

# EVALUATION OF A MASTER PLAN: CASE STUDY LUCKNOW

A DISSERTATION

Submitted in partial fulfilment of the  
requirements for the award of the degree

of

MASTER OF URBAN AND RURAL PLANNING

BY

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FEBRUARY 1993

CANDIDATE'S DECLARATION

I hereby certify that the work which is being presented in the Dissertation entitled EVALUATION OF A MASTER PLAN : CASE STUDY LUCKNOW in partial fulfillment of the requirement for the award of the degree of MASTER OF URBAN AND RURAL PLANNING submitted in the Department of ARCHITECTURE AND PLANNING of the University, is an authentic record of my own work carried out during a period from 25th July 1992 to 30th January 1993 under the supervision of PROF. RATTAN KUMAR.

The matter embodied in this Dissertation has not been submitted by me for the award of any other degree.



(MUKUL GUPTA)

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.



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## ACKNOWLEDGMENT

I take the opportunity to acknowledge here the persons who have helped me tremendously, in completing the present work.

First of all, I want to express my deep gratitude to my dissertation guide PROF. RATTAN KUMAR, who gave me a vision in the field of urban planning, and who suggested me the present topic and helped me in completing the present work successfully.

Further, I thank PROF. VISHWAMITTER, Head, Department of Architecture and Planning, University of Roorkee, who allowed me to work on the present project.

Then, I want to acknowledge contribution of the faculty members, PROF. NAJAMUDDIN, PROF. RAKESH CHANDRA Dr. (Mrs.)SARLA SAHU, PROF. K.C.KAMBO, Mr.R. SHANKAR, Mr. RAJESH CHANDRA, Mrs. PUSHPLATA, and Ms. NALINI SINGH, who showed me the right direction by their constructive criticism and guidance, during various stages of my project.

I am also grateful to Mr. SATYABIR SINGH DALAL, AssociatePlanner, Town and Country Planning Department, Uttar Pradesh, who made me available all the material needed for this dissertation and also having fruitful discussions with him, I came to know several new aspects about the Lucknow Master Plan. I am also very thankful to Mr. MOHD. SABAHAAT and Mr. RAJIV KAKKAR, Architects, Lucknow, for the timely help in getting various data for the present work.

I will be failing in my duties if I don't mention the contribution of my fellow batchmates of M.Arch. & M.URP. who always boosted my moral during tense times. I make special mention to Lt. Col. K.M. Prasad, Sunit Kumar Bhagabati, Soumyendu Shankar Ray, and my friends Anurag Varma, Sanjay Bhargava and Sanjeeva Kumar Singh who always came forward whenever I needed them, particularly when going got tough.

I offer my sincere thanks to Mr. S.K. Agerwal and Mr. Sunil Kumar of Deptt. of Architecture and Planning, who helped me in typing and compiling the final report of this dissertation. They always worked hard to meet the tightest deadline given by me.

And finally, my gratitude goes to my parents, my younger brother and sister, who always stood behind me and provided me the moral support, without which, this work would not have been materialized.

ROORKEE, UTTAR PRADESH

FEBRUARY, 1993.



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## PREVIEW : DEFINING CONTEXT :

At the turn of this century, the cities all around the world are facing an unprecedented challenge, put forward by the phenomenon of urbanization, and the scale of the challenge is so big, as never witnesses before by human civilization, in its entire history of 5,000 years. More so, future projections make the picture more grim. Next 5 to 10 years time is very crucial, as far as India is concerned, because it's estimated that the population of India shall be around one billion in 2001 A. D

It is also estimated that in 2001 A.D. almost 30% to 35% of total population of India shall be living in urban areas. Thus, planners of the future have to play a crucial role of planning urban centres, particularly, cities, to cater the needs of such a huge urban population. They will have to device new methods to clearly understand the process of urbanization and accordingly make planning proposals which are adaptive to fast changing needs of the future technological and social realms.

