on ground situation to assess the level of implementation of infrastructure services and its connectivity to trunk facilities. Any additional fund requirement and areas that require additional focus can be assessed during the monitoring and review process of municipalisation.

#### **4. A Municipalisation Committee should be set up to oversee the orderly transition of predominantly rural communities to an urban landscape in a timely manner that serves as a model for other peri-urban regions in the State:**

This report endorses the recommendation of the BBMP Restructuring Committee to set up a Municipalisation Committee (within the BDA) for the Greater Bengaluru Authority (GBA) to coordinate the process of proactive priming of the urban and rural local bodies that are in

transition in the BMA jurisdiction as well as guide the future municipal expansion process of the BBMP or the proposed multiple municipal corporations.

### ADDRESSING BBMP'S CURRENT CHALLENGES:

#### **5. Empowerment of ward committees to address the current issue of accountability, disparity in municipal services and ensure improved infrastructure facilities in the newly added urban areas of BBMP:**

This report endorses the recommendation of the BBMP Restructuring Committee to empower the ward committees as an effective institution of governance at the third tier of government. The committee recommends that at the third tier, the ward committees need to be empowered to form an effective institution of governance with specific planning, financial and budgetary powers and administrative, supervisory and auditing powers.

Ward committees should be given functional autonomy and administrative capacity to regulate and monitor all major municipal works in the ward including solid waste collection and management, public health and sanitation; maintenance of public parks, playgrounds, lakes and water bodies; maintenance of roads, sidewalks, cycle lanes, skywalks and other infrastructure; and regulation of rain water harvesting and ground water recharging, among other tasks. Ward committees should prepare a budgeted annual ward development plan providing a prioritised list of projects as well as schemes at the ward level that will be implemented. The prioritised listing of projects should take into account existing physical and social infrastructure deficiencies & issues such as inadequate parks and open spaces, waste collection and disposal issues, foot path and local road improvement works, slum upgradation schemes and other such works that could be addressed at the ward levels.

#### **6. Enhance the role of the existing and well-functioning Coordination Committee in the short term and setting up of an empowered Greater Bengaluru Authority (GBA) in the long term to ensure coordination of all government agencies operating in BMA:**

A number of key municipal services and development works in Bengaluru City are currently provided by various parastatal agencies, which are not accountable to the municipal government and report directly to the relevant department of the State Government. The operational jurisdiction of these parastatal agencies is larger than that of the municipal corporations, and hence their project prioritisation often does not reflect the actual needs and priorities of the citizens on ground (Expert Committee: BBMP Restructuring 2015). It is important that these parastatal agencies interact and work in integration with the municipal corporations, where they provide their services. There is a need to align the functioning of these bodies in line with the requirements of the city in a 'Principal-Client' manner (Expert Committee: BBMP Restructuring 2015). Hence it is recommended that the Coordination Committee which is existing and currently involved in coordinating and supervising the plans and activities of parastatal agencies should be enhanced through a government order, act or resolution and later transition into the GBA as recommended by the BBMP Restructuring

Expert Committee. Under the proposed GBA set up, BDA and BWSSB can report to the GBA, while other parastatal entities should work in tandem with the overall goals of the GBA and Municipal Corporations.

The BBMP Restructuring Committee recommends that a Municipal Authority under the GBA Act shall be entitled to request the Bengaluru Development Authority, Bengaluru Water Supply and Sewerage Board, Bengaluru Metropolitan Transport Corporation, Bengaluru Metro Rail Corporation Limited, Bengaluru Electricity Supply Company and such other bodies operating within its jurisdiction to designate an official of such body as its representative for the Municipal Authority. The needs and priorities listed out in the ward development plans prepared by the ward committees, should be incorporated into the plans of the parastatal agencies. To facilitate coordination and cooperation between key government agencies and the multi municipal corporation set up, Acts governing the parastatal agencies should be amended.

### **7. Undertake detailed activity mapping to assign clear roles and responsibilities across various scales and hierarchies of government agencies:**

The BBMP Restructuring Committee as part of its Phase 1 Report (Bengaluru: Way Forward, Expert Committee: BBMP Restructuring June 2015), had undertaken the task of mapping nearly 700 activities across 18 government agencies. This exercise of activity mapping is imperative in designing, planning and implementation systems involving multiple levels of government to ensure role clarity (Raghuandan 2007) and must be taken forward with accountability parameters for performance. Based on the roles and responsibilities set at each level of municipal government established through activity mapping, powers and finances should be devolved to various levels of local government. For example, a municipal ward office should be able to take a decision to fill a pot hole in a local road rather than wait for the BBMP Central Office or the proposed GBA to take such a decision with appropriate accountability frameworks set up. Therefore, activity mapping can spur appropriate placement of functionaries for better service delivery.

### **8. Urban village settlements that get engulfed into urban limits should be retrofitted with context specific infrastructure standards and specific budgetary allocations to facilitate affordable housing for lower income groups and prevent slum formation:**

Over 110 villages (containing approximately 222 village settlements) were engulfed into the last municipal expansion of BBMP. These significantly dense settlements serve as hubs of affordable housing for lower income migrants and are often not prioritised in the municipalisation process. Often, the organically developed streets and housing present are not directly amenable to typical municipal standards for infrastructure services and require customised provision to prevent them from becoming slums. Specific budgetary allocation and rules and regulations must be formulated for such areas.



**9. Detailed studies must be conducted to implement decentralised utilities such as energy, water supply, sewerage and solid waste management to help manage increasing demand and reduce the burden on the government agencies providing these facilities:**

Draft urban development policy for Karnataka recommends decentralisation of utilities, so as to lessen the State's burden in providing public utilities such as energy, water supply, sewerage and solid waste management. In the case of energy, solar water heating systems can help manage the demand side management of electricity during peak hours. There is a large potential available for generating solar power using unutilized space on rooftops. Small quantities of power generated by individual households, industrial buildings, and commercial buildings could partially fulfil the requirement of building occupants and surplus if any could be sent to the grid. With the exhaustion of the current phase of Cauvery water supply schemes and in the absence of viable schemes with BWSSB to augment water supply to Bengaluru, there is a need to look for alternative options to augment water for the city. Decentralised technologies such as rainwater harvesting and grey water reuse systems share a series of peculiarities —multi-level governance models, enhanced public participation, enhanced full cost recovery and reduced environmental and social impacts— which are all appealing for achieving sustainable use of water resources (Domenech 2011). Rain water harvesting techniques and managing sewerage through self-managed STPs could be made mandatory based on the size of the buildings and number of people occupying it. The BWSSB for example could undertake a study to assess the viability of reviving the traditional water supply systems through the tank systems that were present several decades ago to meet the additional water supply demands of the city.

**ADDRESSING BMR'S CHALLENGES:**

**10. Rampant land use change and conversions in Bengaluru's regional peripheries should be streamlined through more stringent criteria and restricting the powers of rural local bodies to grant development permissions through amendments in KTCP Act, 1961 and Karnataka Land Revenue (KLR) Act, 1964:**

A key reason for distortions in land market and unplanned growth in the urban and peri-urban areas in the BMR has been due to unregulated land use conversion and land use changes in areas beyond the municipal jurisdictions of BBMP and other municipalities in the BMR region. Section 95 of the Karnataka Land Revenue Act and Section 14A of the KTCP Act, 1961 enables the process of land use conversion and land use changes respectively. Agricultural lands in the BMR are converted into non-agricultural purposes, based on the condition that the conversion does not contravene the provisions of any law related to town and country planning. Permissions for land use changes are granted under the condition that there is a topographical error or omissions in the master plan, a failure to indicate details in the master plan and when changes arise due to implementation of master plan proposals. Hence, land use conversions and land use changes happen in a haphazard manner without considering the availability of infrastructure facilities, impact of the conversion on traffic and

transportation, pressure on the existing natural resources such as networks of valleys, drains and lakes, and the need to preserve prime agricultural land and double cropping lands. Further to this, a significant amount of development takes place in peri-urban areas as a result of development permissions granted by the elected rural local bodies outside the jurisdiction of BDA and within various other local planning authorities in the region. Hence it is imperative to streamline the land use change and land use conversion processes to check the compatibility of such changes with the surrounding context and impose restrictions on the rural local bodies that grant development permissions.

Amendments to the section 95 of the KLR Act, 1964 and to section 14 A of the KTCP Act, 1961 should be made, so that the revenue authorities granting land use conversion permissions and the planning authority granting land use change permissions work in a coordinated manner, and check the compatibility of all requests with the proposed urbanisable zones as per the Revised Structure Plan of the BMRDA. Further to this, revenue authorities should function in coordination with the Metropolitan Commissioner/Member Secretary of the proposed MPC while granting permissions for conversions, so that the process of land use conversions match the phasing of the master plans of the various LPAs in the Bengaluru Metropolitan Region.

Powers of the rural local bodies to grant development permissions must be restricted to the gramathana areas based on the survey conducted by the BMRDA (Report of the Expert Committee 2008). Relevant sections of KTCP Act, Karnataka Land Revenue Act and Karnataka Panchayat Raj Act should be amended to restrict or eliminate the scope of development permissions granted by rural local bodies and to mandate the coordinated functioning of the revenue authorities within the BMR (Report of the Expert Committee 2008).

### **11. The Revised Structure Plan of the BMRDA should serve as the guiding document to grant or refuse development permissions in areas outside of master plan conurbations in LPA's:**

Local planning authorities granting layout permissions and local bodies granting development permissions for the areas outside master plan conurbations should consider the proposed growth strategies and policy guidelines provided in the Revised Structure Plan (RSP) of the BMRDA. The RSP recommends a balanced growth perspective of the region without compromising on its ecological parameters while ensuring economic integration and enhanced liveability within the array of settlements in the region (BMRDA n.d.). Compatibility of such developments with the urbanisable zones indicated through the land capability analysis in the RSP, should be checked by the local planning authorities and local bodies prior to granting permissions for development activities.

**12. Disincentivize speculative land use change and conversions in far flung peripheries through the imposition of land value taxes and penalties on undeveloped properties:**

One of the tools to control speculative land transactions is through imposing a land value tax on all undeveloped land (DC converted lands), barring the parcels under agricultural use in the region. Land value tax can be imposed at a rate, based on the market value of land. Further to this, if the purpose for which the land was converted is not carried out in a certain period of time (say 5 years), then an additional penalty should be imposed on the property owners. In order to make investments in land and land development unattractive in far flung peripheries (while encourage densification within city areas and immediate peripheries) and also to reduce the amount of vacant building stock, such buildings which are lying vacant for over a period of time (say 1 year), should be subjected to a significant holding tax, non-occupancy charges or penalty. With such initiatives, it is expected that developments will be incentivised in areas next to existing towns and settlements and within sparsely developed master plan conurbations, rather than to encourage sprawl and rampant speculation in far flung peripheries where large parcels of land are held onto indefinitely by rent seeking intermediaries.



### 2. Introduction

Bengaluru city with a population of about 8.5 million, witnessed 43% growth of population during the 2001-11 census period. In this period, out of every 10 people that got added to an urban area in Karnataka, 5.7 got added to Bengaluru City alone. Census 2011 showed a significantly high growth rate for the city, largely because the erstwhile municipal boundary (BMP) was expanded to form the Bruhat Bengaluru Mahanagara Palike (BBMP) in 2007 (figure1). Eight urban local bodies (7 City Municipal Councils and 1 Town Municipal Council) and 110 villages that surrounded the city were merged with the city corporation limits. With the amalgamation, municipal area of Bengaluru increased from 225 sqkm to 709.49 sqkm in 2007. The primary objective of this amalgamation was to improve and coordinate infrastructure development and strengthen the administrative capacity to ensure better enforcement of rules (Report of the Expert Committee 2008).

The amalgamation had a significant bearing on the BBMP in terms of basic services provision, the administrative system (property tax and accounting), planning procedures and norms, and additional financial requirements. Since 2013-14, the State government has allocated Rs 250 crore for the 110 villages and 750 crores for the eight urban local bodies to carry out development works such as water supply, sanitation and road works. Other than water supply to the 110 villages, provision of basic services such as water supply and sewerage in the newly added areas, which were earlier provided for by the urban local bodies were transferred to the BWSSB and services such as solid waste management, storm water drainage and maintenance of streetlights and public health became the responsibility of the BBMP. Despite this municipalisation process occurring as far back as the year 2007, the erstwhile BMP area and the newly added areas of BBMP continue to show a stark disparity in terms of the levels of municipal service provision such as water supply, drainage and sewerage facilities as well as the system of property tax assessment.

In the 6 years leading up to the year 2012, increase in urban built up area ranged from 13 sqkms/ year in the BBMP area, 29 sq kms/ year in the BDA area to about 60 sq kms/ year in the BMRDA region (WRI India analysis). The infrastructure developments in this area, however have not been able to keep pace with this rate of growth of built up areas within the various jurisdictions in the BMR region. Unplanned and haphazard development patterns are predominant in the outskirts of the BBMP area and there has been a reactive approach to planning such transition areas. The Bengaluru Metropolitan Area is full of urban fragments which have planned BDA layouts interspersed with gramthana sites and revenue sites that are developed illegally, which will need to be municipalised sooner or later. Land speculation and haphazard urban growth patterns at peripheries scatter investments in expensive bulk infrastructure and dilutes the future potential of the city. Municipalisation strategies are critical to deal with the challenges of previous municipal expansion and to curb the unplanned urban growth patterns in the peripheries of Bengaluru region. While renewal and retrofitting of deteriorating core city areas is pertinent, so is planning for urban expansion and a relevant municipalisation strategy (Expert Committee: BBMP Restructuring 2015).

### 3. Scope, Limitations, Approach and Methodology

#### Aim and Objective

- To understand what constitutes municipalisation in the context of Karnataka State and hence Bengaluru, and its related legislative background;
- To understand the challenges faced in the previous expansion of Bengaluru's Municipal Corporation from BMP to BBMP and gauge the disparity in the levels of municipal services;
- Address current growth trends and on ground realities in the city, including the state of urban villages that get engulfed in the municipalisation process;
- Make recommendations as to how areas within BBMP could be improved, what criteria need to be considered in future expansion efforts and learnings that could be applied to the larger Bengaluru Metropolitan Region.

