CHAPTER 2

RESEARCH METHODOLOGY

Introduction

Methodology is a body of knowledge that enables researchers to explain and analyze methods – indicating their limitations and resources, identifying their presuppositions and consequences, and relating their potentialities to research advances (Miller 1983). The choice of data types and their collection methods have significant implications upon the research findings. Hence the issue of research methodology is important to any study. In this research a scientific investigation and a systematized efforts were made to gain new knowledge in the realm of India's ongoing urbanization. The thesis attempts to use the knowledge garnered by the deployment of a specific methodology in creating a fresh construct that could aid in the identification of planning deficits and the application of correctives to the process of India's urbanization and the better planning of Indian cities. In this view this chapter states the geographical area in which the study was conducted. It also states the research methods employed in the conduct of the study. The researcher’s intention is to explain the manner in which data and information was assembled and analyzed to address the research objectives and to test the hypotheses.

2.1 Operational Definitions

It would be apposite that some of the terms frequently used in the present study are understood with clarity. From that view point, therefore, operational definitions of these terms are provided upfront.

**a. Urban planning** is a multi-tiered and multi-disciplinary process that concerns itself with the use of land, its balanced apportionment for several uses comprising, inter alia, economic, environmental, and social infrastructure designed to ensure a desired productivity and quality of life. Modern urban planning originated in the aftermath of industrial cities that grew in a highly disorderly, unhygienic and chaotic fashion in the 19th century that caused huge distress, squalour, disease and death. Governments stepped to stem in such rot. From there, urban planning followed a learning process and evolved
to the current stage. The complexities and of urban life and urban dynamics have made urban learning a continuous process and the discipline continues to change and evolve.

b. Urban dynamics denotes the processes and factors that constantly shape and reshape urban spaces through their use and subsequent modifications. This, inter alia, comprises suburbanization, ex-urbanization, counter-urbanization, green-field and brown-field development, urban decay, urban renewal and spatial exclusion. Sub-urbanization refers to growth of certain areas as units away from the centre. Ex-urbanization stands for a process whereby generally affluent sections of people move away from the city to the rural areas, but with an enhanced quality of life. Counter-urbanization refers to a significant decline in a city’s population and the growth of other smaller settlements at the expense of the main city. Greenfield development refers to fresh construction within a city’s virgin land hitherto left undeveloped or fresh outlying areas merged into the city and their development. Brown-field development refers to redevelopment of old structures in the city that are either dysfunctional or have outlived their lives. Additionally, such structures, even before the end of their lifespan are demolished and rebuilt to get

c. Urbanization is a process by which a human settlement acquires the characteristics of a town. It is also understood generally as an increase in the population of towns in relation to a slower growth in rural areas. The urban population means the total population living in urban areas, as defined by the country. The census of India considers urban areas on the triple criteria of population, non-agricultural working population and density. A town should have a minimum population of 5000. At least 75% of its male working population should be engaged in non-agricultural work. Its density of population must be at least 400 per sq km.

d. The second measure, rate of urbanization, describes the projected average rate of change of the size of the urban population over the given period of time. This is the increase in the proportion of urban population over time, calculated as the rate of growth of the urban population minus that of the total population. Positive rates of urbanization result when the urban population grows at a faster rate than the total population. This is especially true in Asia, home to the most rapidly urbanizing nations today.

e. Unplanned cities are cities that have still not been brought within the fold of an urban plan. They could also be large urban areas within planned cities but have grown in a manner not prescribed by planning norms within that city. While the planned city obeys urban laws and carries out development with approvals from the authorities according development control regulations, the unplanned city often displays a bottom-up approach
where people construct without permission and without observing the planning yardsticks mandated for the city.

