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# Emergence of Channapatna Local Planning Area – An Alternative to Decongest Bengaluru, Karnataka, India

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## ABSTRACT

There has been quite a debate to understand the scope and opportunities related to the fringe areas of urban cores and their associated areas. Indeed, planners envision fringe areas as 'great alternatives' to ease out housing pressure in cities. As many of the fast growing Asian cities, Bengaluru shows quite a rapid and haphazard development in terms of urban processes. The city has expanded rather comfortably since 1990s in a concentric pattern, but presently it is facing immense challenges in terms of land availability. City planners have struggled to find solutions, while taking measures for the decentralization of city functions in the case of fringe areas. This research highlights the physical set up and the existing land use components to understand the extension and development possibilities of the fringe region of Channapatna lying adjacent to the Bengaluru city. The study area is Channapatna, which is famous for its handmade wooden toy and doll making industries. The region is a fringe area that promises to be a great setting for residential and industrial activities. Nonetheless, the paper focuses on the current villages in the region, which are generally agriculture-oriented and thus the preservation of the land use and related conservation measures are needed in a single planning platform. The study describes the demographic parameters and discusses the current land use and future planning measures. Therefore, the focus is not on Bengaluru as the Indian software capital, but on Channapatna in Bengaluru fringe area, which has tremendously benefited from the city development efforts. As such, this development includes economic growth and sustainable planning measures that would promote the co-existence of the rural and urban land uses, safeguarding the interests of the local artisans and farmers while paving the way for urbanization. This paper highlights the demographic aspects of the villages considered for a comprehensive and cluster level planning of Channapatna with changing land uses showing its prospects in toy making industries and its nearness to the main city as a promising future of sustainable urban planning and development.

## 1. INTRODUCTION

As the geographer McGee (1967) pointed out, fringe areas are nothing but the extended metropolitan areas where a neat cleavage between a city and its outskirts hardly exists. Urban history is fascinating as one may study different phases of urbanization in southeastern Asian cities, which are different from the western regions, with less population and developed infrastructures. In the sprawling cities of South Asia, it is a transformation (or addition) of fringes into the

metropolitan areas, with rapid changes of forest land and yellow fields into urban settlements and road networks. Such significant shift of land use is directly affecting the inhabitants and such issues often gain global importance. Unfortunately, cities form close nexus with wide ranges of clashing land use activities. Many urban geographers classify rural-urban fringes into inner and outer parts. The inner part is 'more' urban, whereas the outer part is 'more' rural. However, as the rural areas are slowly being urbanized, unwanted situations like displacement of existing settlements and

loss of agricultural land may also occur (Csatári et al., 2013). In fact, a strong association between cities and their fringe areas always existed through their functions. This may appear similar to what Glasson (1974) termed 'functional region', which includes connectivity between the core-city and its peripheries. In recent times, cities have established strong relationships with their corresponding fringe areas, and this has drawn criticism from the scholars of various disciplines including urban geography on the ground of changing land use components and evacuation of the dwellers (Kumar and Sinha, 2019). It is also important to understand that urbanization often brings along the challenges of inclusiveness and sustainability of land use when aiming to formulate long-lasting solutions of planned urbanization with efforts of maintaining the early agricultural fields, water bodies and forested patches.

The newer boundaries of cities keep on changing (and expanding) into their peripheries, facilitating rapid urbanization. However, the processes of urban planning should always be in synchronization with the pace of economic growth; it is highly important to strike a balance with rising economic growth, migration of the skilled labourers and growth of infrastructure to the urban areas (Larkham, 1999). This calls for an integrated approach towards sustainable urban land use. Likewise, Mumbai emerged out of some fishermen settlements, which evolved through several layers of growth and expansion and it has now become the financial capital of India, a kaleidoscope of rich historical socio-cultural footprints of British cotton mills, bazaars, planned colonies, and vibrant urban villages, with narrow streets and inadequate infrastructures. In fact, the Second World War brought certain opportunities to the various industries of India, which led to the growth of Kolkata and Mumbai in particular (Jana et al., 2015). Thus, the process of urbanization during the post-independence period witnessed haphazard growth of cities and metropolises (Siddiqui et al., 2015). The actual owners are mostly kept in complete darkness regarding the actual values of their land through land pooling ventures of the government in exchange of financial compensations (Patil and Raj, 2019). The industrial cities often witness a high degree of social and spatial mobility of people and functions due to great infrastructures and great advantages of transport routes. However, the residents of such urban fringe pockets see these attempts as 'unfortunate and most likely consequences of forceful evacuation and loss of agricultural lands', as the areas under discussion often lose their distinct identities. Generally, the process of urbanization via horizontal expansion raises positive and negative results. On the one hand, there are many opportunities with diverse infrastructural changes, employment possibilities, but on the other hand, the abrupt change of land use with