#### Scope and Limitations

Data collection and research is limited to that available primarily in the public domain. This includes accessing government websites, journals, research papers, open source maps and satellite imagery. Primary surveys which included 100 household surveys were limited to one urban village to understand the impact of municipal expansion. A limited number of interactions were held with various government agencies to understand the deficiencies in the current system of municipalisation and arrive at the best way forward.

#### Approach and Methodology

A mixed methods approach enabled the use of data from targeted primary surveys for issues that are not well documented as well as the use of secondary data and research to understand the legislative constraints and institutional overlaps in municipalisation. Discussions with key stakeholder agencies and satellite imagery interpretation helped understand interdepartmental as well as on ground challenges and realities. The following tasks were conducted as part of this report:

- Assessment of acts and legislation including Constitutional mandates and mandates of State Acts such as the Karnataka Municipal Corporation (KMC) Act, 1976 and Karnataka Municipalities (KM) Act 1964 to understand the functional devolution to urban local bodies and criteria for municipal expansion;
- Understanding the impact of municipal expansion on urban villages through a field survey that involved household surveys (100 nos) and focussed group discussions, conducted with the help of WRI India and students of Azim Premji University;
- Detailed study of BBMP Restructuring Committee Recommendations Way Forward Report and the Report of the Expert Committee on Governance in BMR and BBMP;
- Interactions with government agencies such as KSSIDC, BMRCL, BMRDA, BWSSB, BBMP and BDA to understand opportunities and challenges related to municipalisation.

**Note:** Information and analysis provided in this report draws from the ongoing work of WRI India in Urban Expansion and research on Urban Villages

## 4. Background

### 4.1 Constitutional mandates and understanding municipal functions

The constitution of India was amended in 1992, with the intention of empowering the third tier of government (urban and rural local bodies) and accordingly the 73<sup>rd</sup> and 74<sup>th</sup> Constitutional Amendment Acts were formulated. The eleventh and twelfth schedules of the Constitution provide a recommended list of functions (table 1) for rural and urban local bodies respectively. Through the 74th constitutional amendment, three types of urban local bodies namely **Nagar Panchayats, Municipal Councils for smaller urban areas and Municipal Corporations for larger urban areas** were to be established in the States.

Twelfth Schedule (Article 243 W) - Urban functions	Eleventh Schedule (Article G) Rural functions
<ol style="list-style-type: none"> <li>1. Urban Planning including town planning;</li> <li>2. Regulation of land-use and construction of buildings;</li> <li>3. Planning for economic and social development;</li> <li>4. Roads and bridges;</li> <li>5. Water supply for domestic, industrial and commercial purposes;</li> <li>6. Public health, sanitation conservancy and solid waste management;</li> <li>7. Fire services;</li> <li>8. Urban forestry, protection of the environment and promotion of ecological aspects;</li> <li>9. Safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded;</li> <li>10. Slum improvement and upgradation;</li> <li>11. Urban poverty alleviation;</li> <li>12. Provision of urban amenities and facilities such as parks, gardens and playgrounds;</li> <li>13. Promotion of cultural, educational and aesthetic aspects;</li> <li>14. Burials and burial grounds, cremations, cremation grounds and electric crematoriums;</li> <li>15. Cattle pounds; prevention of cruelty to animals;</li> <li>16. Vital statistics including registration of births and deaths;</li> <li>17. Public amenities including street lighting, parking lots, bus stops and public conveniences; and</li> <li>18. Regulation of slaughter houses and tanneries.</li> </ol>	<ol style="list-style-type: none"> <li>1. Agriculture, including agricultural extension;</li> <li>2. Land improvement, implementation of land reforms, land consolidation and soil conservation;</li> <li>3. Minor irrigation, water management and watershed development;</li> <li>4. Animal husbandry, dairying and poultry;</li> <li>5. Fisheries;</li> <li>6. Social forestry and farm forestry;</li> <li>7. Minor forest produce;</li> <li>8. Small scale industries, including food processing industries;</li> <li>9. Khadi, village and cottage industries;</li> <li>10. Rural housing;</li> <li>11. Drinking water;</li> <li>12. Fuel and fodder;</li> <li>13. Roads, culverts, bridges, ferries, waterways and other means of communication;</li> <li>14. Rural electrification, including distribution of electricity;</li> <li>15. Non-conventional energy sources;</li> <li>16. Poverty alleviation programme;</li> <li>17. Education, including primary and secondary schools;</li> <li>18. Technical training and vocational education;</li> <li>19. Adult and non-formal education;</li> <li>20. Libraries;</li> <li>21. Cultural activities;</li> <li>22. Markets and fairs;</li> <li>23. Health and sanitation, including hospitals, primary health centres and dispensaries;</li> <li>24. Family welfare;</li> <li>25. Women and child development;</li> <li>26. Social welfare, including welfare of the handicapped and mentally retarded;</li> <li>27. Welfare of the weaker sections, and particularly the Scheduled Castes and the Scheduled Tribes;</li> <li>28. Public distribution system; and</li> <li>29. Maintenance of community assets.</li> </ol>

Box 1: Twelfth and Eleventh Schedule of the Constitution of India

Data Source: Constitution of India



State governments have discretionary powers to accord an area with any category of municipal status (Bhagat 2005). Nagar Panchayats which are to be constituted for transition<sup>1</sup> areas, have been entrusted with the same functions as larger urban areas. Census of India, which gives the definition of urban and rural areas however has not defined what constitutes a transition area (Bhagat 2005). As per the 12<sup>th</sup> Schedule of the 74<sup>th</sup> CAA, 18 functions are to be performed by the urban local bodies, and 29 functions by rural local bodies as listed in the 11<sup>th</sup> Schedule (table 1, gives the list of functions in the 11<sup>th</sup> and 12<sup>th</sup> Schedule). **The Constitution of India only provides an enabling framework for the allocation of functions to local governments, whereas the actual instruments of allocation of functions to rural and urban local bodies are the Panchayat Raj and Municipal Laws enacted by State legislatures** (Centre for Policy Research 2014). **The 12<sup>th</sup> schedule is not mandated and it is up to the State government to decide as to which of the 12<sup>th</sup> Schedule functions may be devolved to the ULBs** (Human Development Resource Centre n.d.).

#### 4.2 Criteria for municipal boundary expansion as per legal mandates in Karnataka

As per Karnataka Municipal Corporation (KMC) Act, 1976 and Karnataka Municipalities (KM) Act 1964, any area can be included into a larger or smaller urban local body area considering the population, density, employment and economic importance of the area. In addition to these factors, a discussion with BBMP officials revealed that proximity to the main city, dependency on the city for employment, land use conversion and demand by people also influence the inclusion of an area within a larger municipal corporation. The following table gives the minimum requirement for an area to be included within the corporation/municipal area limits.

Criteria	Requirement: for inclusion in Corporation limits	Requirement: for inclusion in Municipal Area limits (such as CMC/ TMC etc)
Population	Not less 3 lakhs	20,000 to 3 lakhs (20,000 to 50,000- town municipal area) (50,000 to 3 lakhs – city municipal council)
Density of Population	Not less 3000 per sq.km	Not less than 1500 per sq.km
Revenue generation for the local administration in last preceding census	Not less than Rs 6 crores per annum or Rs 200 per capita per annum whichever is higher	Not less than Rs 9 lakhs per annum or Rs 45 per capita per annum
Percentage of employment in non-agriculture activities	Not less than 50 % of the total employment	Not less than 50% of the total employment

Table 1: Criteria and requirements for inclusion into Corporation/Municipal Area limits

Data Source: KMC Act 1976, KM Act 1964

With the amalgamation of smaller urban areas or Panchayat areas with a larger municipal corporation, the rights and liabilities of the local authorities that were governing such area get transferred to the municipal corporation. All taxes, notifications, rules, bye-laws, orders, directions and powers levied shall continue in force and be deemed to have been made under the KMC Act,

<sup>1</sup> As per article 243 Q (2), Transition area means such area as the Governor may, having regard to the population of the area, the density of the population therein, the revenue generated for local administration, the percentage of employment in non-agricultural activities, the economic importance or such other factors as he may deem fit, specify by public notification for the purposes of this Part.

until further revised or amended. The Act mandates that the draft notification with regards to inclusion of the local area must be published in the official gazette, so that all persons likely to be affected are informed and invited to raise objections and suggestions within a month of its publication. All the officers and services of the erstwhile local authorities shall be transferred to the Corporation. **Under KMC Act 1976, BBMP is the municipal corporation which looks into the administration of Bengaluru city that spans over 709.49 sqkm. In 2007, while the municipal boundary of Bengaluru was expanded, inadequate consultations were conducted with any of the affected municipalities and village councils (Idiculla n.d.). It is observed that the rural and smaller urban area administration systems such as tax accounting, providing infrastructure services and citizen interfaces differ from that of the larger corporation. However, the KMC Act does not specify any timelines or processes for the transition of the rural and smaller urban area administrative governance systems to the corporation's systems.** The State government provided Rs 250 crores for developing infrastructure provisions in 110 villages and Rs 750 crores for developing infrastructure in 7 CMCs and 1 TMC area included in the BBMP.

### 4.3 Administration of Municipal Corporations in Karnataka

**The Corporation, its Commissioner and Standing Committees are the Municipal Authorities recognised to carry out the provisions of the Act and is vested with executive powers. Notably, the Mayor is not recognized as a 'municipal authority' vested with executive power** (Report of the Expert Committee 2008). The municipal corporation consists of a number of elected councillors, the number varying between 30 and 200. One among these councillors will be elected as the Mayor and one as the deputy Mayor, during the first meeting after the general election of the councillors. **The corporation functions through Standing Committees whose powers and functions are determined by the corporation.** All city corporations, other than the Bruhat Bengaluru Mahanagara Palike (BBMP) has four standing committees dealing with taxation, finance and appeals; public health, education and social justice; town planning and improvement; and accounts. **Functions of the corporations of the State are mandated through a list of obligatory and discretionary functions in the KMC Act. The Act specifies 31 obligatory functions (Box 2) and 23 discretionary functions that are to be carried out by Municipal Corporations.**

**List of 23 discretionary functions include:** Maintenance of maternity and infant-welfare homes or centres; maintenance of chemical or bacteriological laboratories; construction and maintenance of drinking fountains; survey of buildings or lands; provision of music for the people; maintenance of health museums; establishment and maintenance of museums and art galleries, building and maintenance of suitable dwelling for the poor and working class; slum improvements and upgradation; urban forestry, protection of the environment.

1. *Boundary marking defining city limits;*
2. *Watering & cleansing of public streets;*
3. *Collection, removal, treatment & disposal of sewage;*
4. *Public convenience & drainage works*
5. *Public street lighting & municipal markets,*
6. *Maintenance of public monuments, open spaces & other properties of corporation;*
7. *Public Street naming and numbering;*
8. *Regulation and abatement of offensive & dangerous trade practices;*
9. *Burials and crematoriums;*
10. *Maintenance of public markets and slaughter houses;*
11. *Ambulance services;*
12. *Destruction of birds and animals causing nuisance;*
13. *Laying of new public streets;*
14. *Maintaining and aiding pre-primary education;*
15. *Construction, acquisition and maintenance of cattle ponds*
16. *Public vaccination;*
17. *Reclaiming unhealthy localities;*
18. *Planting and maintenance of road side trees;*
19. *Construction & maintenance of public streets, bridges, sub-ways, culverts etc;*
20. *Removal of obstruction on public streets & public places;*
21. *Management & construction of new works for water supply for public & private purposes*
22. *Preventing and checking the spread of dangerous diseases;*
23. *Securing or removal of dangerous buildings and places;*
24. *Construction and maintenance of residential quarters for the poura-karmikas;*
25. *Provision of public parks, gardens, playgrounds and recreation grounds;*
26. *Regulation of lodging houses, camping grounds and rest houses in the city;*
27. *Establishing and maintaining compost plants for disposal of sewage;*
28. *Construction, maintenance of sewerage lines; Birth death registration, Tannery regulation*
29. *Measures to meet any calamity affecting the public;*
30. *Discharge of any functions entrusted to corporation by government through notification;*
31. *Provision of relief to destitute persons in the city in times of famine and scarcity*

### Box 2: Obligatory functions of municipalities

Source: KMC Act 1976, KM Act 1964

#### 4.4 Administration in BBMP

Under the current system, BBMP is the single corporation in Bengaluru and exercises its functions by itself and through the Municipal Commissioner and the Standing Committees. The Corporation consists of 198 elected councillors (for 198 wards), a maximum of 5 nominated members and Members of Parliament and Members of Legislative Assembly whose constituencies lie within the city (Expert Committee: BBMP Restructuring 2015). There are 12 Standing Committees assigned with different responsibilities (as listed in box 3), assisting the functioning of the Corporation.

Standing committees deal with all matters related to the following subjects:

- (a) finance and taxation
- (b) public health
- (c) town planning and improvement
- (d) all major works in the jurisdiction of BBMP such as flyovers, underpasses, subways, road widening, ring roads, elevated roads and all works incidental thereto including land acquisition;
- (e) ward level works dealing with public streets and its appurtenances, street lighting excluding major works;
- (f) audits and accounts, the standing committee shall also supervise utilization of budget grants and will have access to the accounts of the corporation.
- (g) pre-primary, primary, secondary and higher secondary education including physical education and sports;
- (h) securing social justice to persons belonging to scheduled castes and scheduled tribes and other weaker sections of the society and women;
- (i) appeals;
- (j) horticulture;
- (k) markets;
- (l) establishment and administrative reforms.