India, being one of the fastest growing and developing nations, presents several peculiarities and the cities here are entirely different from the cities of the west. Hence, it



requires, on the part of Indian planners, to think of indigenous ways to deal with the problems of urban areas in Indian conditions. Western experiences can be used as a study to learn their experience, but these can not be directly copied down to solve the urbanization problems of Indian cities. The Indian cities are characterised by conflicts and contrasts of cultures, technologies, social attitudes and behaviour pattern. Even, in the decade of nineties, one can witness simultaneous co-existence of bullock carts and highly sophisticated automobile in any typical Indian city. Similarly, problems of mixed economies, mixed landuses and mixed traffic are the inherent features of Indian cities, which make them different from the western cities.

A review of urban planning history of contemporary India reveals, that till recently, Indian planners were very much influenced by the western methods and concepts in the field of urban planning, particularly, British town Planning. The use of 'Master Plans' for the future development of cities, is one important example. But, while in the Britain itself, from where this concept of 'Master Plan' was borrowed, this has been discarded as, not at all an effective method of preparation of master plans for cities, is still, a usual practice. British town planners rejected the concept of making rigid master plans in 1968, and adopted a new method to prepare 'structure plans'

for new towns. These structures plans were documents, containing broader policy guidelines for the future development of the cities and more detailed zonal plans were left to be made by the local authorities. These were very flexible and adaptive to the future changes in technology or political policies. In India, though some of the good points of this structure plan concept were incorporated in recent master plan of Delhi, but nothing has been dropped from the earlier concept of master plan. This, in a way, has made the problem more complex, rather than simplify it. Further, here in India, the resources are always scarce and various sectors compete for the priority of allocation of these resources. Thus, rigidity of master plans makes them redundant, once priorities are shifted, with in a plan period. Hence, recently, some policy guidelines have been induced in the process of master plan making, to reduce the rigidity of the master plan. But this adds another problem to the planning program. If these policies are not subjected to evaluation, before implementation, then undesired consequences may result in terms of unforeseen trends of development. This calls for the need of evaluation of the master plan proposals, in the planning process. Natural factors of urban growth are bound to occur and if the plan proposals are not made respecting these factor then master plans will definitely fail. The proposals are respecting these natural factor of growth or not, can only

we judged by evaluation of the plan proposals, in advance. Thus evaluation is necessary for a master plan. The evaluation is also required to choose among various options available to tackle the problems of the urban systems. This choice would depend on the result of evaluation and the priorities of the society.

*Chapter - 1:*  
**INTRODUCTION**

## CHAPTER-1

### 1.0 BACKGROUND :

The need of evaluation in planning process has been recognized recently. In the west, the advent of structure plan concept brought forward the cyclic nature of the plan venerating process, in which continuous refinement was the key (Boyce et.al., 1970). The process involves a gradual refinement from broader issues to a narrower range of feasible options. But this requires the selection of objectives, based on social values, to be clear, early in the process, and evaluation is done of the several alternates, produced to achieve those objectives.

But in India, the difference is, that objectives are decided, at random, by the decision makers and planners are asked to make just one plan, which is desired to be the most optimal and the best, that can be produced under the given constraints. Thus, there, evaluation comes into the picture, after the completion of the plan, and not at the beginning of the plan preparation, as in the west.

In India, the need of evaluation of a master plan, before it's implementation, is felt due to the lack of alternative plans, and to achieve optimum utilization of already scarce

resources, to generate desired development patterns of the city.

Another point in support of the need of evaluation of a master plan is, that the process of urbanization is very complex and very difficult to predict and explain. Various forces like social, economic, political and environmental etc. are in constant interaction with each other and a city is the dynamic equilibrium of all these forces. Thus, planning interventions act as externalities to this dynamic equilibrium and cause disturbance to it. In turn, this causes unforeseen repercussions, in the form of socio-economic and political impacts on the resulting trends of development. Thus evaluation is necessary to predict at least, obvious trends in which the development could take place. Apart from this, various implication of the master plan guidelines, such as economic, social, environmental administrative, and political, can be assessed, before hand. Further, evaluation helps in estimating the infrastructure needed to implement those guidelines.

Thus, present work is an attempt to explore the possibility of evaluation of a master plan, keeping in view the existing Indian practices in the field of urban planning.

## 1.2 AIM :

To evolve a methodology for evaluation of a master plan keeping in view the Indian conditions, and then to evaluate a few important policy guidelines of the new revised master plan 2001 for Lucknow, as a case study.