receding green fields and vanishing forests make the renewable resources limited in supply. The peri-urban landscapes of ASEAN (The Association of Southeast Asian Nations) cities like Bengaluru, the software capital of India, are presently undergoing profound transformation, with spatial and functional changes and expansion into the rural landscapes (Labbé, 2015). The city of Bengaluru, with a concentric expansion, now caters for the needs of its growing population at its periphery in terms of land for housing, infrastructures and offices. These may apparently look promising to generate employment opportunities, but are alarming for the very existence of the rural land and its specific uses. The aim of studying Channapatna as one of the important suburban regions of Bengaluru is to understand its prospect as a 'cluster' development area. This would promote the prospects of urbanization and conservation of the rural livelihood in the future. The study would throw light on such case studies that may pave the way for further planning for similar regions in Asia. Moreover, it is a reference point for the different parameters to be dealt with in a changing scenario targeting rural livelihood transformed into urban activities, where population management and alternative employment opportunities remain challenging. Thus, it would help the city planners, geographers, economists and sociologists to come together for a better future of the city level planning.

## 2. LITERATURE REVIEW

During the early nineteenth century, the European concept of cities and their fringes were found in the studies of Indian cities and township, as well (Berry and Rees, 1969). In this context, the term *Chengzhongcun* is often used by the Chinese geographers meaning, 'city wall' or 'in between' or 'agricultural village'. It literally means 'village in between the city walls' (Sagnières, 2015). Unfortunately, they are often compared to slums with degraded buildings, inadequate basic facilities and hazardous location (UN, 2003). In order to avoid such chaos, it is often recommended by the government agencies to plan for the urban fringe area in a much more sustainable way. As it is sometimes the case, although important differentiation can be made between various experimental city categories, there are many significant conceptual overlaps. Town planners relegate urban, regional-urban and regional-political economy to the periphery and place town planning at the centre. This is a conservative situation as most town planning education places greater emphasis on plans and very little on how cities and regions work. This remains obsolete as specialists now try to understand the gains (and losses) in the quality of life and economic standards as the urbanization increases. Specific cultural traits and practices spread over various places

through urbanization understood as a process of hierarchical diffusion. This represents a positive impact, but the loss of agricultural fields, forested areas and expansion of urbanization create negative consequences.

*“The spaces where countryside meets town are often amongst society’s most valued and pressured places, which together form the rural–urban fringe”* argue Scott et al. (2013, p. 1). Environment protection is presently everyone’s concern; therefore, any future planning should mandatorily include conservation efforts. It is nothing but an attempt to practise preservation of green areas and natural resources in an urban setting. There is an additional crisis-associated dynamics in the post COVID-19 time; it is important to maintain the rural and urban characteristics for a better management of human and natural resources when the situation demands it. The cases of ample urban sprawl in Vietnam have led to the growth of haphazard slums, and now the state is striving to give full coverage to the slum dwellers by providing civic services and social securities (WRI India - Ross Centre, Ford Foundations, 2020), abiding by the adage: *“the ones who stay inside during the rain are the ones who will be at our door during the harvest, asking for food”* (Melu, 2021 p.17).

Consequently, it is important to keep in mind that even though fringe areas are usually dedicated to crop growing, they are steadily, though abruptly engulfed by the cities in the process of expansion. What is permanently lost is the vast extent of green farms and fertile lands that feed the population, especially in a densely populated country like India. An effective two-fold mechanism may be sustainable in this context, namely one that would ensure conservation of the fertile soils in fringe areas, on one hand and, on the other hand, urbanization that would promote lesser fertile land for urban settlement with vertical expansion of residential areas. However, India sees urbanization in a negative light, as it brings with it the evils of slum demolition, land privatization and pooling by authorities, as well as the struggle for existence in the name of gentrification (Richardson et al., 2019). An idea on urbanization of India in the future may be somewhat understood from the Table (1).

Table 1. Urbanization in India- future unfolded.

Experts estimate **180 million** rural people will live in adjacent to India’s **70 most largest urban centers**, a number that will increase to about **210 million by 2030**  
**By 2030, 60 million** residents will reside in Indian cities and there will be literary one **Chicago** formed every year

Source: UN-Habitat (<https://unhabitat.org/india>).

Following such estimate, the UN-Habitat (2022) provided several guidelines (popularly known as UN-Habitat Strategic Plan 2020-2023) to sustain both rural and urban areas as listed below: a) minimising spatial inequalities like infrastructural facilities, especially across the rural-urban continuum; b)

enhancing the scope of cities and their regions in terms of healthy and well-knit living activities; c) strengthening the actions to maintain environmental balance (temperature moderation measures and air quality monitoring); d) preventing all kinds of urban crises and illegal activities, while prioritising development-appropriate actions.