Box 3: Subjects dealt with by the Standing Committee of BBMP

Data Source: KMC Act, 1976

**The Standing Committees have become the workshop of the BBMP and are given extensive powers under the section 61A of the KMC Act 1976.** The Commissioner performs all the duties and executes the power with the approval or sanction of the Standing Committee or the Corporation. Most of the obligatory functions such as solid waste management, maintenance of roads, footpaths, play grounds, public health, markets, drinking water, education, burial grounds, lakes, storm water drains (secondary and territory drains) and welfare activities are carried out by BBMP. **Despite the constitutional stipulation of comprehensive devolution of functions to municipal bodies, numerous parastatal agencies have been set up by the State. Municipal functions under the provisions of the KMC Act 1976 such as water supply and sewerage networks are carried out by the parastatal agencies created by the State governments (as detailed out in the next sections) and they also operate under the directives of the State agencies.**



#### 4.5 Multiple agencies operating in isolation in Bengaluru Metropolitan Area:

Key agencies such as Bengaluru Development Authority (BDA), Bengaluru Water Supply and Sewerage Board (BWSSB), Bengaluru Electricity Supply (BESCOM), Bengaluru Metropolitan Transport Corporation (BMTc), Karnataka Housing Board (KHB) and Karnataka Industrial Area Development Board (KIADB) undertake a substantial part of the functions that were to be devolved to the urban local bodies as per the 12<sup>th</sup> Schedule of the 74<sup>th</sup> CAA. Each of the parastatal agencies providing municipal services has its own operational jurisdiction that does not match with the zonal boundaries or administrative boundary of the municipal corporation.

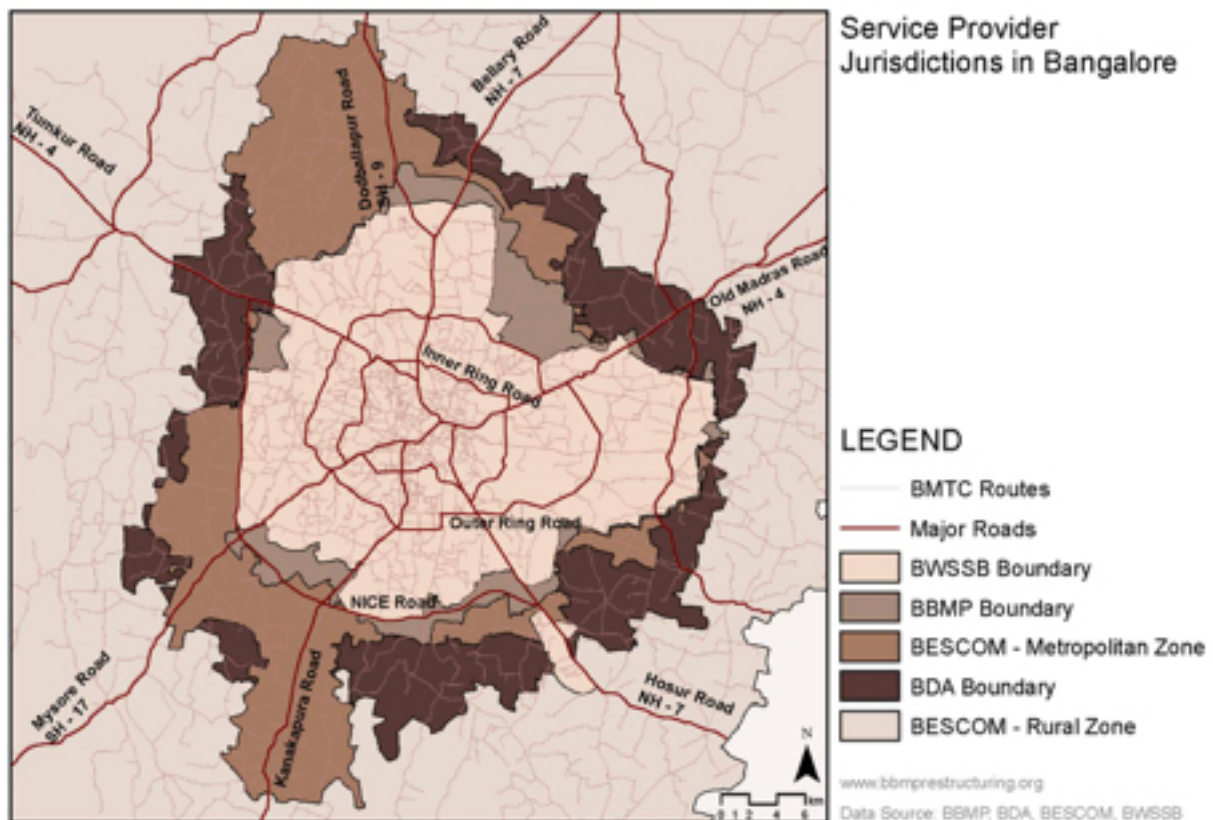


Figure 2 : Jurisdictions of various service providers in Bengaluru  
Source: (Expert Committee: BBMP Restructuring 2015)

- BWSSB services in Bengaluru Metropolitan Area**  
**Bengaluru Water Supply and Sewerage Board is in charge of supplying and improving existing supply of water, laying out new connections and making adequate provision for sewerage disposal functions under the provisions of the Bengaluru Water Supply and Sewerage Act (BWSSA), 1964.** The Board is vested with the duty to take a scheme which makes provision for the supply of water in pipes to various parts of BMA. In case it is not practicable to provide supply in pipes, then provision must be made to ensure that water is made available at a reasonable distance of every house in that part of the BMA. This function of the BWSSB overlaps with the discretionary power of the corporation entrusted through the KMC Act to manage & construct new works for water supply for public & private purposes.

The BWSSB Board is vested with powers to maintain and repair all board sewers and sewage disposal works and shall construct new drains and sewage disposal works as and when necessary for effectual sewerage and sewage disposal of the Bengaluru Metropolitan Area.

**The Board functions as per the directives of the State government.** The State Government shall constitute consultative committees consisting of representatives of municipal corporation, the Bengaluru City Improvement Trust Board (which is now the BDA) and consumers of water. This consultative committee advises the board on major questions of policies, major schemes, review progress and work of Board, and considers any matter brought before the committee.

- **BMTC Services in BBMP and areas beyond**

Bengaluru Metropolitan Transport Corporation (BMTC) was established in 1997 with the sole aim of providing public transportation to Bengaluru city and sub-urban areas. The operational jurisdiction of BMTC extends upto 25 kms beyond the outer limits of BBMP. It has a fleet of over 6685 buses covering an area encompassed with radius of 40.4 kms from the city centre. BMTC operates 1252 city and 5049 sub-urban schedules, making about 78,510 trips per day (BMTC Role in BBMP presentation n.d.). **BMTC interacts with BBMP when there is a need to create bus bays or construct bus shelters, road widening or road repair works, need for chartered services such as buses for elections, payment of property taxes and payment of advertisement tax by agencies granted with advertisement rights on hoardings at bus stands and depot premises and in case of need for land for bus stands, depots etc.**

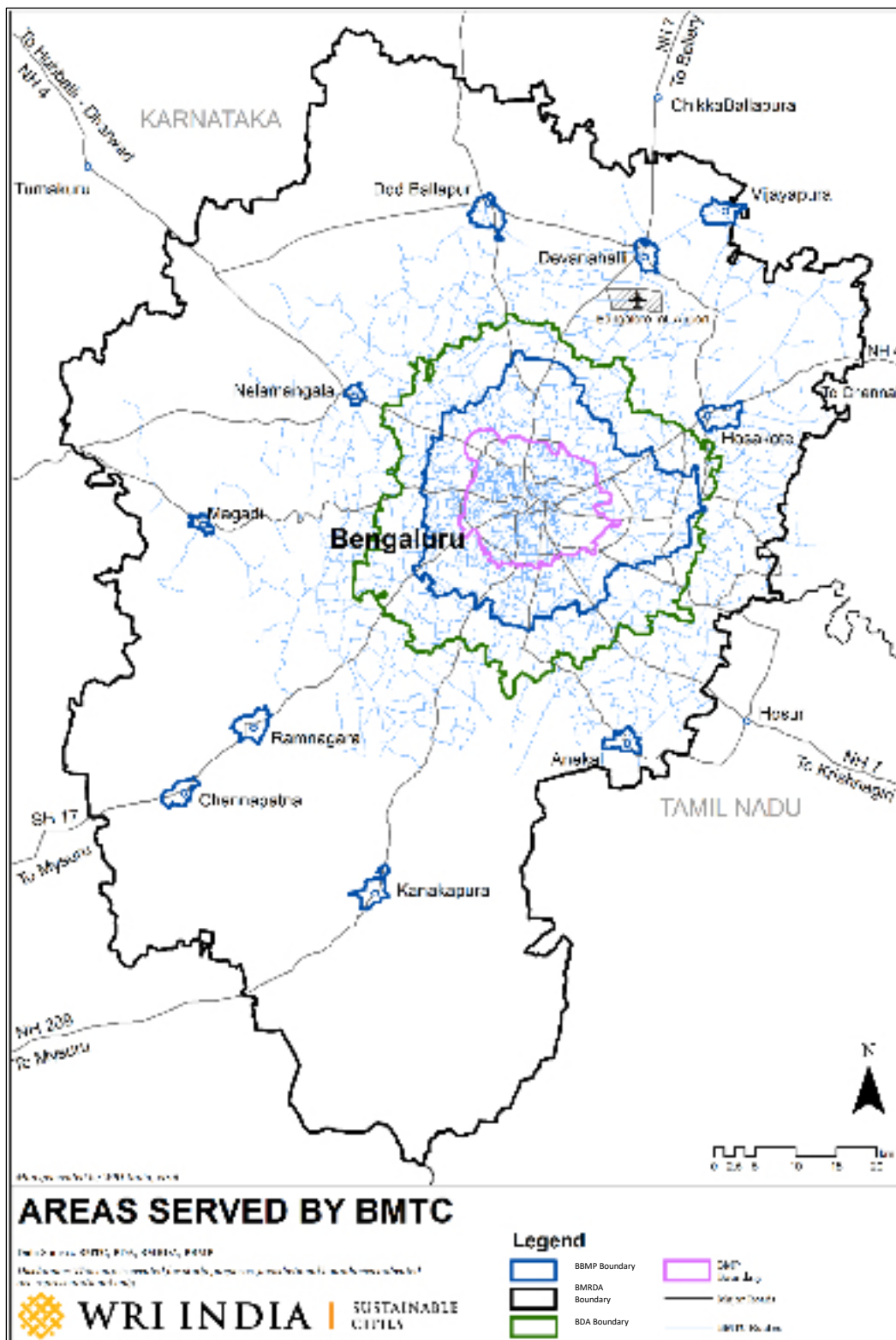


Figure 3 : Areas served by BMTC

Source: Map generated by WRI India, Data Source: BMTC, BDA, BMRDA and BBMP

- **BESCOM services in Bengaluru Metropolitan Area**

Bengaluru Electricity Supply Company limited undertakes distribution of electricity in various designated areas of Karnataka. Power is purchased from generating companies such as Karnataka Power Corporation Limited, Central Generating Companies and Independent Power Producers (IPPs) at agreed rates and sells it to different categories of consumers at rates determined by Karnataka Electricity Regulatory Commission. There is zonal office established for the Bengaluru Metropolitan Area to attend to the needs of consumers in terms of servicing of installations, collection of revenue, maintenance of 11KV lines, distribution transformers, attending to consumer complaints and augmentation of infrastructure etc. (BESCOM n.d.).

- **Bengaluru Development Authority in the Bengaluru Metropolitan Area**

Bengaluru Development Authority (BDA) is the legally empowered planning authority created under the Bengaluru Development Authority Act 1976 to have planned development in the Bengaluru Metropolitan Area. **BDA Act 1976 was enacted with the intention to have coordinated development in the city as multiple Authorities such as the Bengaluru Municipal Corporation, City Improvement Trust Board, the Karnataka Industrial Area Development Board and the Housing Boards with functional overlaps were operating in the city jurisdiction. The BDA was created as a coordinating authority to check the haphazard and irregular growth in the city and its adjacent areas.** BDA is legally empowered to undertake development schemes for the development of the Bengaluru Metropolitan Area, on its own or on the recommendation of the municipal corporation. **Such schemes undertaken by BDA shall be provided with street networks, drainage, water supply, electricity and a reservation of 25% of the total layout area for public parks and playgrounds and 10% for civic amenities.** If any works which the BDA feels is desirable for the development of any area within the BMA (Local Planning Area of BDA), it can take it up with the approval of the State government. **Housing Boards are not allowed to undertake any Housing schemes within BMA, without being in conformity with the layout plan of the BDA. Though the Act mandates a specific time period seeking inputs from the city corporation on the layout schemes prepared by BDA, inter-agency interactions during the plan preparation process are minimum.** Once the layouts are developed, public streets, street lighting and street cleansing functions are transferred to the BBMP for its maintenance through a Bengaluru Development Fund. This Fund which is held by the BDA includes the rents, sale proceeds and taxes collected by Bengaluru Development Authority and other funds contributed by the government. **The BDA transfers funds to the BBMP in an ad hoc way sometimes as and when required by the BBMP to operate and maintain land transferred to it by the BDA (Sridhar 2009)**

- **KHB's Housing Schemes in BMR and Karnataka State**

Karnataka Housing Board established under Karnataka Housing Board Act, 1962 is tasked with the objective to make such schemes and to carry out such works as are necessary for dealing with and satisfying the need of housing accommodation in Karnataka. It is recognised as the most important agency for housing throughout the State. Key projects of

KHB within BMR include housing projects in Kengeri, Channapatna, Iggalur Banahalli, Suryanagar Phase I, II and III, Netaji Subhash Chandra Bose Layout-Bidadi, Rayasandra-Kanakpura, KHB Platinum, Devanahalli and Yelahanka Highrise Building.

- **Karnataka Industries Area Development Board in BMR and Karnataka State**

Karnataka Industries Area Development Board (KIADB) acquires land for industrial areas, develops them, and either manages them on their own or transfers to the respective industrial association. They also acquire land for Government of Karnataka/ Government Agencies for different schemes and infrastructure projects. Examples include acquisition of land for BMRCL, BMTC, KSIIDC, and IDD.