**f. Quality of life (QOL)** is used worldwide to describe the general well-being of societies and people. This is measured on the basis of a basket of indicators thought to be comprehensive and conclusive enough to establish the quality of life in a particular country, region or individual settlement. In general, a similar formulation would be applicable to cities. We could, therefore, state that ‘quality of urban life’ refers to the capacity of a city to deliver to its citizens a basket of conditions and services for living life. These would comprise conditions and services related to economy, politics, environment, society, recreation, culture, safety and security. The QOL concept, however, has remained mainly theoretical as it contains a large element of subjectivity. The determining factors taken as criteria in these studies are far from being standard. Very often, economic indicators outshine all other criteria for evaluating well-being in cities. This approach, however, is very restrictive, since such indicators have been proved inadequate in expressing the real needs, preferences and priorities of citizens. For these reasons, the definition and the adequate measurement of QOL in a given society still remains inefficient.

**g. Development Control Regulations** are that component of urban planning that regulate the use of land and built space through permits for layouts, subdivisions and buildings. In simple terms they lay down the details and the working tools of how development and construction would be permitted and controlled. They stipulate the manner in which permissions can be obtained, and prescribe access, layouts, open spaces, area and height limitations, lifts, fire protection, exits and parking requirements. These rules could be city specific, approved by the planning authority and finally sanctioned by the state government. These originated from public health considerations. These subsequently have expanded to encompass environmental, demographic safety and aesthetic concerns and the prevention of nuisance and hazard.

**h. Urbanism** stands for the way of life of people who live in a city. It is additionally understood to mean the characteristic way of interaction of inhabitants of urban
areas with the built environment. A sociologically significant definition of the city seeks to select those elements of urbanism which mark it as a distinctive mode of human group life. While commonly urban areas are judged urban on the basis of demographic size, the characterization of a community as urban on the basis of size alone is considered from a sociological viewpoint inaccurate. A sociological definition seeks to be inclusive enough to comprise whatever essential characteristics urban areas possess. Despite differences that would exist in types of cities, they will have similarities as social entities.

2.2. Universe of the study

The universe of the study comprises all urban local bodies in the Maharashtra from which sample were drawn. The details of the number of ULBs in Maharashtra is given in table No. 2.1

<table>
<thead>
<tr>
<th>No. of ULBs in Maharashtra</th>
<th>Corporations</th>
<th>Municipal Councils</th>
<th>Nagar Panchayats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maharashtra</td>
<td>26</td>
<td>222</td>
<td>6</td>
</tr>
<tr>
<td>No. of Selected ULBs</td>
<td>4</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

Justification for selection

While the study in its broader scope comprises the state of Maharashtra, it specifically looks at the municipal corporations of Mumbai, Pune, Nashik and Kolhapur and the municipal council of Baramati. The justification for such a selection was to select a mix of urban local bodies from the very large cities to smaller ones. This was to afford a fair idea of plans and their impact in a cross section of cities. Mumbai is the most populated city in the country and Pune is one of the largest ten in India. Nashik is demographically a rapidly growing metropolitan city just above a million. Kolhapur, on the other hand, is a smaller city around half a million with modest population growth rate. Baramati is comparatively a small city with its own set of issues.

Criteria of selection of the ULBs

As cited above, the prime criterion was to pick up cities on the basis of their demographic profile. Hence, on the one side we have Mumbai with over 10 million population. On the other side we have Baramati that is a small council with less than 100,000 population. The size of the city allows a comparative study of the strengths and weaknesses of the cities and the implementation of the planning process in them. It would give us a fair idea of whether the planning deficits are peculiar to a particular size and type of urban local
body or spread over the entire sample. It also tells us that if correctives were to be applied, what would be the degree of correctives that would vary from one size to the other.

Map No. 2.1 Map of Maharashtra indicating the ULBs selected for study

2.3. Sampling design

A sample is a group in a research study from which information is sought and obtained, or a population selected for observation and analysis. Sampling is “the selection of a fraction of the total number of units of interest to decision makers for the ultimate purpose of being able to draw general conclusions about the entire body of units (Parasuraman et al. 2004). It comprises elements selected with the intention of finding out something about the total population from which they are taken (Mouton, 1996). A convenient sample consists of subjects included in the study because they happen to be in the right place at the right time. A conclusion can thereby be made from the sample about the population to achieve the research objective. (Saunders et al. 2007). It is, therefore, uncommon for a research to survey the entire population due to time and financial constraints, especially, when the population is very large.