The aim of the present work, clearly divides the contents in two broad stages - in the first part a suitable working methodology is to be evolved for the evaluation of a master plan of an Indian city. The reason is that no working methodology is presently available for the evaluation of a master plan in Indian conditions. Whatever methodologies are available, are put forward by foreign experts, and these are meant for foreign cities. Thus the first part shall deal with the literature review of the works done by foreign experts. Their experiences shall be studied and accordingly, a working methodology for Indian cities shall be devised.

The second part shall be to apply the devised methodology for the evaluation of a master plan of an Indian city, which is the new revised Master Plan 2001, for Lucknow, to test the workability of that methodology.

## 1.2 OBJECTIVES :

To achieve the above mentioned aim, following objectives are outlined :

- To review the new revised Master Plan 2001 for Lucknow, to identify the concept and policy guidelines stated in that.
- To study the existing literature on the evaluation of a master plan and review of various methodologies employed by the experts in the fields.
- To evolve a methodology, to evaluate an Indian city's master plan, based on the experiences of attempts made already (mostly by foreign experts).
- To test the effectiveness of this evolved methodology, by applying it, to evaluate a few important policy guide lines of new revised Master Plan 2001 for Lucknow, as a case study.
- Finally, to give recommendations on the deductions of the present works, as conclusion.



### 1.3 STRUCTURING OF THE PRESENT WORK :

To meet these objectives the structuring of the present work has been planned, as shown in Fig. 1.

### 1.4 SCOPE AND LIMITATIONS :

The whole process of evaluation of a master plan is very extensive and its scope encompasses various complexities, like, Volatile and fragile relationships between planners and decision makers, conflicting nature of two or more policies, and the fact that, howsoever, efficiently a plan is prepared, some section of the community shall 'gain' and some sections shall 'lose'.

Thus scope of the present work shall be limited to evaluate a few important policies of the new revised Master Plan 2001 for Lucknow. Moreover, this evaluation shall be very abridged, to fit into the tight and limited time schedule.

Further, the recommendations, which shall be made at the end of the work, shall be based on the extent of the scope of the work, and shall be requiring more in depth research before being accepted for practical purposes.

Finally, whatever quantification shall be employed in the process of evaluation, secondary data shall be used for the

purpose, which shall be based on the information derived from the census books and master plan reports.