- **Smaller urban and rural local bodies operating in BMA**

In the areas outside the jurisdiction of BBMP, there are urban local bodies such as Town Municipal Councils and City Municipal Councils for the administration of urban areas. These municipal bodies though with a lesser budget allocated to them, have powers to decide on the allocation of funds based on the needs, complaints and priorities of different localities within their jurisdictions. Gram panchayats look into administration of rural villages and census towns outside the BBMP jurisdiction. **However, the jurisdiction of parastatal agencies cut across multiple jurisdictions of smaller urban local bodies; and their project plans and priorities are superimposed in these areas without seeking the opinions of the smaller urban and rural local bodies.**

Many of the agencies listed above carry out their operations in a non-coordinated way. For instance, agencies such as BWSSB, BDA and BMTC were expected to develop and implement projects as per the guidelines of the City Development Plan prepared under JNNURM. However, these agencies have projects as per their own priorities, which they carry out either through their own funds or using the funds from various lending agencies (Pani and Iyer 2013).

Development works such as layout developments, construction of houses and development of industrial layouts are carried out by agencies such as BDA, KHB and KIADB without much coordination between them. In addition to this certain functions of the standing committees of BBMP (standing committee for all major works such as flyovers, elevated roads etc., town planning) overlap with that of the BDA. While deciding on the projects, there is minimum interaction between agencies. In addition to this is the issue of multiple administrative jurisdictions of parastatal agencies that do not overlap with the jurisdiction of the BBMP. These administrative boundaries are not just trivial lines on the map, but influence the budgeting, planning, expenditure and transfer of funds of the agencies (Ramanathan 2005).



## 5. Analysis of Existing Situation and Dynamics

### 5.1. Learnings from the transition of BMP to BBMP

In 2007, the Bengaluru Mahanagara Palike (BMP) with an area of 225 sq kms catering then to a population of 6.5 million was amalgamated with 7 City Municipal Corporations (CMC), 1 Town Municipal Corporation (TMC) and 110 villages to form Bruhat Bengaluru Mahanagara Palike (BBMP). The new areas included were 7 CMCs (Rajarajeshwari, Dasarahalli, Bommanahalli, Krishnarajapuram, Mahadevapura, Byatarayanapura and Yelahanka), 1 TMC (Kengeri) and 110 villages around Bengaluru. This expanded the scope of BBMP to cover 709.5 sq kms, governing around 7.8 million citizens in 2007 (Expert Committee: BBMP Restructuring 2015). The prime rationale for the amalgamation into BBMP was the poor governance and negligible infrastructure provisioning in the CMC / TMC and villages. However, despite crossing a decade, levels of infrastructure provisioning in the newly added areas are not at par with the erstwhile BMP area.

#### ➤ Status of Water Supply in the BBMP jurisdiction

Bengaluru Water Supply and Sewerage Board (BWSSB) is currently supplying treated Cauvery water to Bengaluru city under the Cauvery Water Supply Scheme (CWSS) Stage I, II, III and IV. **As per census 2011 household listing, the city core has an average coverage of more than 88 % coverage of Cauvery water supply, whereas coverage is only 46% in the wards outside the core city (BMP boundary) but within the BBMP area (figure 4, 5).**

The City Development Plan prepared under JNNURM for Bengaluru reports that water supply level in BBMP was about 143 lpcd against the norm of 180 lpcd. It further stated the disparity in the level of supply, where core BBMP area got a supply of 205 lpcd, the supply varied from 17 lpcd in peripheral wards of Dasarahalli to 76 lpcd in Kengeri. The average daily per capita supply in villages was about 25 litres. Part of the core city receives higher quantum of water and for a longer duration, when compared to certain other areas which receive lesser quantum for a shorter duration. The areas outside the core BMP area are primarily dependant on bore well water for water supply. **On an average about 28% of the water supply in the peripheral wards are met by bore wells or tube wells as per census 2011.**

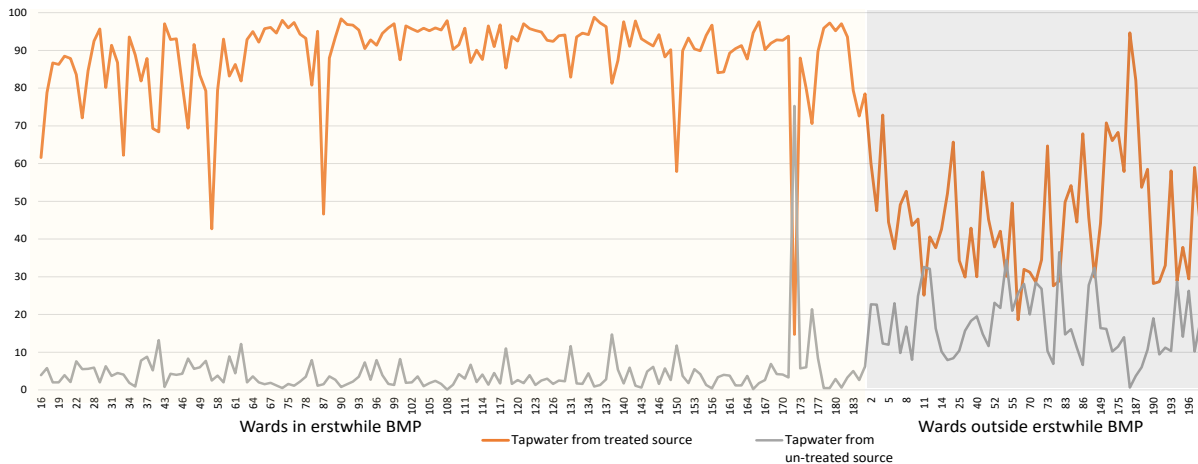


Figure 4: Disparity in the level of Cauvery water supply between the Core BMP and peripheral wards (newly added areas)

Source: Chart generated by WRI India , Data Source: Census of India,2011

While the urban villages<sup>2</sup>, urban poor (in slums) and revenue layouts were provided with piped bore water by the urban local body such as the erstwhile City Municipal Councils and Town Municipal Councils, wealthier groups depended on individual bore wells and private tankers. Areas such as Kengeri Satellite Township, Yelahanka, technology parks like Information Technology Park Ltd and a few large apartment complexes in the peripheral areas of Bengaluru city received piped Cauvery water supply. It is reported that only 10% of the peripheral wards and BDA approved areas received Cauvery water in the year 2009 (Ranganathan, Kamath and Baindur 2009). Due to the haphazard development of unplanned layouts, which do not have a gridded pattern of road networks, the laying of water pipelines in these areas have been difficult. 19 TMC of allocated water from Cauvery River for the water supply requirements of Bengaluru has been exhausted with the commissioning of CWSS Stage IV, Phase II of the project. **To provide water supply to the newly added 110 villages which are part of BBMP, BWSSB is finding it difficult to meet the water requirements even after implementation of CWSS Stage IV, Phase II scheme** (BWSSB 2016). During the interaction with BWSSB, it was informed that 700 MLD of water has been allocated to meet the water requirements of the 110 villages within BBMP. Currently BBMP supplies water to these 110 villages through bore wells and water tankers, which are subcontracted to private contractors.

<sup>2</sup> Urban villages are the erstwhile rural village settlement areas that have become part of the city Corporation

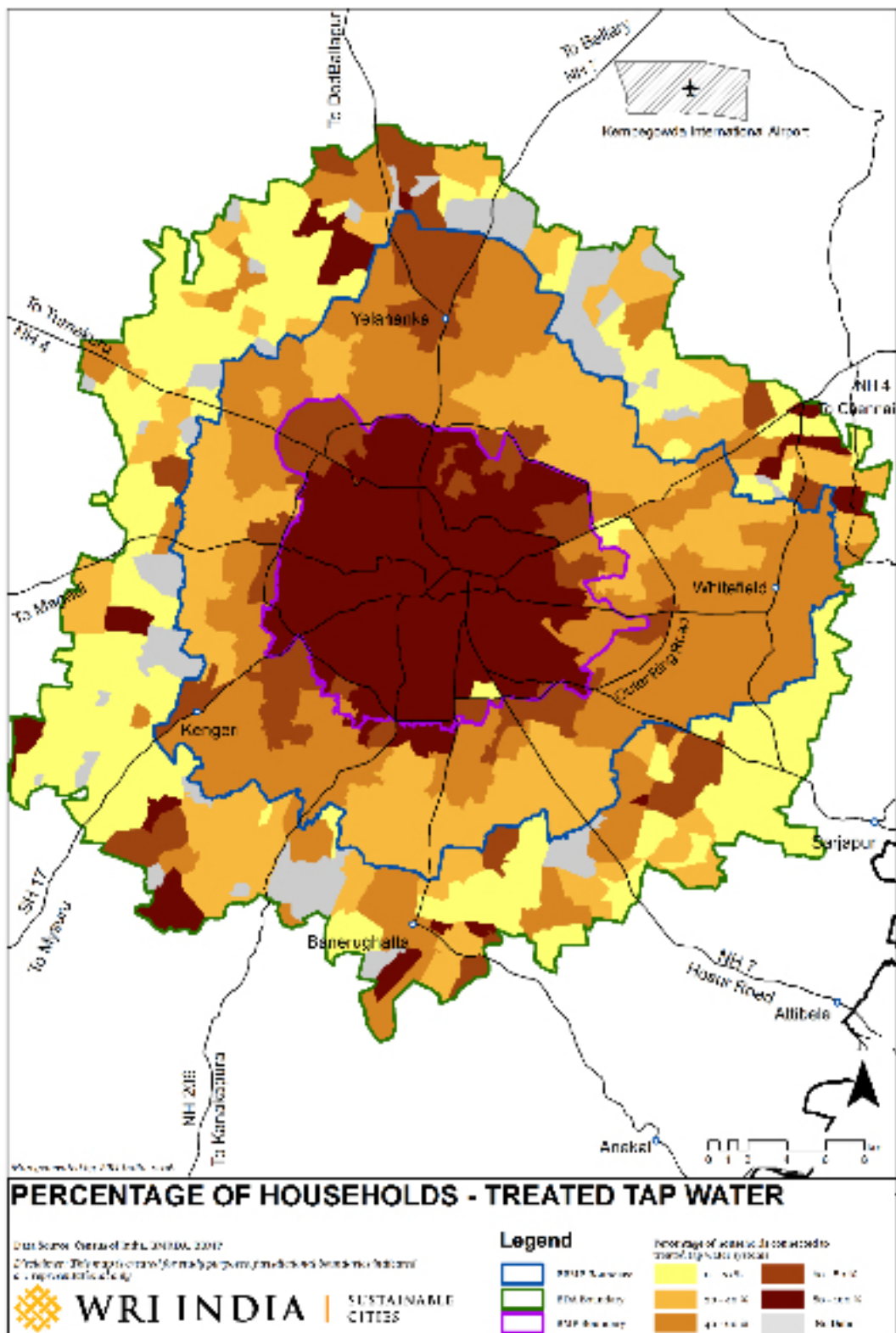


Figure 5: Percentage of Households with Treated Tap Water in BBMP  
 Data Source: Census of India, BMRDA and BBMP

Some of the key challenges faced by BWSSB in providing water supply are as follows (Kumar n.d.)

- There is a shortage of manpower to provide supply to the additional jurisdiction of the CMCs, TMCs and 110 villages that were added into the city jurisdiction;
- Water is a finite source and there is no alternative source nearby to supply the additional demand of the growing urban population of Bengaluru;
- Difficulty in public acceptance over the usage of reclaimed water,
- Unaccounted flow of water constitutes a large percentage of loss of water.

BWSSB has planned and designed for providing water supply to 110 villages and sewerage system for the newly added areas. However, the design horizon for water supply system for 110 villages is 2026 and design horizon for providing sewerage system is taken as 2036 (considering design period as 30 years as per CPHEEO manual and 2006 as base year) (Revised City Development Plan for Bengaluru under JNNURM Volume 1 n.d.).

### ➤ Status of Public Sewerage System

About 80% of the households in the BBMP Area have access to public sewer system. However, BWSSB which is in charge of constructing sewer lines for the entire Bengaluru Metropolitan Area has not been able to provide sewer lines in the erstwhile 110 villages that became part of the city limits in 2007. **In the core city nearly 94% of the households have access to public sewer systems**, while about 56% of the households in the peripheral wards (outside the core BMP) have access to public sewer system (figure 6). The 110 villages that lack planned underground sewage lines have soak pits and septic tank systems for sewage disposal. There is no scientific collection system and sewage treatment facilities provided in the 110 village areas (except few layouts). In the absence of proper sewerage system, the sullage and raw sewage generated in various wards are discharged through open drains / nalas to nearby lakes / water bodies. This is adversely affecting the environment (BWSSB 2016). The former Additional Chief Secretary of Karnataka and Chairman, Centre for Policies and Practices, who conducted an elaborate study of the water woes of the state capital reported that **only 30% of the sewage was treated by sewage treatment plants and the rest flows into the existing lakes**.

### ➤ Status of Storm Water Drainage system

BBMP is responsible for providing the storm water drainage systems in its jurisdiction. About 83% of households in BBMP area have their waste water outlets connected to closed drainage systems. **While the city core has about 96% of the households connected to closed drainage systems, only 64% of the households in the peripheral wards are connected to closed drainage systems** (figure 7). It was reported that the 850 km of storm water drains meant to carry surplus water from higher elevation lakes to lower levels in a cascading system of natural rainwater harvesting, now instead carry the city's sewage into these existing so-called lakes (Sudhir 2013).