2.3.1. Judgmental Sampling

Judgmental sampling is a non-probability sampling technique based on the researcher's judgment. Such a sampling happens in a situation where the researcher selects
participants who would be most representative in regard to the research subject. For the sake of this research, the researcher chose the participants who were considered as the best source of information pertaining to the cities under study and inferentially to the subject of this research as explained in previous paragraphs.

**Justification**

Judgmental sampling guarantees optimum use of time and resources since information is sought from those people who are in possession of valuable information and knowledge of the cities and the subject under study. This also leads to richness of information despite the sample being small because of the quality of the participants, their rank and importance in the organization that makes them privy to privileged information and their close proximity to the subject under study.

**2.3.2. Research Sample Size**

As earlier indicated, a total of 15 participants were selected. Nine were from the five urban local bodies - two each from Mumbai, Pune, Nashik and Kolhapur and one from Baramati, two from the Directorate of Town Planning, two from academics and one from the State Urban Development Department.

**Justification**

Deciding on a sample size for such a research enquiry was not difficult since the cities were identified and attempt was made to get to the most knowledgeable group that had complete access to information. For this reason, the researcher was without any option other than keeping the sample very small.

**a. Table No. 2. 2 Brief description of study area**

<table>
<thead>
<tr>
<th></th>
<th>Mumbai,</th>
<th>Pune</th>
<th>Nasik</th>
<th>Kolhapur</th>
<th>Baramati.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population</strong></td>
<td>1,24,78,447</td>
<td>37,60,636</td>
<td>11,52,000</td>
<td>5,79,281</td>
<td>55,342</td>
</tr>
<tr>
<td><strong>Yr of Estb</strong></td>
<td>1865</td>
<td>1950</td>
<td>1982</td>
<td>1962</td>
<td>1865</td>
</tr>
<tr>
<td><strong>Wards</strong></td>
<td>227</td>
<td>144</td>
<td>108</td>
<td>72</td>
<td>7</td>
</tr>
<tr>
<td><strong>Area</strong></td>
<td>438 sq km</td>
<td>244 sq km</td>
<td>259 sq km</td>
<td>67 sq km</td>
<td>5</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>Largest City</td>
<td>8th largest</td>
<td>Grape city</td>
<td>Sugar city</td>
<td>Industry, education</td>
</tr>
<tr>
<td><strong>Development status</strong></td>
<td>DP under revision</td>
<td>DP under revision</td>
<td>DP under revision</td>
<td>DP under revision</td>
<td>DP under revision</td>
</tr>
</tbody>
</table>
Map 2.2 Map of Mumbai

Map 2.3 Map of Pune
Map 2.4 Map of Nasik

Map 2.5 Map of Kolhapur
2.4. Research Design

A research design is a structure crafted for the purpose of investigation. In urban planning parlance, one could say that it is a master plan detailing the strategy for conducting a research that comprises processes employed for collecting and analyzing data relevant to the research purpose. Research design, therefore, provides an overall guidance for the collection and analysis of data of a study (Churchill 1979). A choice of research design reflects decisions about the priority being given to a range of dimensions of the research process (Bryman and Bell 2007, p. 40), and this of course will have considerably influence on lower-level methodological procedures such as sampling. It is therefore a blueprint that enables researchers to find answers to the questions being studied for any research project. Along with clear research plan it provides, constraints and ethical issues that a study will inevitably encounter must also be taken into account (Saunders et al. 2007).
2.5.1. Descriptive Research Design

In this study, the descriptive research method was employed. A descriptive research design is a method that looks with intensity at the prevailing phenomena and then accurately describes what the researcher perceives. It thereby concerns itself with a description of the characteristics of a problem. The design, as innate to its nature, relies primarily on secondary data. Such data has been aided by a questionnaire and interviews with those highly relevant to the situation of the research.

