Chapter I

INTRODUCTION

This chapter comprises of the discussion on the topic of study, gives an introduction to the research subject and the importance of implementation of spatial plan and its associated challenges. The significance of the study, general framework, the study area, aims & objectives, methodology, data analysis, scope & limitations and flow chart of the organization of work is covered.

1.0. Background

Cities are in constant change. The older parts of the city witness transformations, while new areas are opened up for urban expansion. Spatial planning facilitates transformation and enables growth of urban areas, in a balanced, equitable, environmental friendly manner within the socio-economic context. The process of spatial planning with a regulatory framework and implementation mechanism and instruments guide the urban development.

India has 7935 cities and towns. Metropolitan cities in India are considered as vital economic, cultural, political centers and are also regarded as a crucial hub for regional as well as international trade and communications. The Census 2011 reveals the increase in the number of Million Plus cities to 53 from that of 35 in 2001. The population of these metros adds up to about 160.50 million accounts for nearly 13.26 per cent of the country’s total population and 42.56 percent of the total urban population according to 2011 provisional census. Such rapidly increasing urbanization, creates many opportunities and challenges. The associated problems are infrastructure deficit, housing shortage, poor sanitation, inadequate health; urban slums, poverty & unemployment and environmental degradation pose formidable challenges.

In the urban-scape of metropolitan cities in India, the city structure comprises of central/inner city with old city, and cantonments, planned developments such as layouts, extensions with the efforts of organisations such as development authorities, boards, etc; unauthorised colonies- revenue layouts, slum squatters/ old urban villages. These are often locked within the city landscape with poor infrastructure
provision. According to a 2002 NSS report on ‘Housing Conditions in India’, 22 cities with more than a million people, have slum population ranging from 10 to 54% of their total population; In larger metropolitan cities (one million plus) a feeble formation of Central business district with predominantly services activity and often, aspiring to be a part of the global services economy; and a larger region or a hinterland comprising of two or more towns, villages linked with the road networks. The remaining land is the agricultural area and vacant undeveloped land. According to the census 2001, the spatial growth differentials of mega cities in India substantiate that, in case of Bangalore, the Bangalore Urban Agglomeration is experiencing a very high spatial growth followed by the high density, high rise and growing infrastructure stress on parking, road space, open spaces, amenities and services. Whereas, in Delhi, the periphery is witnessing growth. The activity of spatial planning revolves around the organizing the territories and complexities associated with it for sustainable development. The preparation of the Master plans/Spatial plans according to the respective state acts for the stipulated time horizon/frame. There are over 2400 Master Plans prepared for different areas across the country.

The spatial plans in form of Master plans are significant as a statutory document. They serve as policy for implementation of proposals. The main content of the spatial plans include plan proposals comprising of the land use zoning, in form of two dimensional land use, road network pattern existing/proposed to be developed, civic amenities, as well as identification of environmental features such as parks and open spaces. The land use, zoning regulations serve the purposes of controlling the density through FAR, building height’s and stipulated coverage’s of the plinth for the building. The final goal of the planning process is to enable and facilitate implementation of the plan proposals over a period of time. In the current situation, the instances, where the plans have been implemented in parts and or in whole are few. Plans are continuously redone or updated without regard to the implementation status of the originally prepared plan. The lack of an understanding of the degree to

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2Failure to implement plans has long been considered a significant barrier to effective planning (Berke et al, 2006). Calkins (1979) names the lack of plan implementation as “New Plan Syndrome”: 
which plans are implemented and of the determinants of effective implementation has hindered planners from making better plans.

The larger responsibility on planning and its implementation is to respond to the objectives of “inclusiveness” and to the current climate change implications of development. The UNDP, Millennium Development Goals urges for ensuring environmental sustainability and reduction of the percentage of the population under extreme poverty. This is similarly echoed in the discussions on climate change where the importance and inter-linkages of social and environmental equity in development is emphasised.

The lack of strategy, the lack of appropriate mechanisms, tools, techniques, resources coupled with lack of political will, adds to the track record of poor implementation. The key question is then, What planning system encourages the development and thereby implementation? , what mechanisms/instruments of implementation are to be introduced for effective implementation within the available resources and mobilized from the state /any other institution?