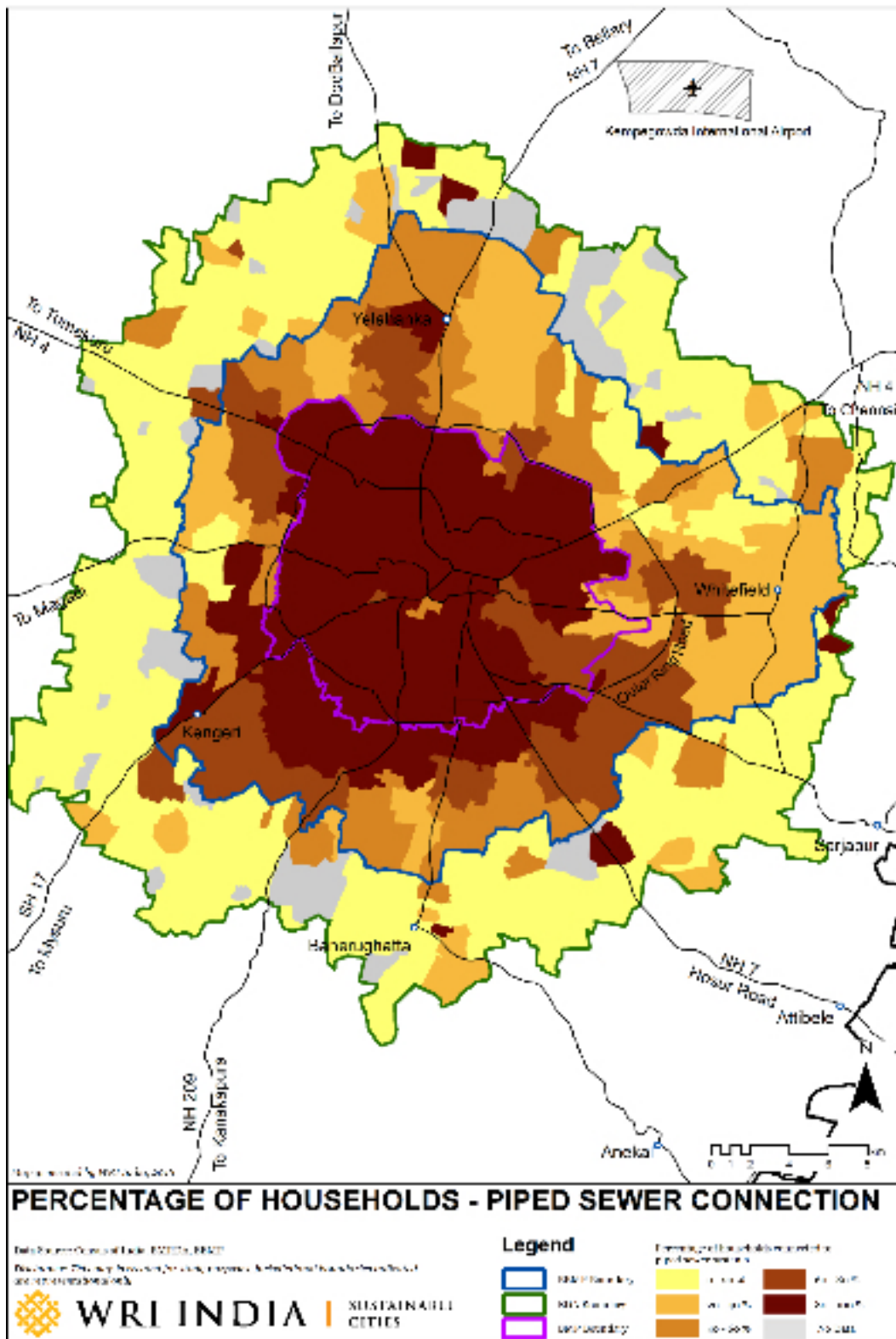


Figure 6: Percentage of households with piped sewer connection in BBMP  
 Data Source: Census of India, BMRDA and BBMP



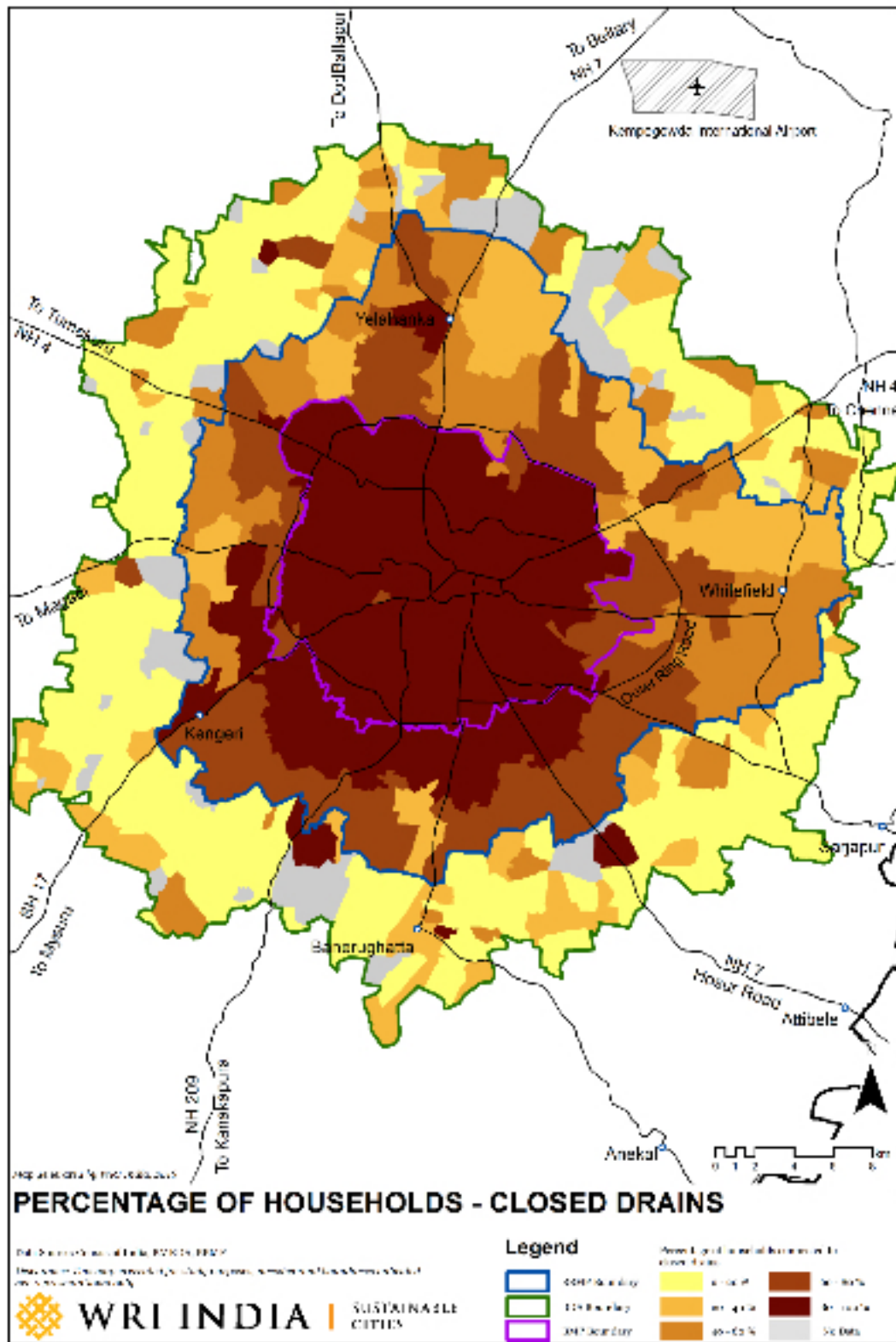


Figure 7: Percentage of Households with Closed Drains  
 Data source: Census of India, BMRDA, BBMP

➤ **Status of Solid Waste Management**

Solid waste management is one of the municipal functions undertaken by the BBMP. There is a door to door collection of municipal solid waste in several wards of the BBMP. It is reported that 0.4 – 0.6 kg per capita per day is the waste generation in the city of Bengaluru. Waste generation per household is 1.24 kgs, whereas in slums it is 1.5 kgs. The total solid waste generated in the city as per BBMP estimate is 3500 tons per day (BBMP n.d.). About 80% of the house to house collection and transportation of daily waste is outsourced. About 20,000 pourakarmikas are being utilised (both BBMP and contractors) in door to door collection, street sweeping and transportation. For every 1000 households, an auto tipper and a pushcart for every 200 households is used for primary collection. At present 85% of the waste is collected from households. There is a separate system for collection of waste from bulk waste generators such as hotels, restaurants, marriage halls, markets, offices, etc. As per the High Court directions, the BBMP has notified Bulk Generators to segregate waste into different categories and manage their waste either in-situ or to utilize the services of BBMP Empanelled Service Providers (BBMP n.d.). The primary solid waste collection systems bring waste at a common point (secondary locations), from where the wastes are transported by tipper lorries and compactors to treatment sites and land fill sites that located outside the city. **Segregation at the source and at the secondary storage locations are not done effectively and hence unsegregated waste reaches the treatment sites. There are decentralised centres established in various zones for the management of dry waste collected.**

➤ **Status of Public Transportation Service and Road networks in BBMP**

Though the operational jurisdiction of BMTC extends beyond the municipal boundary, many of the residential pockets within the BBMP are underserved. It is observed that most of the urban village settlements which are away from the major road corridors such as the Outer Ring Road, Hosur Road etc. are under serviced by the BMTC. Frequency of services is low and many peripheral areas depend on share autos or private modes of transportation.



Figure 8: Disparity in road network density between the core and the peripheral area of BBMP

Data Source: Open Street Map and Google Maps, Google Earth

A closer look at areas within the erstwhile BMP (Jayanagar and Vijaynagar) and an area outside BMP (Whitefield) reveal that a very low density of roads exists in the peripheral wards when compared to any well-developed area within the city. It is observed that due to proliferation of revenue layouts and isolated pockets of large scale developments in the peripheral wards of BBMP, these areas are not adequately provided with road networks. **Width of the road networks in these layouts are often insufficient to provide services such as a public transport, and standard water supply or sewer lines.**

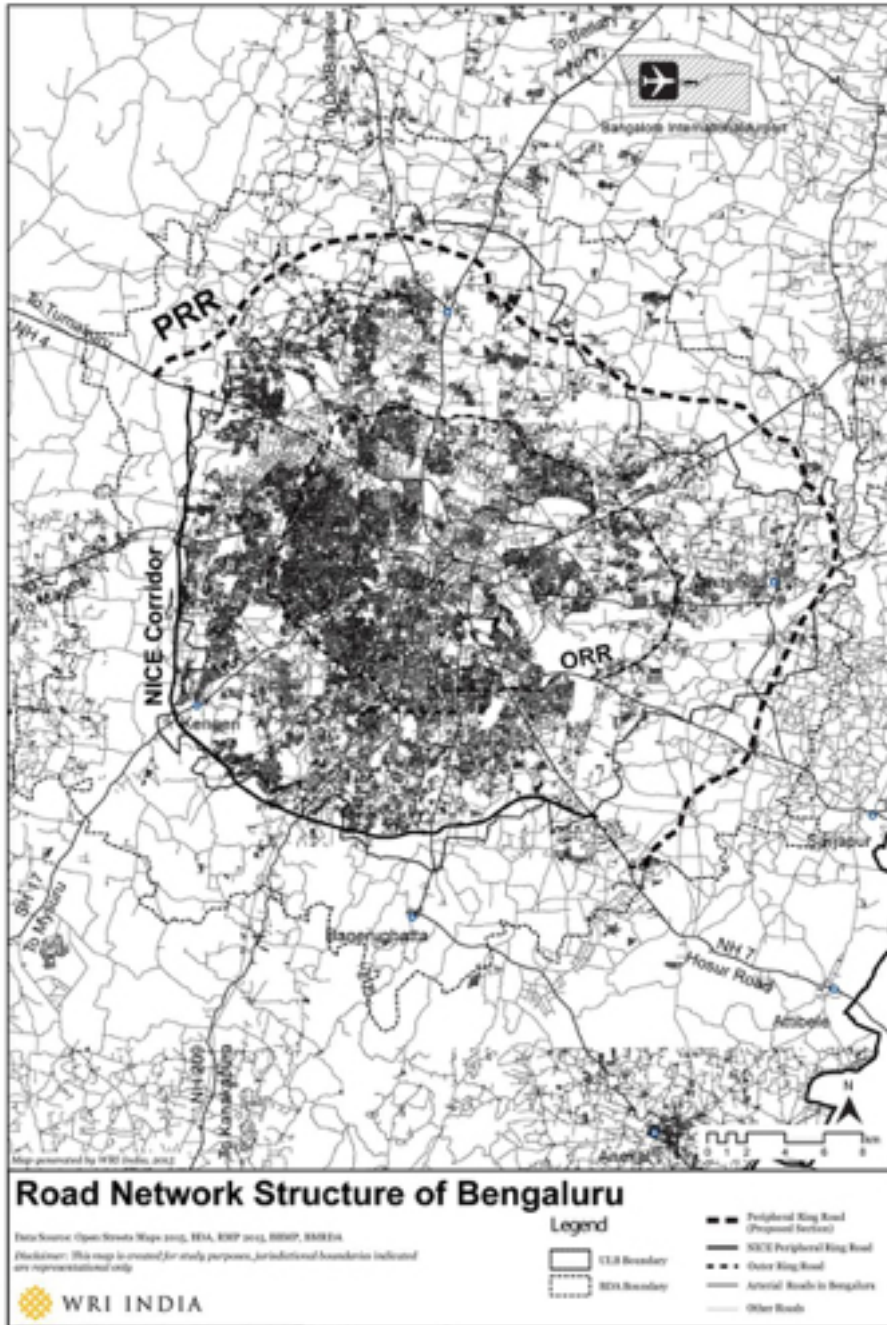


Figure 9: Road network structure of Bengaluru

Source: Image generated by WRI India, Data source: Open street Maps 2015, BDA, RMP 2015, BBMP and BMRDA

### ➤ **Absence of a clear roadmap for municipalisation**

In 2007, when BMP was expanded to become BBMP, implications of such an amalgamation on the administrative and governance set up of the BBMP were not foreseen. Many of the peripheral areas particularly the 110 villages that became part of BBMP did not have adequate infrastructure provisions such as well-established and connected road networks, water supply and sewerage networks, storm water drains and solid waste management systems. In a discussion with BBMP officials, it was stated that because of the missing linkages in the infrastructure networks in these peripheral areas, it has become difficult to connect to the existing city's main trunk infrastructure lines. Thus, the upgradation of the infrastructure amenities in the newly added areas of the BBMP have been slow. Additionally, the budgetary allocation for newly added areas get determined politically, thereby limiting the amount earmarked for certain areas. The inclusion of 110 villages where the city had not yet reached is an indication that all the criteria of municipalisation mandated in the KMC were not necessarily considered in the previous amalgamation process.