Following the United Nations Wall Chart Estimates for 2014 it has been concluded that most of the South Asian countries have an estimated increasing trend of urbanization in the coming years, Iran, being the leading one, followed by Maldives, Bhutan, Pakistan and India (UN Habitat, 2015). In the countries with huge population pressure, urbanization poses quite a challenge for the sustainable and simultaneous growth and development (Fig. 1).

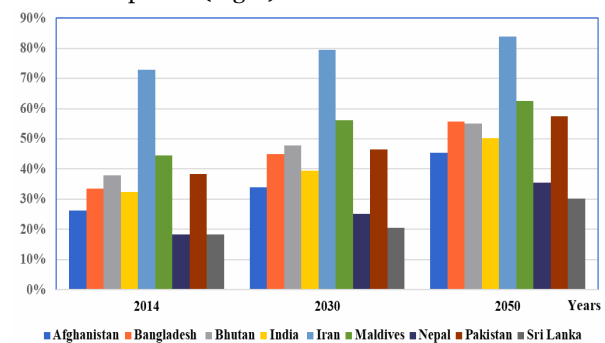


Fig. 1. Distribution of urban population (%) in the South Asian Countries - actual and expected (source: UN 2014).

Table 2 depicts the urban growth rate, though projected, for the year 2030 and 2050; we can note that Nepal shows a rising urban population, whereas India shows a stable increasing trend. It is important to address the effects of urbanization like growing slums, shortages of urban infrastructures, and rapid changes in land use so as to promote sustainable urban planning.

There is a sense of optimism though, specifically after understanding the urban trends of the countries where urban planners and architects would capture every opportunity to build an inclusive ‘green’-textured, resilient urban planning initiatives for the city and fringe areas. Urban geographers confirmed that a city-region should be an area of considerable size that would include many small urban units, a few medium sized cities and very few large cities like in the case of The Republic of Korea and Washington DC (Berry and Garrison, 1958). But what exists in between are the vast stretches of rural land that would eventually come under the urban influence and be transformed into an urban continuum (McLoughlin, 1994). It is important to understand that when there is an uncontrolled expansion of urban settlements, sustainability is never a possibility. Increasing energy consumption, extensive travel and reckless use of available energy resources would further complicate the process (Suzuki et al., 2013). The main aim of proposals for the holistic development of Bengaluru is complex. It should protect

the natural ecosystem while tapping resources to suffice the needs of the growing urban dwellers and support appropriate balanced development (Patil and Raj,

2019). What follows next is an urgent requirement to use a dynamic metropolitan growth concept nurturing the relationships between city and fringes (Sen, 2013).

Table 2. Projected growth rate for urbanization.

South Asian Countries	Urban			Rural			Urban		
	2014	2030	2050	2014	2030	2050	2014 (%)	2030 (%)	2050 (%)
Afghanistan	8221	14788	25642	23059	28712	30909	26	34	45
Bangladesh	53127	83160	112443	105386	101904	89504	34	45	56
Bhutan	290	430	539	475	468	441	38	48	55
India	410204	583038	814399	857198	893339	805652	32	39	50
Iran	57170	72544	84358	21301	18792	16241	73	79	84
Maldives	156	245	315	195	191	189	44	56	63
Nepal	5130	8235	12979	22991	24619	23501	18	25	36
Pakistan	70912	107880	155747	114221	123864	115335	38	47	57
Sri Lanka	3929	4868	7190	17517	18864	16644	18	21	30

### 3. DATA SOURCES AND METHODS EMPLOYED

This paper is based on three stages of research (Fig. 2).

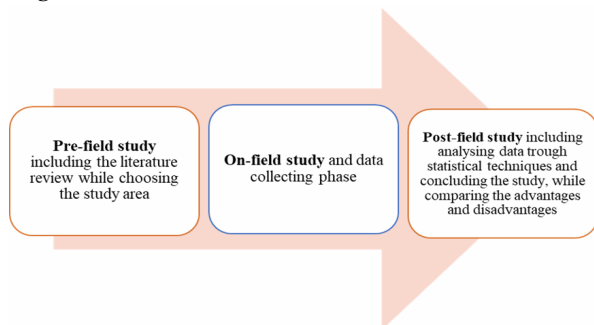


Fig. 2. Methodological flowchart.

The first stage is an elaborate review of the literatures of the concept of rural-urban fringe areas available via libraries and of course internet sources. Since there have been many talks about the growing urbanization especially in the Asian cities, there was a growing need to look into such cases using some Indian examples. The sources of data and information in this stage were mostly secondary. The second and the most important stage was definitely the data accumulation and analysing stage where census data on population, literacy, gender, occupational status along with land use map obtained from the official websites of government authorities were considered. Also, aspects like rainfall distribution (and few physical parameters) came into the discussion, as Channapatna has to cater to the need of growing population as a potential urban area. The third stage is when the analysed data and the land use in particular including the villages were gauged in respect to some advantages and disadvantages. The methods of analysis is mostly statistical but the researcher believes that there is a humanistic approach

towards understanding Channapatna lying close to Bengaluru yet unique with its toy making activities. Figure 2 highlights the stages followed to prepare the article in a nutshell.