Metropolitan cities by the virtue of economic growth and population contained in them, creates significant opportunities to explore plan systems, mechanisms and use of instruments for development. Land, housing and development is slowly emerging as markets, though they are distorted. Since liberalization, the role of state is slowly witnessing change from that of the provider to that of the “regulator”.

The repealing of the erstwhile Urban Law Ceiling Regulation Act ( UCLRA), Rent Control Act has enabled larger role for the private sector to participate in housing and urban development. The lower budgetary support from the state, increased private sector and citizen participation, enhanced private sector participation in provision, management and realization of the plan is becoming important. The role of the state in preparing plans, setting up of mechanisms, instruments and oversee effective implementation of spatial plans is a priority. It is increasingly assumed that the spatial plans along with the planning mechanisms/ instruments should resolve planning problems either with or without financial intervention by the Planning and Development or Local Authorities.
Sustainable urban development means achieving a balance between the development of the urban areas and protection of the environment with a focus on equity in employment, shelter, basic services, social infrastructure and transportation in the urban areas. In this context, unlocking the potentials of spatial planning with its mechanism/instruments/tools for implementation as well as the use of planning schemes are becoming increasingly relevant. Newer and effective ways of facilitating the implementation are needed.

1.1. Need for the Study

Policy makers and researchers in India have focused on the generation of resources needed for the plan implementation. With the introduction of the RFCLTA, land mobilization through expropriation by land acquisition and its development is no more an easy task to accomplish. Wide participation in the development process is required for the success. The idea of using a scheme for implementing the plan as well as to generate resources is current and used in Gujarat\(^3\) in form of land pooling and reconstitution. The usage of instruments such as the TDR in Maharashtra/Bangalore has been limited.

Land based (non-property) taxes devolved to the local authorities for resource mobilisation will act as resource generation at the local level. The need for urban development to be self-financed, increased private sector participation and obstacles for land assembly, in both for green/Brownfield conditions, makes it necessary to innovate mechanisms/instruments. There is an urgent need to enhance the content of the plans and to devise instruments that can address issues of implementation while furthering the planning objectives. The tools must work in a complementary and consistent way to ensure both a proactive and coordinated approach to managing development in accountable and transparent manner. It is particularly important that plans are considered corporate documents owned by all sectors of government and rather than as an external imposition. This means that they need to be prepared in an open and collaborative way.

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\(^3\) Town Planning Schemes, Planning for Infrastructure, 3i Network, India Infrastructure Report 2006, Oxford University Press, Mumbai, 2006, Pg 75
1.2. Study Area

Bangalore⁴, the capital of Karnataka State is one of India's fast developing city with an average annual growth rate of 4.80 per cent and population of 9.5 million (census 2011). Today, it is India's the largest city, the momentum of its industrial and commercial growth unequalled in the country. Bangalore is located at 12° 50' North Latitude and 77° deg 57' E longitude, over the ridges delineating four water sheds, viz. Hebbal, Koramangala, Challaghatta and Vrishabhavathi and is situated at an altitude of 920 m above mean sea level. The mean annual total rain fall is about 970 mm. The salubrious climate all around the year has enabled in attracting the investment in technology and other sectors.

Fig 1.0 Indian Map

Fig 1.2 Karnataka District Map.

Source: Survey of India

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⁴ The name has been changed to Bengaluru since 2012. However for the thesis purpose, Bangalore is utilized.
The Bangalore Metropolitan Center is comprised of the area of Bruhat Bangalore Mahanagara Palike (BBMP) or Greater Bangalore which was formed on November 1, 2006. This covers an area of 800 sq.km and houses a population of 8.43 million (Census of India, 2011). The spatial planning process in Bangalore is governed primarily by the Karnataka Town and Country Planning Act of 1961 (KTCP) Act but also two other statutes, viz, Karnataka Municipal Corporation Act 1964, and Bangalore Development Authority Act, 1976. Amongst the cities that have potential for the deployment and development of instruments for implementing the spatial plans in India, Bangalore, as a metropolitan city qualifies on several counts. The city’s development implementation requires resources and planned actions. The city’s urban structure, socio-economic condition, the city dynamics, along with the
aspiration of becoming a global centre while playing a key role in defining the national level urban practices, offers potential for development

1.3. Aim and Objectives

1.3.1 Aim

The aim of the research is to study and develop strategies for implementation of spatial plans in Bangalore Metropolitan Area.