**5.2. Development dynamics in the BMA and its implications on municipalisation**

The pattern of development in the peripheral areas outside the BBMP limits are ad-hoc and are largely driven by large scale developments. Rural areas around these large-scale developments are in a state of transition and speculation (Sridhar 2009). Isolated real estate development and private layouts are interspersed with parcels of undeveloped land or agricultural land (figure 10).

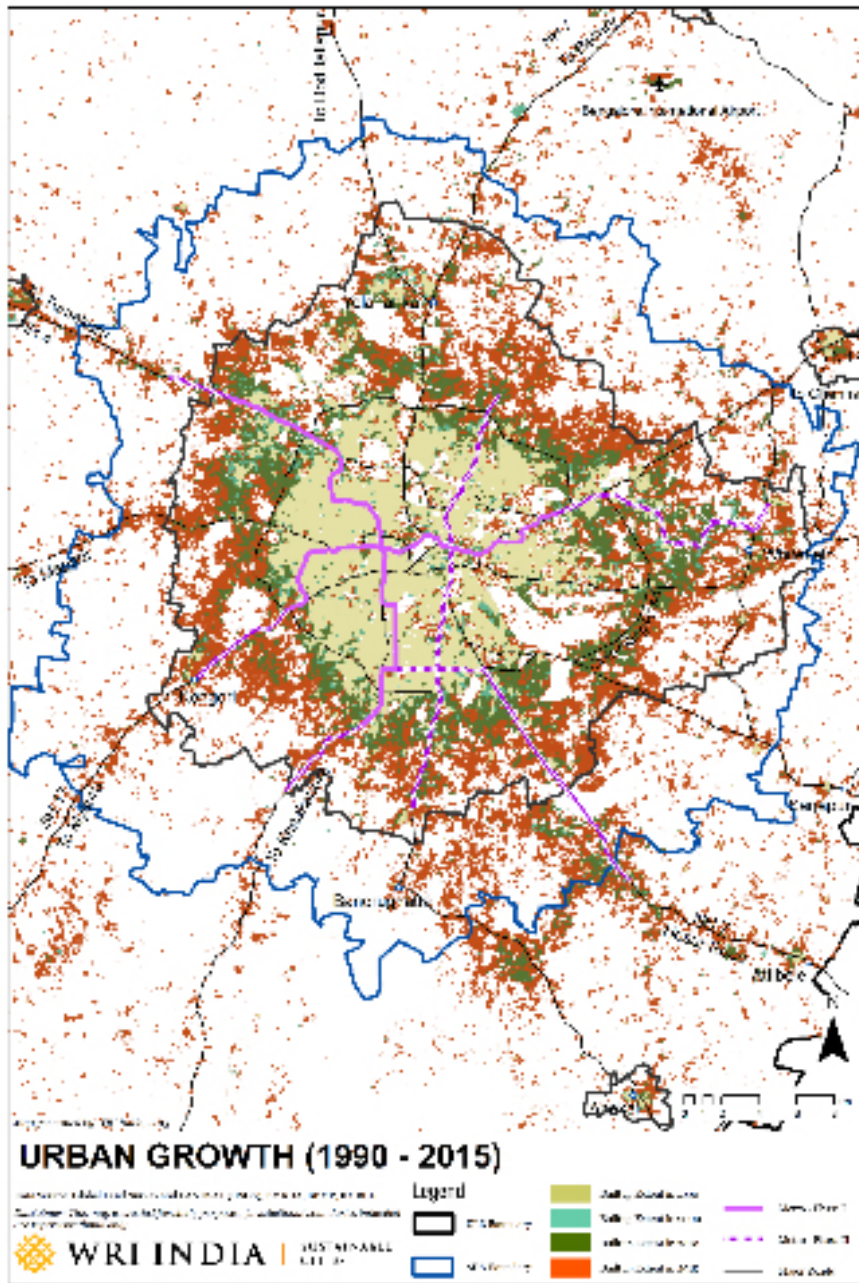


Figure 10: Urban Growth of Bengaluru (1990-2015)

Source: Image generated by WRI India, Data Source: Global Land survey and LANDSAT (USGS), BMRDA, BBMP and BMRC



Amidst the pockets of private layouts and BDA layouts, there are also revenue layouts, which get authorised over time on the payment of property taxes. Revenue layouts were developed from 1990s onwards with the transfer of agriculture land to real estate developers who subsequently subdivided the land and sold it to buyers without getting legal approvals (Ranganathan, Kamath and Baindur 2009).

Deputy Commissioner of the Revenue Department of the district is the competent authority for issuing conversion orders and it is the concerned town planning authority that approves the layout plan (Department of Rural Development and panchayat Raj n.d.). A legal layout that is approved by the concerned planning authority should be developed with parks, roads, civic amenity sites, underground drainage, water and electricity within 18 months of providing approval for the layout formation. There is also a mandate to provide an approach to adjoining land or pieces of land within the layout but not a part of it.

Unless the layouts are formally converted to non-agriculture land (through payment of conversion fees) they are considered to have illegal status. These layouts are often developed without securing necessary planning permissions that ensure basic standards with regards to width of access roads, connections to main roads and sewer lines (Ranganathan, Kamath and Baindur 2009). The illegal layouts typically do not have adequate open spaces, access roads are too narrow and provision for water supply or sewage systems or for garbage collection are often absent. No taxes are levied or paid. Sites in such layouts called as 'revenue sites' are a common phenomenon in urban areas. Building plans in these revenue layouts are approved by the Gram Panchayats. **The rural bodies do not have the capacity to provide infrastructure facilities to support large scale real estate developments and hence unsustainable forms of development patterns and self-provisioning of services have prevailed in the urban expansion areas.**

**The ownership of land is legal in this case, but change of land use is not and layout formation and construction of houses are illegal. Absence of provision of water and sewage systems by the state (due to illegal nature of these sites and construction) forces people to rely on extraction of ground water and the use of soak pits for sanitation, thus affecting the environment.** The BDA area has many such urban fragments (peri-urban growth, and townships in rural settings), which will need to be municipalised sooner or later (Expert Committee: BBMP Restructuring 2015). BBMP itself is a result of absorption of such urban fragments which still face infrastructure deficits.

### 5.3. Change of Land use and its influence on development patterns in the BMR

In the Bengaluru Metropolitan Region, the responsibility of granting permission for the change of land use such as residential to commercial, industrial etc. is with the various local planning authorities. As per section 14 A of the KTCP Act, 1961 a planning authority with the previous approval of the State government under the following circumstances and conditions can grant Change of Land Use (CLU) beyond the approved master plan:

- If there is topographical or cartographical error or other omissions;
- Failure to fully indicate the details in the master plan;
- Change arising out of implementation of proposals in the master plan;
- Circumstances prevailing at a particular time by enforcement of the plan.

A common set of guidelines have been developed for the BMR region to streamline the process and apply uniform parameters to consider or reject an application made for CLU. For each of the above proviso of the Act, an indicative list of cases that may be considered for granting the permission is issued as guidelines for the Local Planning Authorities/ Development Authorities and Municipal Authorities. For instance, under the provision on circumstances prevailing at a particular time by enforcement of plan, the following list of cases may be considered:

- Establishment of SEZs/ Industrial Townships;
- Public Housing schemes by government agencies;
- Establishment of mass transit systems such as metro, ring roads, BRTS and airports;
- Any other policy of Central and State government;
- Any other case submitted by the authority with a suitable justification, may be considered by the government based on the merits such as lands in the vicinity of/ contiguous to gramathana or conurbation area, lands abutting roads or in the vicinity of roads. In such cases, it shall be ensured that the connectivity to the main road are provided through an access road of adequate width;
- Cases where land has been allotted through projects approved by Karnataka Udyog Mitra or by KIADB for industrial purposes;
- Cases where infrastructure projects are taken up by the government or government agencies or through PPP route or private developers approved by the Government subject to the condition that such developments must be integrated with the master plan;
- Land converted by revenue authorities, land in the vicinity of/ or contiguous with gramthana.

For properties falling outside the municipal limits, even if the applicant commits to provide infrastructure for the land, the opinion of the concerned local body shall be obtained, as such properties become the responsibility of the local body in the long run. Further the authority also records the opinion of the local body on feasibility of providing infrastructure.

Despite the above-mentioned guidelines for land use changes, large number of spotted developments are happening outside the conurbation of Local Planning Areas within the BMR. For instance, there has been a rampant increase in built up area outside the conurbation limit of the Bengaluru International Airport Area Planning Authority (BIAAPA), while most of the areas within its conurbation limits are still vacant. A newspaper article reports that over 750 acres of land under BIAAPA has been granted change of land use in a period of two years (from 2005 to April 2007) (Kushala 2010). Most of the conversions have been from agricultural zone to residential zone. With the construction of the international airport, real estate businesses have gathered momentum in the airport influence zone, that have resulted in rampant land use conversions. There has also been a significant number of CLU applications for the areas outside the conurbation limits of the BIAAPA master plan in the last two years. Such uncontrolled land use changes defeat the basic objective of the master plan.

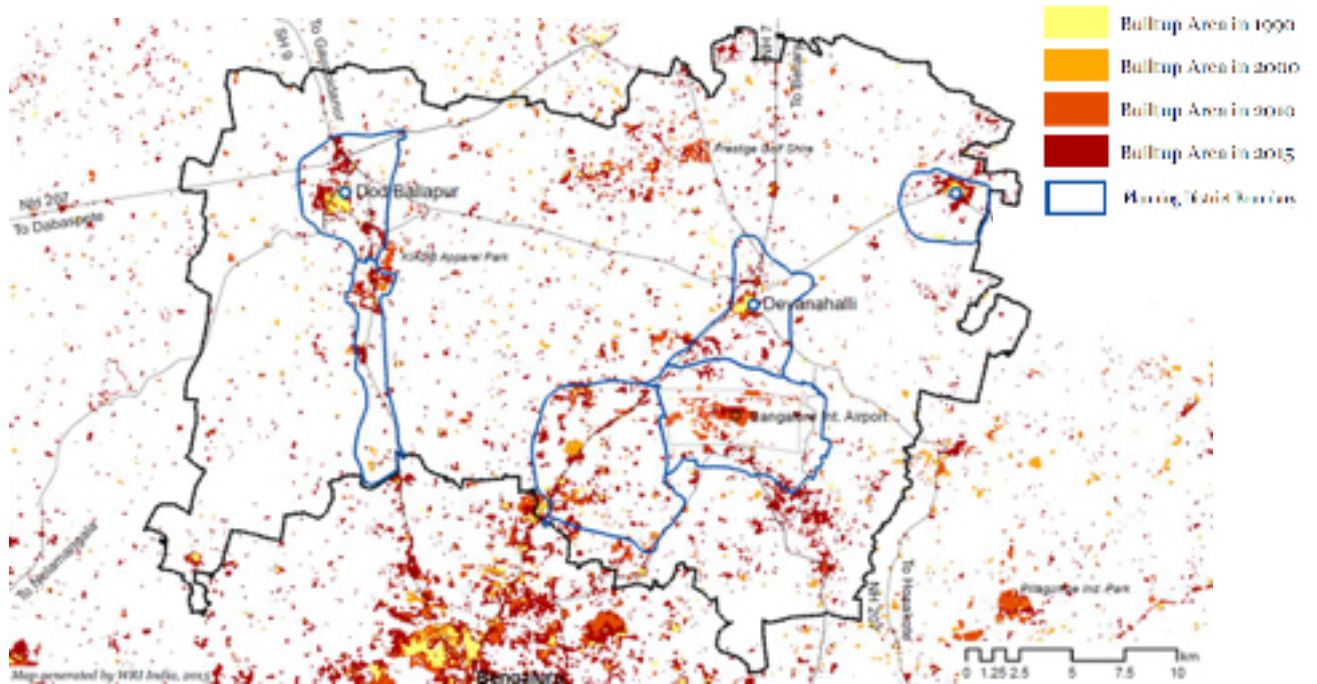


Figure 11 : Urban built up growth within and outside conurbation areas in BIAAPA, 1990-2015  
 Source: Image generated by WRI India, Data Source: Global Land survey and LANDSAT, BIAAPA

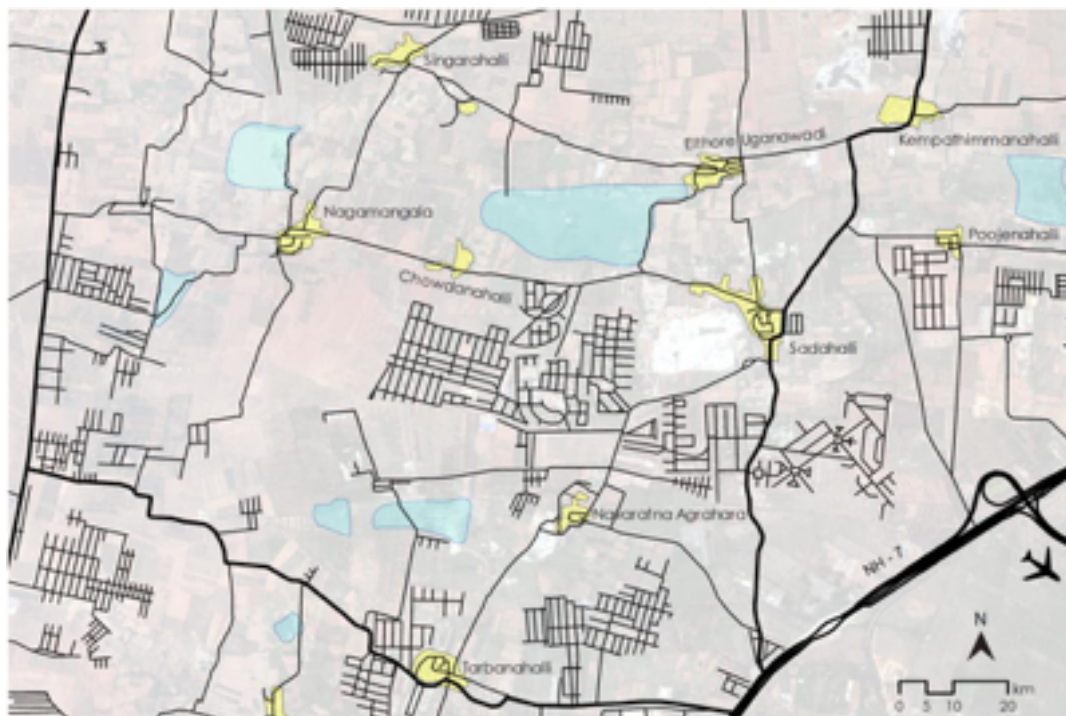


Figure 12 : Disconnected and dispersed developments and road connectivity in BIAAPA  
 Source: Image generated by WRI India, Data Source: Open Street Maps