### 4. STUDY AREA

Channapatna is located in the Bengaluru rural district, which is situated in the south-eastern part of Karnataka state, India. It stretches between the north latitude 12°15' and 13°31' and east longitude 77°04' and 77°59'. The district is bounded by Kolar and Tumkur in the north, Mandya in the west, the Chamarajanagar district on the south and the Tamil Nādu state in the south-east. It is generally served by roads, railways and airways along with the national highways crossing the district. The latter does not only connect Bengaluru with the state capital, but also with other major cities such as Hyderabad, Pune and Chennai. Moreover, the inner villages are well connected by metalled roads that ensure better movement of people. The Bengaluru Metropolitan Region, popularly called the BMR, encompasses an area measuring over 8,005 sq km, housing a population of nearly 12 million people (Census of India, 2011). The city and its region consist of three adjoining districts namely, Bengaluru Urban, Bengaluru Rural and Ramanagara (that includes the taluks or blocks of Ramanagaram, Channapatna, Magadi and Kanakapura). The city administration is planning to give Channapatna Taluka the status of Local Planning Area (LPA), and thus the aim of this study is to analyse the prospects and constraints specific to these circumstances. The Local Planning Area includes villages of Channapatna, Malur and Virupakshipura, and interestingly Channapatna villages are less in number (and population) as compared to other two sub-regions (GOK, 2021). This proposal

targets its development as an alternative for the sprawling population of the main city while maintaining its indigeneity amidst the fear of losing the agricultural fields, which represent their source of survival. Such a Local Planning Area often refers to a particular geographical area that goes through a definite planning process, generally considering local government-approved jurisdictional boundaries, like a city or its neighbourhood. Channapatna has greater scope of urban development. However, its people fear the issues of displacement and evacuation from their places of residence. The local factors, like the presence of water supply or watershed (or flowing water, such as rivers), vegetation (thick or scattered) and climate, as well as the resource status (rich or poor) and degree of resilience, are thus important to consider in this attempt for development. In fact, a primary level interview was conducted while visiting Channapatna that made the study complete (Fig. 3).

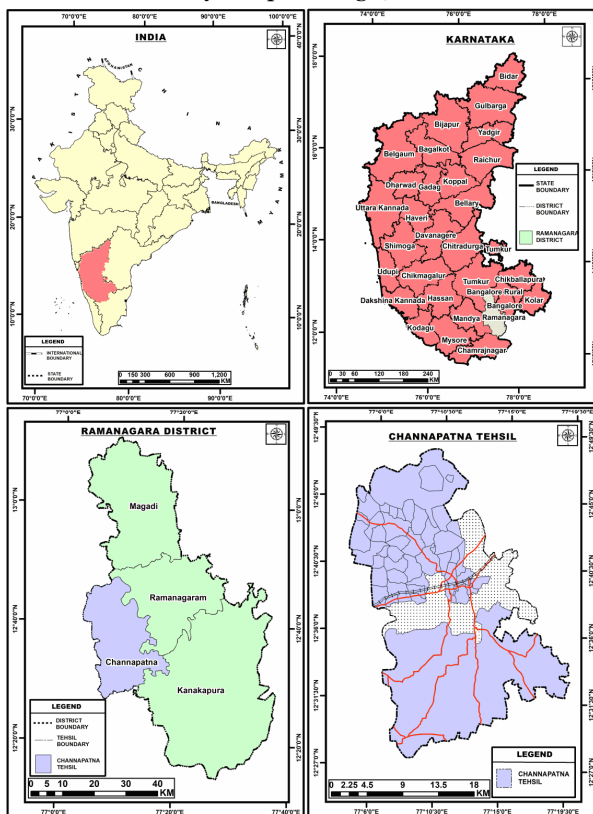


Fig. 3. Location of Channapatna Local Planning Area (LPA) (source: GOK, 2022).

Channapatna is well known nationally (if not, globally) for its wooden toys and small furniture making industries along with sericulture. Thus, to make this region more familiar to the buyers in the international platform, the LPA has been named after it.

## 5. RESULTS AND DISCUSSION

Channapatna region was studied from the perspective of several basic parameters like rainfall, ground water level, relief features and soil conditions,

which form the prerequisites for any geographical study, especially in the case of the rural areas where urbanization has been considered. The availability of ground water is below the satisfying level, as nearly 97% of the Channapatna taluk region has already been over-exploited since 2008 (CGWB, 2008). It should be noted that the availability of basic services like drinking water and water for other purposes is important for planned urbanization. Therefore, alternative measures like storing rainwater and recharging the groundwater naturally or through artificial methods may be useful. Channapatna region is primarily covered by reddish loamy lateritic soil with overlapping granite-gneissic bed. The water table reaches 2.14 metres during rainfall but often comes down to -0.10 metres width during the drier months of the year.