1.3.2 Objectives

The objectives of the research are:

1) To appraise the implementation mechanism and instruments in selected metropolitan cities in India and abroad.

2) To study the mechanisms, tools and instruments available for the implementation of spatial plan in Bangalore Metropolitan Area.

3) To assess the effectiveness of implementation of spatial plans in Bangalore Metropolitan area.

4) To propose strategies and policy guidelines for implementation of spatial plans in Bangalore Metropolitan Area.

1.4. Methodology

The research follows a structured and sequential approach. The study has utilized a number of techniques and methods for obtaining various inferences in the study. In the first step, review of the literatures has been carried out, this includes the various government documents (master plans, report on urban reform, Census trends, urban studies statutory documents, budgets, annual reports) and theoretical writings by eminent scholars through journals/technical papers by accessing various databases/online repositories and physical libraries. The remote sensing data in the form of satellite imagery for mapping of the data has also been collated and modified to form information in GIS complaint platform. Primary data collected through the use of structured questionnaires, interviews, checklists from various actors involved in the planning and implementation has also been carried out. The various plans,
mechanism/instruments/tools utilized in the planning and implementation is identified and studied.

The outcome of the literature survey stage is to provide a theoretical foundation with concepts and insights for further investigation into the study area of Bangalore Metropolitan Area. The appraisal of the planning systems and the use of instruments have been carried out through comparative cases study. The choice of cases as data samples selected from developing / developed metropolitan cities has offered insights. Similarities and differences is presented in a sequential manner and matrix form are used to identify instruments and their use to provide solution for growth, redevelopment/ renewal preservation, in their own circumstances. This provides the compilation of aspects of planning system and the use of the instrument’s application. This offers the study the “Choices” available.

The Bangalore metropolitan area is studied for the urban planning, city growth, structure, the use implementation mechanisms, the key urban actors and stakeholders, the nature of planning issues. The effectiveness of the implementation is evaluated through ex post and conformance method. To evaluate the spatial implementation, planning districts in the northern part of the city is analyzed for the implementation. This is by using remote sensing, change detection techniques, spatial metrics, statistics and using official data. The key issues for implementation are identified.

To select and adapt the planning and instrument choices to the BMA context, discussion on the planning systems, the variables and the causal parameters that allow the use of the mechanism/ instruments is carried out. The possibility of value capture while using the plan and instruments to address during the planning aspects of growth, conservation, preservation, schemes is attempted. The opinion survey results are also utilized to supplement the findings. The use of instruments for two situations for growth and redevelopment/ renewal is illustrated. Based on the inferences, policy guidelines and recommendations are carried out on the basis of covering the implementation gap – between the plan proposals to the actual actions. The necessary policy change is recommended.

Structured Interview Schedule- A structured interview questionnaire was designed with maximum closed–ended type’s questions, few questions related with ranked or
ordinal, matrix rating types and a likert scale questions. The additional information provided by the interviewer was recorded in the respective questionnaire to be used as a supplement for the final interpretation of the findings. The model Questionnaire is seen in Annexure -1.0.

The exploratory study (opinion survey) was conducted during September 2014 and an online survey was conducted in the month of July/August 2015. Out of 23 respondents, 3 respondents online and rest of it were interviewed through the mode of snowball sampling, categorized into two groups viz. Private practitioners (subject experts National and International, Non-Government Organizations (NGOs) members, representative of Premier Institutions, Consulting Groups and Individual consultants who are primarily engaged in shaping the spatial planning) and Government Officials (Head of the Public Stakeholders, Secretariats). The interviewees were selected on the criteria, that they were involved in Bangalore projects and are aware of the spatial plan implementation in BMA.
Fig. 1.4: Flow Chart of Methodology

1. **Literature Survey & Study**
   - Spatial Planning and Plan Formation Cycle
   - Theoretical framework of implementation
   - International and National cases
   - Role of evaluation & types of evaluation