#### 5.4. Urban Village Informal Expansion in the BMA

Most of the urban village settlements which became part of the BBMP jurisdiction, have transitioned from their traditional occupation pattern that involved farming, cattle rearing and agriculture allied activities into informal jobs in the earlier decades either with the onset of industrial developments or due to large scale infrastructure developments like the Outer Ring Road. Post the establishment of industrial estates by KIADB in locations like Hoodi, job opportunities increased and attracted migrants into the settlement areas that were in proximity to job locations. With the significant rise in land markets and land values, large landowning farmers earned significant revenue through sale of their farm lands, whereas the landless farmers took up informal jobs. Occupation patterns of the migrants ranged from owning small enterprises such as running autos and taxis, operating small repair shops to informal service jobs such as plumbing, painting and tailoring. With the rise in migrant population, there was a need for housing in the surrounding areas and hence rental houses started post 1990s within urban villages. Table 2 below shows the typical transition in the land development pattern that is prevalent in the peripheral areas of the Bengaluru Metropolitan Region.

Land owned (in Acres)	Caste	Source of Income
Large farmers (> 5)	Reddy and Thigala farmers	Reinvested in land, rental income, bore well business
Medium farmers (2 to 5)	SC/STs, Kurubas and other minority communities.	Rental income, financial business, reinvested in vehicles (two wheelers, tempos, auto rickshaws)
Small farmers (<2)	SC/STs	Reinvested in rental properties, small business, petty shops. Domestic help, factory employees, garment employees, security employees, as vendors and in petty businesses

Table 2: Typical landownership status of different caste groups and their source of income  
Data compiled from (CASUMM-CIVIC 2007)

##### ➤ Transition in the land development pattern

The landowning farmers who generally belonged to upper castes either rented out their houses in the older settlement areas or sold them and moved into private layouts that were provided with better amenities. While the newer private layouts developed by large scale developers came with high quality amenities and higher rental values, the houses in the older village settlement areas were available at affordable rental rates to the service class population. The village settlement areas experienced a spurt in construction of residential buildings ranging from three to four floors due to their locational advantages. These buildings, often developed on smaller plots are given out as rental accommodations.

##### ➤ Infrastructure provisions in village settlement areas

It is observed that most of the village settlement areas have organically developed road network patterns and are narrower than the standard sizes. Water supply through bore wells was provided by the Panchayats and this responsibility was taken over by BBMP post the amalgamation. Most



village settlement areas do not have underground sewer lines and the rural households have the soak pit system for sewage disposal. **Typically, infrastructure improvements such as cementing of internal road networks, public provisioning of water, open drainage networks etc. are done during the time of elections in these village settlement areas.**

While this was the situation in most of the village settlement areas as well as settlement areas within the smaller urban local bodies, decentralised governance through the Gram Panchayat (GP) system played a significant role in the development of Bellandur village. With the formation of GP, roads were widened and overhead tanks and stone roads were formed. Underground drainage systems came in 1996-97 along with tarred roads. GP had approximately 22 lakhs INR allocated for each of its 10 wards and had 22.5% of the ward level budget allocated to expenditure on SC/ST. GP effectively negotiated with the large-scale developers who began queuing up to enter the land markets in Bellandur, to provide infrastructure amenities such as Underground Drainage (UGD), which required large capital investments. About Rs 3-4 crores worth of culvert drains, sewerage, and metal roads have been done in Bellandur GP through partnerships between the GP and companies who have located there (CASUMM-CIVIC 2007).

### ➤ **Issues associated with urban villages**

**Increasing dependency on ground water for water supply:** With the rise in dependency on ground water, as it is inexpensive and unregulated, several local families have started selling water in tankers which has become a lucrative occupation. A study by CIVIC in 2007 report that in Bellandur village, four families mainly are involved in selling tanker water pumped from 5 to 6 borewells dug on their land. It is estimated that about 20 - 25 bore wells are dug in the area and 50% of these borewells become dry very quickly. The quality of ground water has also worsened, in large part due to the indiscriminate dumping of sewage in Bellandur Lake and surrounding drains.

**Environmental management issues pertaining to sanitation:** Many gram panchayat areas along the main road and fast growing locations gain access to infrastructure facilities such as underground sewerage networks through public private partnerships. However, it is observed that due to lack of environmental management, underground drains release sewage from these village areas into kaluves and lakes. For instance, Bellandur which used to provide drinking water to the villagers earlier, has become one of the most polluted lakes in the city. In addition to letting out sewage into the lake, mud and debris from construction sites are dumped in the open areas near the lake.

Another phenomenon which is observed across the urban villages in the city is that there is a tendency for the informal settlements such as slums and squatters to settle in the immediate peripheral areas of such urban villages. In Hoodi village in the Whitefield area of Bengaluru which is within urban limits, few families who were landless or who sold their land, lived on the common land or gomala land which belonged to the government and did farming on the land that was not registered in their names (CIVIC 2007). The common lands, if acquired by the government are converted into proposed developments by the government or tend to get notified as a slum at a later stage.



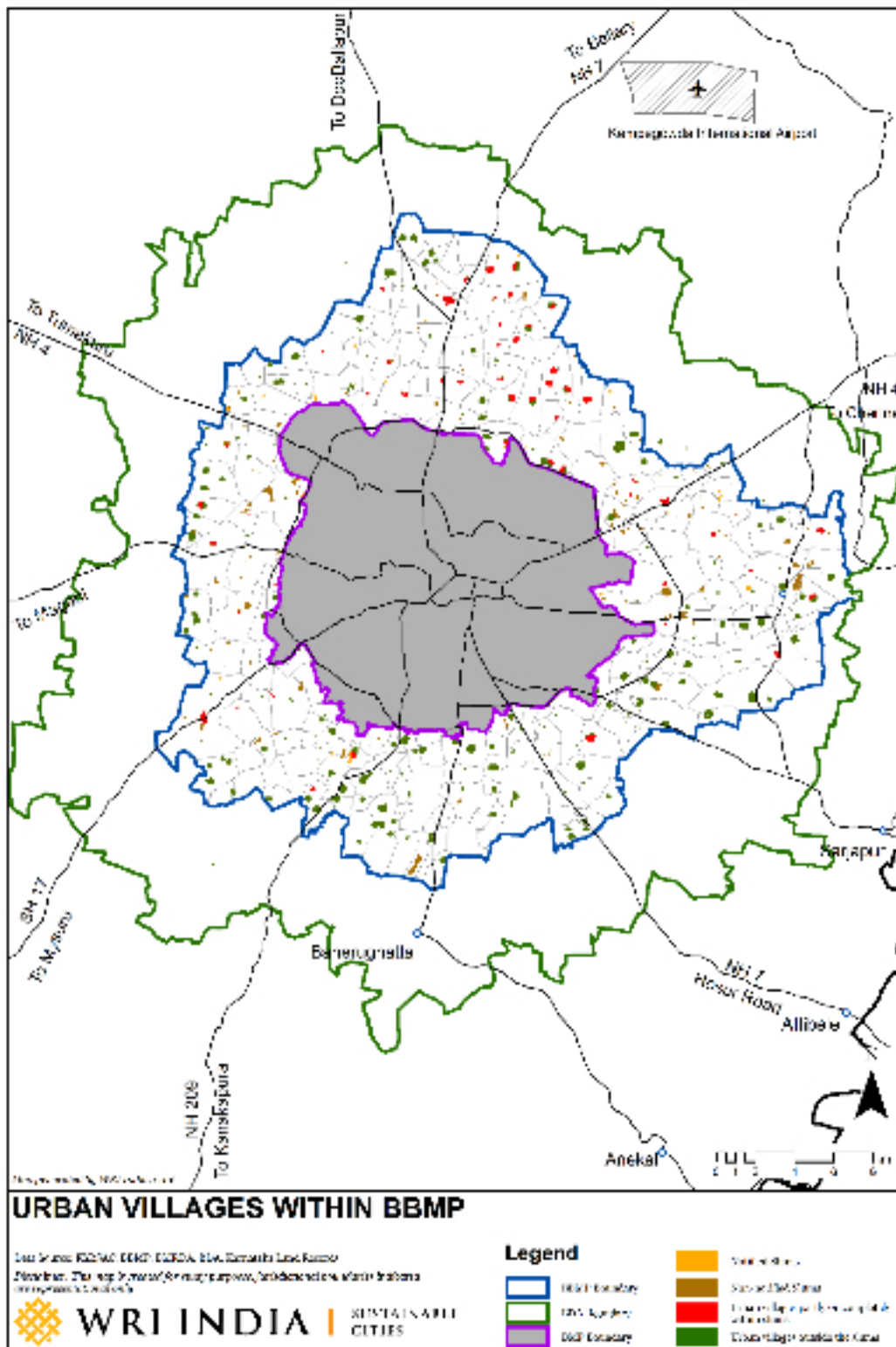


Figure 13: Urban villages in the area outside BMP, but within BBMP.

Source: Image generated by WRI India, Data Source: KRSAC, BBMP, BMRDA, BDA, Karnataka Land Records

➤ **Abstract of the case study conducted at Kalkere Village**

A field study that involved 100 household surveys was conducted at Kalkere village settlement area by WRI India with the assistance of students from the Azim Premji University. This study was conducted with the objective of (i) to understand the status of physical infrastructure provisions such as water supply, sewerage and drainage facilities in the village and influence of BBMP in service provisioning in the area; and (ii) to understand the physical transformation of the village and influence of BBMP governance in the transition.

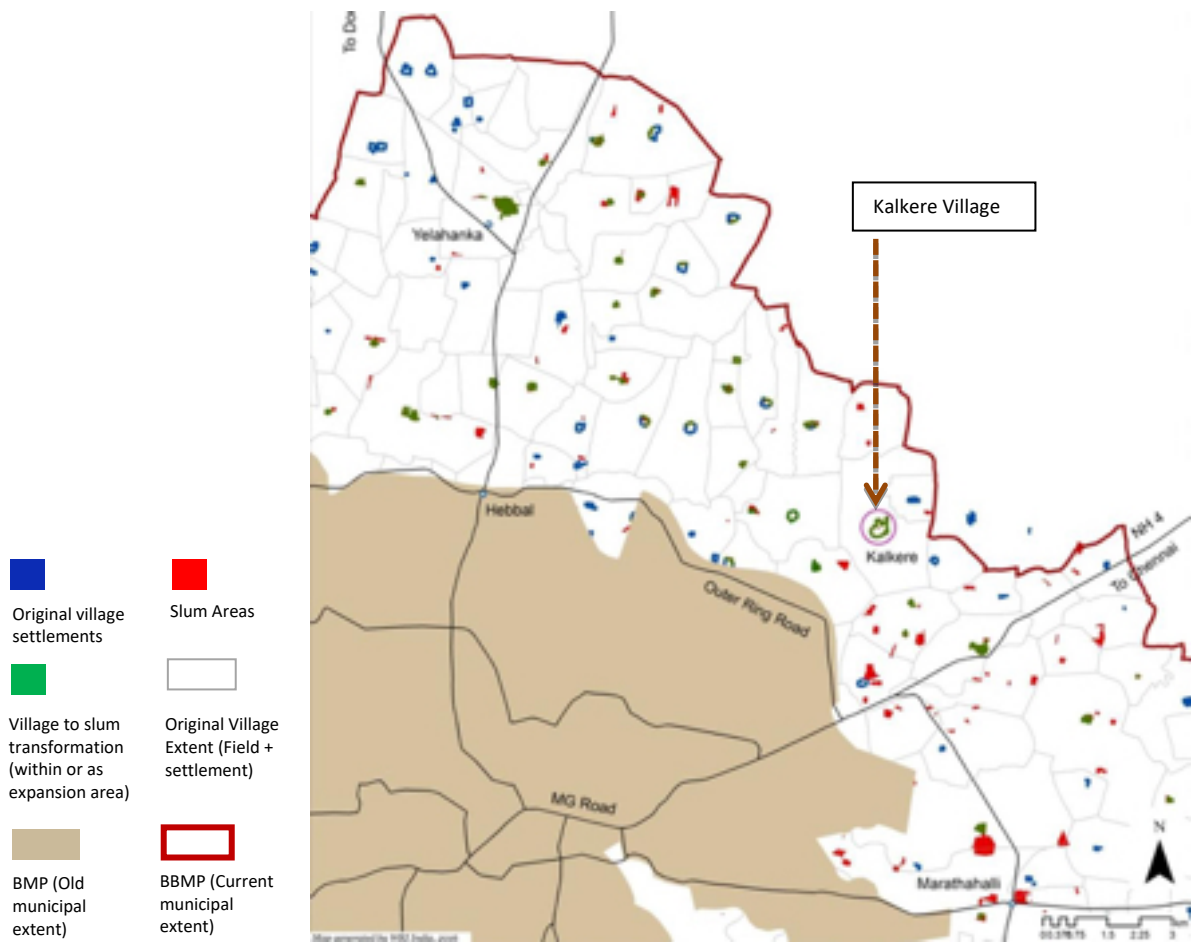


Figure 14: Location of Kalkere village in Bengaluru

Source: Image generated by WRI India, Data Source: KRSAC, BBMP, BMRDA, BDA, Karnataka Land Records

Kalkere village settlement area falling under Horemavu village and currently in the Ramamurthy Nagar ward of BBMP is located approximately 3 kms off the outer ring road, along the Horemavu – Kalkere main road. This village was predominantly an agrarian society in the earlier decades, where farming and cattle rearing was a predominant means of livelihood. With the increase in urbanisation trends in the surrounding areas, landowning farmers sold their agriculture land to real estate

developments and the landless labourers shifted to informal jobs such as daily wage labour and petty shops. Few of the original settlers of the village continue to practice farming and cattle rearing. The village which was originally dominated by the Brahmin community, in the later decades predominantly housed the Kuruba communities. Most landowners who sold their lands moved to layouts which have planned road networks and better quality water supply and other services.