Many scientific disciplines, especially social science and psychology, use this method to obtain a general overview of the subject. It is also useful where it is not possible to test and measure a large number of samples needed for more quantitative types of experimentation. These types of experiments are often used by anthropologists, psychologists and social scientists to observe natural behaviours without affecting them in any way. It is also used by market researchers to judge the habits of customers. The results from a descriptive research can in no way be used as a definitive answer. However, they have great utility in the testing of hypotheses.

Descriptive studies allow both implicit and explicit hypotheses to be tested depending on the research problem. As opposed to exploratory research, descriptive research is undertaken with defined questions, people surveyed, and a method of analysis determined prior to beginning data collection. Such preparation allows the opportunity to make any required changes before the costly process of data collection has begun. There are two basic types of descriptive research A) Longitudinal Studies: Longitudinal studies are time series analyses that make repeated measurements of the same individuals, thus allowing you to monitor behavior such as brand switching. However, longitudinal studies are not necessarily representative since many people may refuse to participate because of the commitment required and B) Cross-sectional Studies: Cross-sectional studies sample the population to make measurements at a specific point in time. In the present research, the latter has been of use.

Descriptive research can be either quantitative or qualitative. It involves collections of quantitative information that can be tabulated along a continuum in numerical form, or it can describe categories of information. Descriptive research involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data collection (Glass & Hopkins, 1984). When in-depth, narrative descriptions of small numbers of cases are involved, the research uses description as a tool to organize data into patterns that emerge during
analysis. Those patterns aid the mind in comprehending a qualitative study and its implications.

**Justification**

Descriptive research design is also a valid method for researching specific subjects and as a precursor to more quantitative studies. Descriptive research designs help provide answers to the questions of who, what, when, where, and how associated with a particular research problem. It is used to obtain information concerning the current status of the phenomena and to describe "what exists" with respect to variables or conditions in a situation. Descriptive design studies tell us about the condition being observed in a completely natural and unchanged environment. Descriptive research is often used as a pre-cursor to more quantitative research designs, the general overview giving some valuable pointers as to what variables are worth testing quantitatively.

The descriptive research method allows the generation of factual information in regard to the study and a comprehensive analysis of an existing situation in a highly economical way. The method provides an accurate account of the characteristics of a situation. By producing large amounts of accurate data from reliable archival sources, it enables an in-depth analysis of material at hand. It is thereby an ideal method to employ in the given kind of research study.

### 2.5.2. Types of Data

For this research, two types of data were gathered. These included both primary and secondary data.

**Primary Data**

Primary data refers to data collected for the first time in the field. It has been defined as data that has been collected for the purpose for which it is originally used. The primary data for this particular research were derived from the answers the participants gave during their response to the questionnaire. In certain cases the responses were written and in other instances they were oral. Most of those interviewed were working professionals inside the urban local bodies or directly dealing with their issues, either at the local level or at the state level.
Justification

Primary data collection as cited above was given very high value for the purposes of this research as these answers afforded greater insight into the working processes of plans and their implementation within the urban local bodies. There is not much published material available on this subject and very little knowledge outside on actual implementation problems relating to development plans and development control regulations; hence these interactions with real actors in the field had great significance.

Secondary Data

Secondary data is data that is collected for purposes other than the original use. It is an analysis of data that has already been collected for some other purpose. In the current instance, secondary data were obtained from published documents and literatures that were relevant to the subject of research. These included survey data and documentary data, many of them unpublished and prepared by urban local bodies or state organizations for internal use. These were requested for sharing directly from these sources.

Justification

The use of secondary data was central to this research as these had already been collected and were available directly from the most reliable source - the ULBs, State organizations and world organizations. Many of the reports used were commissioned directly by these organizations. Many of the details were also easily cross-verifiable. With the use of questionnaire and published literatures, this study took on the combined quantitative and qualitative approach of research. By means of employing this combined approach, the researcher was able to obtain the advantages of both quantitative and qualitative approaches.