In fact, hydrogeomorphologists strongly suggest that since the region of Channapatna is topographically rugged with gully erosion and faulted regions at places, there may be some reservoirs to store water through percolation and collection processes. The fringe areas of Bengaluru are the next alternatives for accommodating its growing population, therefore norms like rain water harvesting on the rooftop areas should be suggested (UN-Habitat, 2022). Figure 4 below shows moderate distribution of rainfall in Channapatna, which is not as high as in Ramnagara taluk, yet not as low as in Magadi taluk.

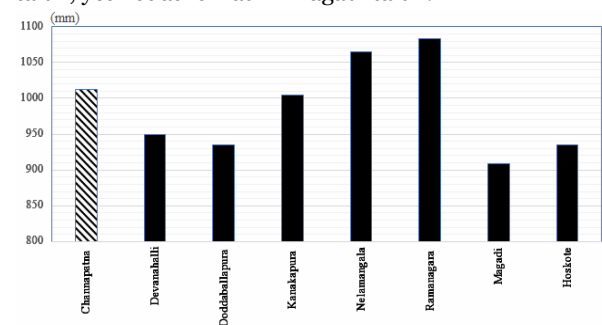


Fig. 4. Distribution of mean rainfall (mms) in Taluks in Bengaluru Rural District (1996-2022) (source: CGWB, 2008).

### 5.1. Demography and other related parameters

The region under study consists of about 100 villages, it is in close proximity to the Bengaluru city and it has been foreseen as a Local Planning Area. These villages are analysed based on the number of households present in the study area, population number, literacy rates (both male and female) along with workers and people belonging to economically weaker sections. The villages were mainly analysed according to the above-mentioned parameters via the method of Composite Index. In this method, the demographic parameters are assigned weightages; the eight demographic parameters considered in this case are as follows: 1). Households - given the maximum weightage of 8; 2). Total population - given the



weightage of 7; 3). Total literates - given the weightage of 6; 4). Total workers - given the weightage of 5; 5). Total main workers - given the weightage of 4; 6). Total population in 0-6 age group - given the weightage of 3; 7). Total population in SC category - given the weightage of 2 (SC or Scheduled Castes defined as castes, races or tribes or part of or groups within such castes, races or tribes as are deemed under *Article 341* to be Scheduled Castes in the Constitution of India; 8). Total population in ST category given the weightage of 1 (ST - Scheduled Tribe Such tribes or tribal communities or part of or groups within such tribes or tribal communities as are deemed under *Article 342* to the Scheduled Tribes in the Constitution of India.

The number of houses and population are given the maximum weightage as these parameters are most important for urban growth and to accommodate them in the new urban structures of Channapatna Local Planning Area. Houses and population are given the maximum share because these factors are important to measure the general workforce available in the area. They are followed by literates, workers (total & main or primary), and population in 0-6 age groups and those belonging to economically weaker categories. Literacy and working status are important to perceive the level of development in the region.

The literacy scenario is important to understand the basic level of skill development and their capability to understand the training programmes and job-oriented workshops in future. The children population is also considered to understand the future workforce in the region. The population in economically weaker sections is observed for the sole reason of their development in particular. Workers here are mostly engaged in handloom industries, toy making factories and agricultural activities. The villages with lower number of households and population, lower literacy, unsatisfactory working status are categorized low in levels of development (Table 3).

Table 3. Development level of the villages in Channapatna LPA based on demographic parameters (2011)\*.

Composite indices	Level of development	Villages (no.)
0-50	Low	78
50-100	Medium	22
100-150	High	3
>=150	Very High	1

\*Total houses (8); Total population (7); Total literates (6); Total workers (5); Total main workers (4); Total population in 0-6 age group (3); Total population in low-level economic category I (2); Total population in low-level economic category II (1). Source: *Census of India (2011) Provisional Population Totals, Karnataka*.

Decades before, there could have been an easy solution to improve the levels of development, which are mostly low for the villages in Channapatna. Urbanizing the area while compensating the land owners with financial assistance and industrialization could have been easier for ‘upgrading’ the area. But, in

terms of Sustainable Development Goals, inclusive cities and their regions should be equally sustainable with balanced groups of land use components (agricultural fields and settlements; woods and orchards, industries and gardens, rainwater conservation and vertical farming). The aim of the government and city planners is not to eradicate the already existing land use and set up new urban areas with buildings and road infrastructures; they rather insist on the conservation of the rural land use. *In situ* growth of the existing cottage industries with institutional support and thoughtful urbanization may support long-term sustainability and employment facilities. Figure 5 below shows the distribution of households and population in the three sub-districts of Channapatna, where Virupakshipura records the highest values in the case of both parameters.