2. **Study of BMA**
   - Study area/site structure
   - Intraurban/Organisation
   - Planning & Development
   - Spatial structure and Growth dynamics
   - Spatial planning & Development
   - Review of 4 plans UDP, CPP, RMP

3. **Appraisal of RMP 2015 - Implementation of Plan**
   - Land mobilisation
   - Programs and projects (Key Change & impacts)
   - Financial Mechanism
   - Physical infrastructure
   - Regulations

4. **Case Studies: Comparative Methods for tracing planning system/mechanisms and choices**
   - International and National case studies
   - Reviews of mechanisms and instruments

5. **Evaluations of PD 3.08, 3.09, 3.10, Sensitive Zones, Scheme**
   - Road Network
   - Growth
   - Preservation
   - Conservation
   - For schemes (Text by application of TPS implementation)
   - Regulations

6. **Review of Choices**

7. **Selection of Planning System**
8. **Selection of Mechanisms/instruments**
9. **Institution for plan implementation**

10. **Finding Policies and Recommendations**

11. **Final Report**
1.5. **Scope and Limitations**

The study of the Bangalore Metropolitan Area with respect to the use of planning mechanisms and instruments/tools has brought to focus on the critical roles of the preparation and deployment of plans, schemes, design and adaptation of instruments and the necessary plans within the institutional framework specific to Bangalore.

The study would further enable both introduction of plans at appropriate level that will help in designing and adaption of the tools and instruments for implementing the spatial plans in the Bangalore metropolitan context effectively.

1.6. **Chapter Outline**

This research is divided into seven chapters including:

- **Chapter I** comprises of introduction to the topic of research, issues and problem statements, significance of the study, need for the study, Background of the study area, Research questions, aims & objectives, methodology with brief review of the techniques used, scope & limitations and work plan along with the description of the chapters.

- **Chapter II** is the Review of Literature. definitions, this review comprises of the work done by other scholars in the field of Spatial Planning, Planning cycle, objectives of plan implementation, Method for Evaluation of spatial plan implementation, comparative case studies, use of GIS for analysis, identification of planning systems, Land use and property rights, the provision of schemes in Urban Development Act, Planning act and Municipal act, the role of developers and the development process, value capture methods including review of value capture in International and National planning systems. The case studies for the comparative planning systems and the use of instruments to address specific planning situations. The use of instruments and mechanism based on the theoretical framework is covered especially how the plans utilize them for implementation.

- **Chapter III** describes the City profile of the Bangalore Metropolitan Area. The Geography, growth, economy Institutional, land use management and environmental setting. The discussion is on the Spatial Planning and Implementation in BMA. The
scope and extent of the spatial plans, the approach, tools and techniques are within the regulatory framework, institutional landscape, legal frameworks, authorities, Acts and policies. The appraisal of the earlier plans, the role of CDP, Revised Master Plan 2015 and its qualitative review has been dealt in this chapter for implementation breadth.

**Chapter IV** is an in depth evaluation of the implementation of the Spatial Plan using Geographic Information System (GIS) techniques with respect to the Planning Districts (PD) NO 3.08, 3.09 AND 3.11 & Sensitive (Valley Zone) land zone, to cover Growth, Conservations, Preservation, Schemes, Road networks and other land use proposals. The case for use of coherent planning system, along with the status of existing use of mechanisms and instruments for planning are covered. The key indicators of the implementation are derived for selected planning proposals.

**Chapter V** comprises of review of the various spatial plans instruments used in select International and Indian cities. The findings of comparative case study for the possible use as instruments in the BMA area. The key variables leading to implementation and its relationship with the planning system are described. The learning’s are useful for the potential application in the BMA area and making choices.

**Chapter VI** covers the aspects emerging from a comparative method, identification of the tools/mechanism that are multipurpose by nature and based on planning relevant to the BMA context is carried out. The Local Area plan, TPS scheme and redevelopment scheme is illustrated as test. The Opinion survey results are used to support and validate the findings carried out. The Scheme implementation is tested with the various scenarios for the viability and planning gains accrued. Based on the analysis, the recommendations enabling the implementation instruments are made as well as the changes required in the planning system.

**Chapter VII** is a concluding chapter with the presentation of the findings, strategies and suggestions for implementation of spatial plans. The further studies that can be carried are out along with the summary and recommendations are covered here.