2.5.3. Quantitative and Qualitative Data

A quantitative approach is a formal, objective, systematic process to describe and test relationships and examine cause and effect interactions among variables. Numerical data and statistics are the main substance of quantitative instruments. With these instruments, a generalization of the gathered data with tentative synthesized interpretations was possible. Quantitative approach is useful as it helps the researcher to avoid individual perceptions and viewpoints and prevents bias in gathering and presenting research data. In other
words, subjectivity of judgment, which is not needed in a thesis discussion, can be avoided through quantitative methods. Contrary to the quantitative method, qualitative approach generates verbal information rather than numerical values (Polgar & Thomas, 1995). Instead of using statistical analysis, the qualitative approach utilizes content or holistic analysis; to explain and comprehend the research findings, inductive and not deductive reasoning is used. The researcher opted to integrate the qualitative approach in this study (due to its significant advantages that are not obtainable from statistical analysis garnered through quantitative method) with the qualitative method (that allows the presentation of the phenomenon being investigated in a more holistic view).

2.6. Sources of Data

The research as cited above has primarily relied on secondary data. But before we get into the details of data sources, it would be appropriate to state the overview of the study.

2.6.1. Geographical Spread of the Research

The study begins with a broad understanding of the global urbanization trends and trends in India and Maharashtra. The study’s scope in specific, however, is the state of Maharashtra and it applies its hypotheses to the state. For this purpose the researcher picked up five representative cities of the State.

2.6.2. Selection of Cities

These cities represent a cross section of cities in Maharashtra. These comprise Mumbai, Pune, Nasik, Kolhapur and Baramati. The objective of selecting a mix of cities was to test the hypotheses across cities of various demographic compositions and to see whether they hold true in all of them. Mumbai is the most populated city in the country and Pune is among the largest ten cities in the country and the second largest in Maharashtra. Nasik is demographically a fast growing metropolitan city just above a million and Kolhapur is a smaller city around half a million with more modest population growth rate. Baramati, on the other hand, is comparatively a very small city. The cities vary not merely in size and characteristics of urbanization, but also are in many ways dissimilar in their economic profile, population densities and pace of demographic growth, poverty features as well as associated urban attributes.
2.6.3. City Specific Data

Apart from the literature review, secondary data specific to cities in question were collected. Since this is an analytical research, the use of secondary data and their analysis and evaluation was mandatory. As stated earlier, this type of data refers to data that is collected for purposes other than the current one. These were the Development Plans of the five cities and their development control regulations. These afforded an overview as well as the details of the land use plan and the degree to which tools were identified for their implementation. A list of questions was also prepared and was shared with the Municipal Corporations and answers sought. Publications of the Municipal Corporations themselves provided valuable secondary data. These included the Annual Budget, City Development Plans, the Human Development Report, the Environment Status Report and studies regarding slums. Several other periodic reports prepared for briefing and consumption of State officials also came in handy.

2.7. The Questionnaire and Interviews

The researcher prepared a questionnaire that was circulated to a select group of knowledgeable respondents who could add value to the research with their insightful replies. They either answered the questions in writing listed in the Questionnaire or gave answers in person or over the telephone.

2.7.1. The Study Population: Participants

A population is defined as all elements (individuals, objects and events) that meet the sample criteria for inclusion in the study (Burns and Grove, 1993). For this research, the study population comprised a total of 15 respondents. In order to get informed and quality responses and insights, certain inclusion criteria were imposed. The participants had to be willing to participate; they had to be such professionals who had worked or were working in the municipalities that were the subject matter of study. These would be at the higher administrative levels of the municipality, such as the deputy municipal commissioners, chief officer or engineers/town planners handling development plans. Since the questions were technical in nature and needed deeper ability to comprehend, this qualification ensured that the participants were able to respond with insights useful to advance the objectives of the research. They also helped with the latest data. Officers of the transport department were contacted to help with the latest vehicular data. Apart from
municipal employees, those working in the town planning department of the State under the Directorate of Town Planning were the other group since they primarily deal with the preparation of town plans and play an important advisory role to the State Government’s nodal department for municipal matters - the Urban Development Department.