➤ **Status of Infrastructure provision in the village**

**Water supply: The residents of Kalkere are supplied with bore well water by BWSSB.** While majority (about 89%) of the houses surveyed have piped water supply, 11% of the population had to collect water from hand pumps, community tanks or borrow from other houses. Slum dwellers are provided with private water supply by the landowner, however they also borrow water from the bungalows in the locality to meet their additional needs. While the water supply is provided free of cost, few houses pay an amount to the lineman to release water to their houses.

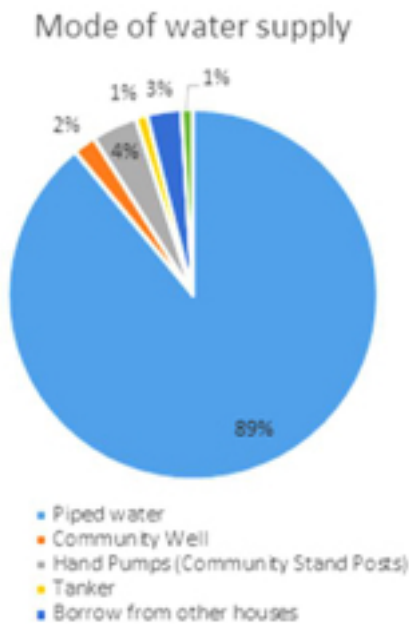


Figure 15: Mode of water supply in Kalkere



Figure 16 Collecting drinking water from a vending machine

For the drinking purpose filtered water is supplied through vending machines which work like coffee vending machines. The cost of 20 litres of water supplied through the vending machine is Rs 5, which is much cheaper than the private water cans. While majority of the respondents surveyed depend on this government supplied drinking water facility, some of families use privately supplied water cans for drinking purposes.

**Sewerage & Solid waste management**

There is no underground sewerage system provided for sewerage disposal in the settlement area. There are soak pit systems and septic tanks for night soil disposal. While majority have soak pit systems, about 10% of the respondents mentioned having septic tank systems for toilet waste disposal. There are public toilets provided in the village, which is used by 5% of the respondents

surveyed. Residents in the make shift tents located in the periphery of the village do not have any toilet facilities. It is observed that houses are connected to open storm water drains to dispose grey water. Garbage collection is done by BBMP, but not on a regular basis.

**Transportation facilities:** BMTC buses ply on the Hormavu Kalkere main road to destinations such as Hoskote and Hormavu junction on the Outer Ring Road. However, the public transportation system is not provided to satisfactory levels as the frequency of buses are less than the requirement and hence the residents depend on the share auto systems which are expensive when compared to bus services.

Other public amenities such as fire stations, police stations, community halls and hospitals are within a radius of 3 kms from the village settlement areas. There is a government school and anganwadi located within a km of the village. As there are instances of cattle rearing still practiced in the village, a veterinary clinic operates twice a week.

### ➤ **Impact of municipal governance on the village**

- **Improvement in infrastructure facilities:** With the inclusion into the BBMP, there has been a considerable level of improvement in the basic infrastructure services in the Kalkere urban village. Many of the roads within the village have been concreted, water supply (untreated piped supply) has improved and closed drains were provided within the settlement areas. However, Cauvery water supply is not yet provided in the settlement area and underground sewer lines are not yet established in Kalkere village.
- **Increase in unplanned and unregulated building constructions:** There has been an increase in the unplanned and unregulated construction of buildings within the area. Newer buildings encroach the natural drainage lines and sufficient building set backs are not provided. Low rise apartments for rental accommodation are built in the settlement areas, which turn out to be preferred rental accommodations for migrant workers. Migrants prefer to stay in these buildings as the rents are lower when compared to the adjoining private layouts and other apartments along the Kalkere main road outside the village settlement area. Villagers also opined that the green spaces reduced with the conversion of agricultural land and cattle grazing lands into built up areas.
- **Reduced accessibility to government officials:** While there has been a considerable improvement in the infrastructure services, majority of the respondents surveyed felt that **their accessibility to the government officials reduced once they were merged with BBMP as they now have to approach multiple departments for infrastructure service provisions, when compared to a single Panchayat head who was more accessible.** For instance, multiple government departments such as BBMP, BESCO and forest department of BBMP needed to be contacted to solve an issue of cutting tree branches over which electric wires ran and takes very long to resolve. The same issue under a Panchayat rule, could get solved with the help of any one of the 8 panchayat members. **Multiple departments with poor coordination amongst them has been reported to be a challenge by the residents of the village.** The villagers were also of the opinion that there has been increase in the property taxes and increase in bribes demanded.

## 6. Challenges and Opportunities

- **Isolated pockets of developments in the BDA area are straining a planned development approach in the periphery:**

Under the influence of large scale infrastructure projects such as Bengaluru International Airport and Bengaluru- Mysore Infrastructure Corridor Project, isolated pockets of developments have proliferated in the areas beyond the municipal boundary. **Layout plans for large scale developments are approved without considering the impact on infrastructure provisions.** Village Panchayats and City/Town Municipal Councils grant building permissions for setting up high end residential enclaves and industrial parks without consulting the concerned planning authorities. The connectivity of the storm water drains and sewer lines of these layouts to the external network is an issue, as in most cases, the trunk infrastructure lines are not established on ground by the government agencies. Undeveloped lands in the peripheries hence find it difficult to access infrastructure services at a later stage. Effluent from many large industrial areas are disposed into nearby waterbodies causing pollution and degradation of the water bodies.

- **Rampant Land use conversions and land use changes put a strain on infrastructure provisions and lack linkages to regional planning frameworks:**

Areas outside the jurisdiction of BBMP and other municipalities in the region primarily depend on groundwater for domestic as well as non-domestic water supply needs. When a large-scale development is permitted on a land in an area outside the jurisdiction of the municipal authority, then such a development for instance will depend on the ground water to meet its water supply needs. This will adversely affect the ground water level of the wells in nearby village settlements for example for have relied on such sources for generations. While large scale developments are expected to take care of their own infrastructure services without implicating the authority, the cumulative burden is not envisaged. Power supply lines for instance have to be pulled over large distances to service these island developments, and similarly solid waste management, traffic impacts etc. are not envisioned. **Depleting ground water tables pose an unanswered critical future question.** Long term implications on the authority for infrastructure provision are not accounted for, ground water based population limits are not understood, traffic and transportation impacts are not addressed, preserving prime agricultural land and double cropping and protecting valleys and drains are not addressed. Networks of valleys, drains and lakes need to be better understood and preserved to ensure lakes do not go dry. **Though there are conditions laid to check the capacity of municipal bodies to provide infrastructure in such areas in the future, the immediate impact of such large scale developments on existing village settlements are not considered. Further to this, the guidelines for land use change do not mandate cross checking whether it compatible with the land utilisation zones of the Revised Structure Plan (RSP), 2031 for the BMR.** Land capability analysis in the RSP indicates zones which are more suitable to urbanisation as well as region's ecologically sensitive areas, and natural features which are to be conserved for development activities.



- **Parastatal agencies having functional autonomy play a significant role in shaping the land development trends in the areas outside the BBMP limit:**

Planned localities such as the Export Promotion Industrial Park (EPIP) developed by KIADB and BDA layouts are provided with upfront provision of infrastructure to attract potential buyers. While most of the areas falling in the jurisdiction of CMC, TMC and GP rely on bore well water, the BDA layouts and few pockets where large apartments and companies exist, were provided with Cauvery water supply. Infrastructure provisions in the areas outside these planned areas are made from municipal funds or panchayat funds incrementally over time in response to the demands from the residents. This indicates the absence of a framework to plan for and integrate peripheral areas with the metropolitan area and region, thereby creating future challenges for municipal corporations.

- **Disparity in infrastructure services between the core BMP and newly added areas of the BBMP:**

There is a significant difference in the provisioning of municipal services in smaller urban local bodies (CMCs and TMCs) and the BBMP, which continues to exist till date post amalgamation. Prior to the Greater Bengaluru Water and Sanitation Project (GBWASP) project, all the urban local bodies outside the erstwhile BMP jurisdiction were supplied with bore well water by the CMCs and TMCs, while this function in the BMP is carried out by BWSSB which provided Cauvery water to the city. Despite the amalgamation of these areas with BMP to form BBMP, more than 50% of the households in the peripheral wards continue to depend on bore well water supply. Cauvery River however forms the main source of water supply to Bengaluru urban area; it is estimated that the quantity at the primary source will not be sufficient to meet the additional demand of the expanding city. **Due to haphazard urbanisation, there has been indiscriminate drilling of bore wells by individual households, business establishments and industries which has resulted in depletion of ground water levels and over exploitation of ground water resources.**

- **Lack of coordination between parastatal agencies and municipal corporation:**

Urban service provision such as water supply, sewerage and drainage lines are listed as functions of municipal bodies under the municipal laws in the twelfth schedule of the 74<sup>th</sup> CAA. However, these functions are carried out by the parastatal agencies in the city of Bengaluru under the directives of the State government. The parastatal agencies being State government's statutory agency are not answerable to urban local bodies such as BBMP and CMCs and TMCs outside BBMP. These Urban Local bodies have lesser control over the parastatal agencies that operate at a larger scale.

Smaller urban local bodies such as CMC and TMC are often not involved in the decision-making process of projects that are planned by the parastatal agencies for these Urban local bodies. For instance, the Greater Bengaluru Water and Sanitation Project initiated in 2003 by the Government of Karnataka, was proposed to cover the 8 ULBs that were added into BBMP with Cauvery water supply, at par with the core BMP area. BWSSB operated and controlled the project with minimum involvement of the urban local bodies in the decision-making process. The CMCs and TMC were entrusted with the task of collecting the

Beneficiary Capital Contribution (BCC) from the consumers and depositing it in an escrow account maintained by BWSSB.

- Jurisdictional expansion without functional and administrative autonomy of zonal offices:**  
 The expansion of the municipal boundary, resulted in disempowerment of local governments in the peripheries for close to 4 years, as fresh elections in the newly created BBMP was delayed till 28<sup>th</sup> March 2010 (Idiculla n.d.) Till the elections took place in BBMP, there was uncertainty in the role of the elected councillors of the erstwhile CMCs and TMCs. With the inclusion of these urban local bodies in the BBMP, issues of the respective wards, for instance cleaning of a blocked drain, had to get approved by the BBMP first, as the erstwhile elected councils were not in power. CIVIC Report (2008) state that with the creation of BBMP, there has been a considerable political centralisation, as there has been a reduction in the number of elected representatives when compared to the erstwhile GP and Municipal Council system. For instance in 2008, when BBMP was created, the number of elected representatives in Mahadevpura Zone (as shown in the table attached), was reduced to 10 councillors from 174.

Name of area	Earlier under CMCs and Panchayats	Under BBMP
Mahadevpura Zone	Mahadevpura CMC: 32 Corporators K R Puram CMC: 32 Corporators 11 Panchayats: Approx.110 members <b>Total = 174 elected representatives</b>	10 Corporators for Mahadevpura Zone 1 Zonal DC for approx. 5 lakh people 5 Joint Commissioners in 5 range offices
Bommanahalli Zone	Bellandur GP :19 members	1 Corporator from Bellandur sub-zone (11 villages – approx. 30 GP members)
RR Nagar Zone	Kengeri TMC: 23 Corporators	1 Corporator for the sub zone
	Corporator’s constituency: 4000-8000 people	Corporator’s constituency: 50,000 people
	12 MLAs for Bengaluru Urban	28 MLAs for Bengaluru Urban

Table 3: Elected representatives in three zones of Bengaluru

Data source: (CASUMM-CIVIC 2007)

- In the transition period (2007-08) of erstwhile CMCs and TMCs into BBMP, there was no clear schedule or timeline at the zonal and sub-zonal offices as to what functions will continue and what will be stopped.** Decision making processes became centralised with the creation of BBMP, as the zonal officials must get permission and approval of BBMP commissioner to perform their functions.
- Poor representation of urban villages and informal settlements in the urban development process:**

Urban villages and informal settlement areas have been least represented in the urban development process dialogue. It is evident that urban villages and informal settlement areas in the 110 villages, got merged administratively with the municipality in the process of the municipal boundary expansion, with not much upgradation in the physical or social

environment. These urban villages have in most cases become the preferred housing location for various classes of migrant population. A review of study done by CIVIC for three villages (Hoodi, Bellandur and Kengeri) that were merged with the city in 2007 revealed that these village provided rental accommodation to a migrant service class population. High skilled employees who can afford to pay higher rental values stayed in planned layouts. **Infrastructure provisions in the urban villages are provided by the urban local bodies and are often channelized through local politicians during the time of elections, as these village settlement areas form a major vote bank.**

The BBMP Restructuring Committee was set up at an opportune time to address the various challenges as discussed that exist within the municipal boundary and the potential challenges that will arise when the municipal jurisdiction will once again need to be expanded to reach the BMA jurisdiction. Learnings from the expansion of BMP to BBMP will serve to inform the process along with clear criteria and a road map is to be ensured the next time around.

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