**PART-B:**

**PREPARING THE BASE**

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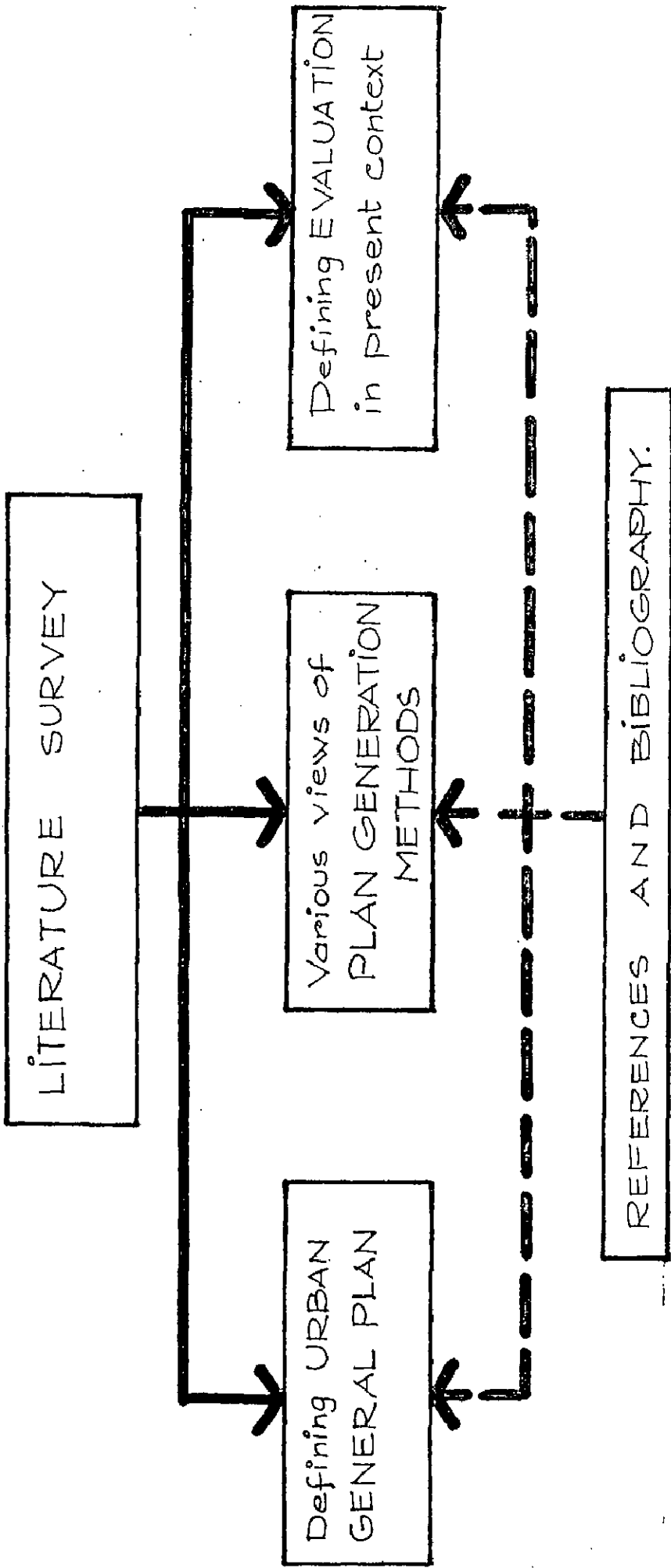
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**Fig 2:** STRUCTURING OF THE LITERATURE SURVEY.



## CHAPTER - 2

### 2.0 INTRODUCTION:

The literature review is incorporated, to have a general idea about three distinctive concepts used in Urban Planning; which are,

- i. Urban General Plan, more commonly known as 'Master Plan'.
- ii. Various view of plan generation methods and planning processes involved therein; and,
- iii. Definition of evaluation in present context and various processes of evaluation of plans, used by experts in the field.

The structuring of the literature survey has been shown in Fig. 2.

Moreover, only a few worth mentioning references have been made in this chapter. Rest of the literature referred has been incorporated in the bibliography at the end of this report.

### 2.1 AMERICAN REFERENCES:

#### 2.1.1 Defining Urban General Plan (Master-Plan):

In the planning literature, one sees the terms

'comprehensive plan', 'general plan' and 'master plan' used synonymously. In India, the term 'master plan' is in the most common use. Various experts have defined the term in number of ways, one varying from the other slightly, but the basic concept, in all, has been agreed upon, to be the same. Moreover, since local planning authorities differ in different places, the following discussion will not be complete, nor will every expression necessarily apply to a particular community. Because there is much overlap among the various goals, another writer may list them differently, yet cover essentially the same ground. (Fig. 3)

2.1.1.1 Levy, John M. 'Contemporary Urban Planning',  
Prentice Hall, Englewood Cliffs, New Jersey. 07632:

In John M. Levy's terms, *the comprehensive plan, generally, covers the entire municipality and has a long time horizon, typically 20 years or so. The goals of a municipality's comprehensive planning process might include issues like:*

- \* *Health*
- \* *Public Safty*
- \* *Public Welfare*
- \* *Circulation*
- \* *Provision of Services and Facilities*
- \* *Fiscal Health*
- \* *Economic Development*
- \* *Environmental protection etc.*

Since the 1920s, when comprehensive plans (also called 'Master plans' and 'general plan') became common, the process has changed considerably. Typically, early plans were prepared by a small 'non political' group and the role of the body politic was to support the plan with appropriate legislation and funding. In the years, since world war II, the process has become much more participatory. The modern planner is likely to see him or herself as facilitation and providing technical expertise, for a community wide planning process rather than simply preparing the plan for community acceptance.