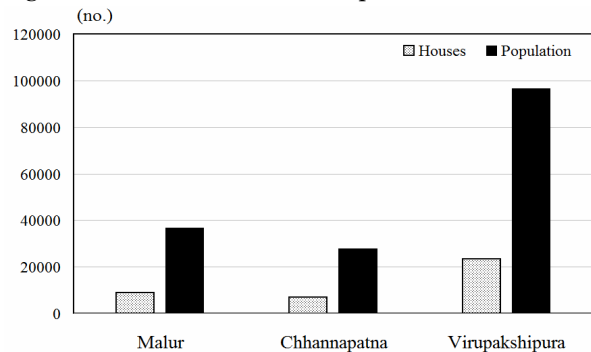


Fig. 5. Distribution of houses and population in Channapatna LPA (2011) (source: *Census of India, 2011. Provisional Population Totals, Karnataka*).

### 5.2. Land use

It is often suggested that a green landscape and stable economy are more useful to an urban area to survive. An area of serious concern is increasing challenges towards the access to food grains and threats of shortages (as the rural fringes are slowly under the process of urban ‘spread’ effect) (Feldman, 2021). In such situation, the Local Planning Area of Channapatna showed a distinctive alternative. Administratively, it encompasses three major sub-regions (hoblies) namely, Maluru, Channapatna and Virupakshipura (of Channapatna taluk, Ramanagara district) including over one hundred villages. These villages were analysed and considered based on various parameters such as population, households, literacy and working status to understand Channapatna better in the light of socio-economic activities.

### 5.3. Cluster planning or comprehensive planning?

Channapatna is considered to be an integral part of the Cluster Area Development initiative of the Government of Karnataka. It has been projected to be an area that may be brought under steady economic

growth as a corollary area of Bengaluru city that would also support the development of domestic and regional corridors in the neighbourhood. “Planning for Clusters” is defined as an area or a region of comfortable size with a development plan for achieving multiple goals of economic growth, health, safety, welfare and other components of well-being. According to Choe and Laquian (2008), such clusters are typically characterized by the following features:

- a well-knit urban specific infrastructural facility that would meet the growing needs of an expanding city and its fringe area;
- such integrated approach would minimise the cost of production as it would serve greater number of population (i.e., investments in dams and water reservoirs, power resources and rapid transit system);
- clusters also accelerate and promote the growth of private sectors with more investment opportunities and this way the available human resources in the area would be utilised properly;
- clusters generally provide wider scope of collaborative and participatory governance, which encourages smooth taxation policies, land pooling activities and compensation activities;
- they ensure balanced and inclusive strategies for the area as a whole assuring better utilization of available resources and also generating newer opportunities in the course of time;
- the clusters are generally holistic region-based approach which arrests unhealthy growth of slum areas and illegal squatters;
- out of the 17 Sustainable Development Goals, there is an urgent need of maintaining environmental qualities of cities and its regions. Clusters thankfully consider environment management as one of its priorities and take into account the thoughtful and sustainable use of resources.

Channapatna Local Planning Area including 100 villages has been planned in such a way that 40% of its area will be covered under residential land use activities. The remaining 60% of the land area would cover almost 55% of land for software and other industrial activities. The remaining 5% would be kept for commercial activities to cater to the trading and commercial activities. These land use zones would each maintain 10% of their allotted land to the maintenance of park and open spaces. Additionally, provisions have been made to encourage the methods of rainwater harvesting in the new residential buildings in plots measuring 4,000 square metres and more.

However, comprehensive planning involves multiple technical, political, legal and other infrastructural components, which may be phased into several planning stages starting from short term micro-level planning up to long term macro-level planning (Vij et al., 2018). Moreover, such comprehensive planning should encompass the major task of identifying the

problem areas and find appropriate solutions by using specific planning tools. Generating the solutions to solve the problems and implementing them for regular monitoring is of utmost priority (Ghertner, 2014).

From the above discussion it is clear that cluster-based planning addressing local parameters is far more effective for development at regional level. Thus, the Master Plan for Bengaluru city and its region is inclined towards cluster-based planning. Channapatna is included in the cluster development project along with Malur and Virupakshipura (Fig. 6).