Justification

The use of interviews was important to this research because some of the questions listed in the questionnaire needed to be discussed to elicit opinion, or if opinions had been given they needed further clarification. Such clarity can be achieved only through a dialogue between the interviewee and the researcher (interviewer). The subject of the research makes it amply unambiguous that development plan preparation, implementation, gaps in development control regulations are complex subjects and need a detailed dialogue for comprehension and analysis. This process was further facilitated by the researcher travelling to cities where participants found it difficult to extricate themselves from their onerous duties that they carry in the urban local bodies or state organizations.

2.7.2. The Questionnaire

The survey questionnaire was used as the main data-collection instrument for this study. A questionnaire was prepared by the researcher in advance and was designed to elicit information in writing. This was personally distributed by the researcher or mailed to the participants via e mail. The data here was collected over a period of six months. Before administering the questions, the questionnaire was pre-tested through a trial administration to two very knowledgeable persons. This helped identifying flaws, weeding out questions unnecessary to the purpose of research and in making the questionnaire more comprehensive. Additionally, it was necessary to determine whether questions and directions were clear to subjects and whether they would mean the same thing to them what they meant to the researcher. Thus the pre-test aimed to reduce wording ambiguity and potential confusion of each question. No question was changed or no question added after the pre-test. The Questionnaire circulated is appended at the end. (see Appendix A). The questionnaire was placed under three broad headings: Planning Benchmarks, Development Plan and Urban Poverty. Most of these sought the latest data in regard to the urban local bodies. In other words most of these questions were quantitative in nature and were close-ended questions. But some of them were more in the nature of seeking their opinions and their understanding of what had happened and why they had happened. These were qualitative in their content and were open-ended questions. Close-ended questions were included as they are easy to answer and the
researcher sought latest statistics through them. Open-ended questions sought more detailed and analytical replies that reflected their own perceptions. In certain cases, written responses were received from the participants even to some open-ended questions. However, many of them were not willing to go into quantitative commenting on the implementation aspects of the Development Plan in writing, but all of them shared their views on condition of anonymity.

**Justification**

The questionnaire technique firstly afforded uniformity of enquiry as the same standardized questions were provided to all the participants. Such uniformity was important for the function of a proper comparison. Secondly, it permitted enough time (several weeks in some cases) to give well considered and researched replies by discussing the issues with colleagues within their local bodies and by referring to documents. The element of anonymity associated with the questionnaire survey technique greatly enhanced candid and honest replies from the participants.

**2.7.3. Consent, Anonymity and Confidentiality**

Anonymity is achieved when subjects cannot be linked, even by the researcher, with his or her individual responses. When subjects are promised confidentiality, it means that the information they provide will not be publicly reported in a way which identifies them. In the course of data collection for this research, every participant without fail did not want their identities to be revealed nor wanted any of the answers attributed to them. It was clear that as serving officers, they did not wish to comment on policy and implementation aspects that could be identified and attributed to them. In view of the fact that the consent of the participants was based on the assurance of anonymity and confidentiality, their names or personal information are not disclosed in any part of the research. Anonymity has been ensured by not disclosing the subjects' names and confidentiality was similarly ensured by not revealing the subject's identities when reporting or publishing the study. This is even if their replies were received on e mail and are recorded. However, their answers have been of assistance in testing the hypotheses and in furthering the objective of the research and hence have been used.

**2.8. Reliability and Validity**

Reliability is the degree of consistency with which an instrument measures the attribute it is designed to measure. Reliability can be ensured by minimizing sources of measurement
error like data collector bias. This was doubly done in the present research by the data collectors being in direct possession of data and by the researcher being the only one to administer the questionnaire. Sufficient time was given, confidentiality was assured and participants could answer the questionnaire in parts and as and when they found answers and after they had formulated their reasoned responses.