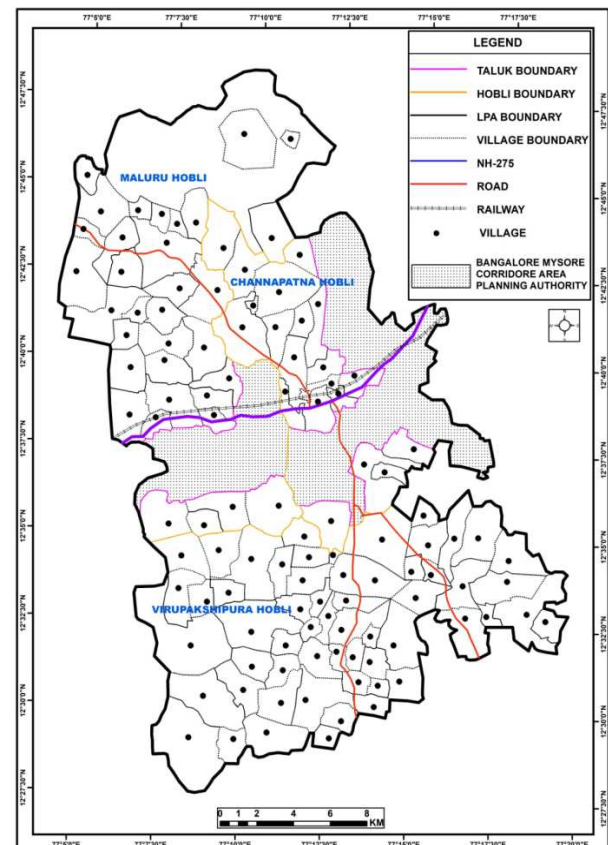


Fig. 6. Channapatna LPA - a planned cluster approach (2021) (source: GOK, 2022).

This particular cluster is located quite close to Bengaluru and has the potential to evolve as an industrial area with a tourist centre. The residents of the cluster area are in a financially poor condition with limited employment opportunities. They are employed as workers in agro-based industries and tobacco growing, with major initiatives on toy making (mostly wooden) and related trading activities. Besides, activities like sericulture, including manufacturing and twisting of raw silk are predominantly performed in both Ramanagara and Channapatna regions. Moreover, traditional and advanced small-scale industries (like wooden toys, lacquerware products, door curtains, powder boxes and napkin rings, jewellery) are found in Channapatna region (Fig. 7). It should be noted that around 5-10% of the wooden toys are made in Channapatna, while other products like car seat covers,

salt & pepper shakers and napkin rings are also produced mainly for export.



Fig. 7. Wooden Toy of Channapatna (a personal collectible bought from Channapatna local shop).

A Lacquerware Craft Complex has been established here by the Karnataka State Handicraft Development Corporation Limited, which also has a manufacturing unit there with equipment rented out to individual craftsmen on a monthly rental basis. The region is also flourishing in coconut-based industries and automobile engineering industries, generating remarkable opportunities for employment. Besides, brick making, carpentry, masonry and making of coir products have flourished in this region as alternative income sources. They use woods from the nearby forest region to make wooden furniture and bamboos for coir mats. They also work in nearby brick making factories as well. Tourism has also thrived in this cluster, which is located in the vicinity of certain historical places such as Janapadaloka (from the medieval period) and the seven hills of Shivaramagiri, Yatirajagiri, Somagiri, Krishnagiri, Revanasideshwara Betta, Jalsiddeshwara Betta and Sidilakallu Betta. Also, Kanva Reservoir along with Kanva Maharshi Math, Brahmanya Teertha Brundavan, Maluru Aprameya Swamy Temple and Kengal Aanjaneya Swamy Temple are noticeable places of attraction in Channapatna. As mentioned earlier, the region is well-connected by the state highway (no. 17) that extends into both the Bengaluru city, within 50-60 kilometres towards north-east, and Mysore, located 80-100 kilometres away, on the south-west direction. Additionally, the state highway no. 03 goes through Ramanagara and links the other clusters of Magadi and Kanakapura.

## 6. CONCLUSIONS

It is always true that any kind of changes, be them physical, infrastructural and social are always significantly perceived in any urban areas. It is important, thus, to place great emphasis on urban

issues, especially on the public enterprises and the private sector (Ahluwalia, 2015). Therefore, it is also wiser to take more decisive and effective actions to tackle the erratic climatic components, biodiversity loss, pollution impact, inequalities and conflicting ideas. With only eight more years to go before achieving the 17 SDGs (15 years for New Urban Agenda), local actions and the participation of the end users (farmers and toy makers, in this case) is of utmost relevance to achieve the conservation of the existing land use. Coping with the rapidity of any kind of urban related changes and economic growth, as a result poses quite a great deal of challenges for cities its residents and their living pattern (Schenk, 1997). Over the past few years, however, sustainability in social sectors has influenced urban policies to cater for the needs of sensible, thoughtful and equitable distribution of both physical and social resources (*i.e.* well-being), driven by conservation reasons (Condie and Cooper, 2016). Nevertheless, in order to transform a periphery 'work' into an alternative, decentralized area for the sprawling population of the adjoining cities, it does not necessarily involve a complete metamorphosis to a non-agricultural land use. Alternatively, in such a complex structure of urban morphology, efforts may be made towards suburb development, preserving the agricultural land and wetlands, with land pooling exclusively meant for limited urban land-use (especially for countries like India, where the primary occupation is still the dominant one) (Chen and Shin, 2015). For instance, early residential designs of suburbs in The United Kingdom consisted of quite a few houses where the rich people usually lived, but in the years after 1990, one witnesses the development of Local Planning Area in the suburban areas to cater for the needs of the growing population in The UK. Therefore, it is important to gear up the development initiatives with regard to Sustainable Development Goals (*i.e.*, Goal No. 11) that highlights inclusive and sustainable urbanization with comprehensive human settlements to grow for all (FAO, 2019).

But the rural indigeneity is at its age-old dilemma of co-existence or no-existence at all. Magadi Taluk exists in the rural fringe of western part of the City of Bengaluru that has been viewed, planned and kept well-tracked for a reasonable alternative in order to decongest the city and, at the same time, upgrade the fringe area into the most sought after 'space' of living (Sen, 2013). Often, people and their 'functions' move in the neighbourhoods with new homes that may not match the already existing set up of the people living there. The notion of fringe is that where the process of urbanization spreads into the rural areas which poses threat towards the very existence of the local crop growers (Sen, 2016).

This paper is a research study of the fringe area of Bengaluru which may be treated as a cluster-



region based on a development attempt to achieve holistic growth. The spatial expansion of Bengaluru into its fringe area (*i.e.* Channapatna) may be gauged through the lens of urban planning with a sustainable approach. But such a study should be updated at a temporal scale with regular time intervals to identify the gaps, if any, between what has been planned and what has actually been achieved. Such apprehensions are, however, not readily possible with the research materials, demographic data and planning proposals currently available, and several issues like

sustainability, impact of urbanization on human rights *etc.* should be addressed (Nijkamp et al., 2015). An ‘urban place’ generally has a ‘fringe’, which is viewed by the city planners as an alternative area to accommodate expansion and renewal of the urban core.

However, Channapatna, as an integral part of the Bengaluru city, does not remain confined to being an alternative for urban expansion. To better observe its overall scope, the advantages and disadvantages faced by the villages and their dwellers in the region are presented in Table 5.

Table 5. Channapatna Region - at a glance.

Advantages	Future goals
1). There are more than 100 villages coming under the cluster planning, which are mostly poor and low in development indices based on parameters like population, occupation and literacy. 2). The employment facilities in the region are restricted to the village level of cottage household industries, such as toy making, cooking utensil, silk manufacturing and coconut-based industries. 3). The region is well known for its colourful wooden toys and puppets that may be further expanded as far as its marketing and standardization is concerned. 4). The study area shows a very scanty, lower than average distribution of population in most of the villages brought under Channapatna Local Planning Area.	1). This has been considered while toy making and household wooden industries are encouraged to sustain the people who are dependent on this type of occupation. 2). Channapatna with its cluster-planning efforts has been considered for building several technical support facilities, such as institutes and centres for providing skill-based training to these workers and artisans. 3). Channapatna’s wooden toys and artefacts are planned to be highlighted (for the international market) through e-commerce sites. This would generate demand and thus employment facilities. 4). The region would have opportunities in the fields of infrastructural changes, namely building industrial sites, residential houses, or IT hubs that may be well-accommodated. 5). Planning authorities would face relatively fewer challenges related to land pooling and corresponding compensations due to the lower number of inhabitants and their land holdings.

Source: Census of India, (2011): Provisional Population Totals, Karnataka Government of India (computed by the author).

Such opportunities (or advantages) and constraints (or disadvantages) of the study area should be considered by the Channapatna Local Planning Authority for a balanced urban development (Bengaluru and its region or fringe areas) conserving the traditional art or toy making industries while making ways for other industries proposed by the state government. It is not a mere argument on the comparison between the importance of rural areas over urban settlements or *vice versa*. It is indeed an inclusive approach meant to strike a balance that may be achieved through planning for the conservation of rural areas and sustainable urbanization. In fact, it is the thoughtful approach towards conserving the green and renewable land use making way to urban expansion in a sustainable way. Bengaluru has previously been subjected to a leap-frogging pattern of urbanization, with a rapid and unplanned infilling process into its neighbourhood, but at present the dwellers hope for a conservation approach towards the process of urbanization that remains inevitable (Sastry, 2008). The study on Channapatna, however, has its limitations. Aspects like land use, population, its densities and migration to the city have not been entirely covered here and, since the demographic parameters keep on changing and so do

the land use, a time to time survey may be useful in the future. Nevertheless, for understanding Channapatna, the urban and regional planners may refer to the data and analysis provided in this study.

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