2.8.1. Validity

The validity of an instrument is the degree to which an instrument measures what it is intended to measure. Content validity refers to the extent to which an instrument represents the factors under study. External validity on the other hand refers to the extent to which study findings can be generalized beyond the sample used. In regard to content validity, this was ensured by its preparation in line with the hypotheses, consistency in administering the questions and through personal administration by the researcher. External validity got ensured as all participants agreed to participate and answered all questions, either in writing or orally. Generalizing the findings to all members of the population is therefore justified.

2.8.2. Data Processing, Analysis and Presentation

As stated earlier, data was collected both from primary and secondary sources. It was then processed, analyzed and presented. The written responses of the participants, wherever they were quantitative were, as far as possible, cross-checked with other data available. Wherever this was not possible, the data, since coming from a reliable source, was used. The qualitative inputs have been assimilated after analysis and have been taken into account in the final conclusions drawn. It needs to be stated that these pointed overwhelmingly in the direction of the hypotheses.

3. 8.3. Data Presentation Techniques

Appropriate ways of presenting data were selected. These comprised the narrative; wherever possible tables, pie charts and bar graphs were used in this research.

Justification

Narratives allowed better mental comprehension. Tables, pie charts and bar graphs were pressed into service with a view to enhance ease of appreciation, comparison and simpler visualization and quality interpretation.
2.8.4. Data Analysis Techniques

The data collected by the researcher was analyzed using both the inductive analysis and deductive analysis techniques.

Inductive analysis and Deductive analysis

Analytical induction is an approach whereby the analysis moves from specific observations to broader generalizations and theories. This analysis is also known as the "bottom up approach". Deductive analysis represents the commonest of the nature of the relationship between theory and research. This is also referred to as the "top down approach". Close-ended questions were statistical and were used as provided in sections dealing with their urban local bodies. Open-ended questions were analyzed through quantitative content analysis by the researcher with the aim of qualifying emerging characteristics and concepts. Concept analysis is the process of analyzing verbal or written communications in a systematic way to measure variables quantitatively.

Justification

The researcher used inductive analysis technique because it does not construct a rigid methodology. Instead it permits the researcher to explore alternative explanations and get a feel of the situation on the ground and so understand the nature of the problem much better. Deductive analysis was used because it reconciles theory and research.

2.9. Process

In summary, it could be said that the research followed a four-stage process. The first stage devoted itself partly to an overall literature survey to get to the context of urbanization, globally, within the country, in Maharashtra and in research-specific cities. It partly devoted itself to the use of a questionnaire (primary data) and use of secondary data to provide the context of the research. The secondary data collection included the development plans of cities, their development control regulations and data on slums and major services. The data will be sourced from Government agencies, primarily from the Directorate of Town Planning, the Municipal Corporations and the Department of Urban Development, Government of Maharashtra.

The second stage attempted a detailed study of the ‘operationalization’ of the development plans and the development control regulations of cities on ground. It looked
at what has happened to these plans and development control regulations, how far have the former been implemented, what have been their financial implications, and how much have they been subject to amendments. The third stage analyzed their content, consequences and the deficits that they contained or created. It was in effect a critical analysis of the operationalization as well as non-operationalization and the identification of deficits. The fourth devoted itself to possible strategies that could help provide solutions for bridging the deficits. It thereby sought to suggest certain improvements to the planning process and its benchmarks so that future cities as well as the existing ones could possible emerge as better and more livable and equitable products.

2.10 Presentation

The study is presented in the following chapters. Data is presented in the form of graphs, tables, charts and boxes. Maps are given at appropriate places.

Chapter 1 presents the theoretical framework, a review of Indian urban policy, hypothesis and objectives of study

Chapter 2 explains the research methodology employed in the conduct of the study.

Chapter 3 deals with urbanization trends and features of urbanization in study areas. This chapter highlights the linkages between economic growth and urbanization.

Chapter 4 explains the background to urban planning in Maharashtra.

Chapter 5 is one of the critical chapters of the study. It provides a detailed account of the principal features and benchmarks of the development plans and development control regulations of selected cities.

Chapter 6 deals with current status of development plans and development control regulations in terms of the urbanization of poverty.

Chapter 7 is concerned about the operationalization of development plans and development control regulations.
Chapter 8 is about provision of major non-social municipal infrastructure. It deals with water supply, costs of water supply and key performance indicators for water and sewerage, the state of this service and sanitation and toilet facilities etc.

Chapter 9 explains the deficits in non-social municipal infrastructure planning i.e. deficits in water planning, in sewerage and sanitation, in solid waste and in urban transport and city roads.

Chapter 10 talks about the deficits in planning and development regulations.

Chapter 11 explains new strategies for addressing planning and development regulation deficits and

Chapter 12 is devoted to hypothesis testing and conclusion drawn from the data. A summary and recommendations are also given in this chapter.

Bibliography is given in the last part of the thesis.
QUESTIONNAIRE
CITIES: MUMBAI, PUNE, NASIK, KOLHAPUR, BARAMATI

1. PLANNING BENCHMARKS
   1. What are the current planning benchmarks applied to the planning of cities in Maharashtra, with specific reference to cities listed above?
   2. What are these benchmarks with regard to
      i. urban poverty planning,
      ii. solid waste,
      iii. water and sewerage systems,
      iv. norms of water availability per person per day,
      v. water recycling,
      vi. open spaces,
      vii. tree plantation,
      viii. air and noise pollution levels,
      ix. traffic and transportation,
      x. public transport,
      xi. population densities in the cities,
      xii. FSI and
      xiii. TDR
      xiv. Education
      xv. Health
   3. Have these planning benchmarks undergone changes, especially in the last five years?
   4. What are those changes and why were they made?
   5. Are planning benchmarks different for different classes of cities? In other words, do physical and demographic sizes of cities impose customization of planning benchmarks?
   6. How do Maharashtra planning benchmarks compare with other Indian States and other countries?
   7. In terms of implementation of Development Plans, is there a time frame?
   8. Is this time frame backed by an analysis of how the DP would be financed in that time frame?
   9. What are the felt inadequacies in the planning benchmarks?
   10. Which of these deficits are most significant?
   11. Why have these deficits remained?
   12. What should be done to redress them?

2. DEVELOPMENT PLAN
   1. When was the city's DP framed and sent to GoM?
   2. When was it sanctioned?
   3. Was it sanctioned in full or in parts?
   4. What is the total number of reservations for public purposes?
5. What is their sectoral break-up?
6. What percentage of plan in physical terms has been implemented since its sanction?
7. What are the significant areas of implementation?
   a. urban poverty planning,
   b. solid waste, water and sewerage systems, norms of water availability per person per day, water recycling, open spaces, tree plantation, air and noise pollution levels, traffic and transportation, public transport, population densities in the cities, FSI and TDR, Education, Health
8. In the annual budgeting process, is the DP kept as a primary target for allocation and implementation?
9. What financial resources have been given to the implementation of the DP?
10. How much of the DP has been allowed to be implemented by the private sector, NGOs, Government departments, parastatals, other than the Municipal Body itself?
11. Since the sanction of the DP, how many amendments have been made to reservations?
12. Which are those?
13. What was the thought process behind those amendments?
14. Since the sanction of the DP, how many deletions of reservations have taken place?
15. Which are those?
16. What was the thought process behind those deletions?
17. What is your overall impression about the formulation of the DP?
18. What is your overall impression about the implementation of the DP?

3. URBAN POVERTY
1. What is the total slum population of the city?
2. What is the total number of slums?
3. How many of them are treated as authorized?
4. How many of the slums are unauthorized?
5. What has been the growth pattern of slums in the city over the last five censuses?
6. What is the total budget spent on slums in the last five years?
7. What percentage of the total budget is spent on slums in the last five years?
8. What schemes have been taken up for slums?
9. What is the status of the following in regard to slums:
   i. one toilet seat for what population?
   ii. one water stand post for what population?
   iii. literacy rate in the slums?
REFERENCES

• Mouton, Understanding Social Research, Van Schaik Publishers