The comprehensive planning process can be divided into five major stages :

- i. Research
- ii. Clarification of goals and objectives
- iii. Plan formulation
- iv. Plan implementation
- v. Review and revision

Though shown as separate steps, there is much overlap between steps. This is because what is learned in one step may cause the community to modify, what was established in a preceding step. For example, the detailed work of the plan formulation step, by revealing the true costs of pursuing a particular goal, may cause the community to reconsider its goals.

*Periodic review of problems and progress, and subsequent updating of the plan are essential, if the plan is to continue, to effect the development of the community.*

2.1.1.2 Kent, Jr. T.J. and Jones, Holwayr: 'Urban General Plan', Chandler Publishing Company, San Francisco:

Prof. T.J. Kent Jr. advances following definition of the 'general plan'.

*"The general plan is the official statement of a municipal legislative body which sets forth its major policies concerning desirable future physical development; the published general plan document must include a single, unified, general physical design for the community, and it must attempt to clarify the relationships between physical development policies and social and economic goals"*

The fundamental purpose of the general plan, according to Prof. Kent Jr., which the general plan process is intended to achieve are, as follows:

- i. *To improve the physical environment of ; the community as a setting for human activities - to make it more functional, beautiful, decent, healthful, interesting and efficient.*

- ii. *To promote the public interest, the interest of the community at large, rather than, the interests of individuals or special groups within the community.*
- iii. *To facilitate the democratic determination and implementation of community policies on physical development.*
- iv. *To effect political and technical coordination in community development.*
- v. *To inject long range considerations into the determination of short range actions.*
- vi. *To bring professional and technical knowledge, to bear on the making of political decisions concerning the physical development of the community.*

Further, Prof. Kent jr. elucidates the important characteristics of the general plan which are implied by its legislative uses. By characteristic, he means, a significant quality or property that the general plan should possess. The following discussion of characteristics essential to the general plan carries the exposition down to a more concrete level. *The general plan characteristics provide the basis for evaluating actual general plans and enable the reader to judge for himself whether or not the general plan concept presented, meets his own tests of reality. The plan characteristics also can be used as a checklist, by a city planner, about to Launch preparation of a general plan. Prof. T.J. Kent Jr. identifies*

ten characteristics, of which, first five concern, primarily, the subject matter of the plan, the remaining five characteristics relate the plan, to the orderly and desirable procedures of representative, democratic municipal self government (local authorities). These characteristics are:

*\* Subject Matter Characteristics:*

*The General Plan:*

- *Should Focus on Physical Development*
- *Should be long range*
- *Should be comprehensive*
- *Should be general and should remain general*
- *Should clearly relate the major physical*

*Design proposals, to the basic policies of the plan.*

*\* Characteristics Relating to Governmental Procedures:*

*The General Plan:*

- *Should be in a form, suitable for public Debate*
- *Should be identified as the city council's plan*
- *Should be available and understandable to the public.*
- *Should be designed to capitalize on its educational potential*

- *Should be amendable*

Finally, Prof. Kent Jr. explains the uses of a general plan as below.

1. *POLICY DETERMINATION:*

*Enables the city council to consider and agree:*

a) *Upon a definite set of policies, that will be used, to govern the future physical development of the community, and*

b) *Upon a general physical design for the city site, showing how the policies are to be carried out.*

2. *POLICY EFFECTUATION:*

*Enables the city council to view every specific project, upon which, it must act against a definite frame work of desirable long range development for the entire community.*

3. *COMMUNICATION:*

*Enables the city council, to convey, it's long range physical development policy, to the citizens, and to leaders and executives of government, civic, and business organization; enables constructive debate and stimulates political action.*

4. CONVEYANCE OF ADVICE:

*Enables the city council to receive recommendations, concerning physical development matters, from the city planning commission and other advisors, in a coherent, unified form.*

5. EDUCATION:

*Enables the members of the city council to educate themselves and others, concerning the physical development problems and opportunities of the community, and the relationship of these problems and opportunities to the social and economic issues involved.*

2.1.2 VARIOUS PLANNING PROCESSES AND PLAN GENERATION METHODS:

Before starting any discussion on various planning theories, a legitimate question arises : Is planning theory necessary ? Can not the planner, simply, apply his or her intelligence, to a particular situation and proceed without theory ?

According to John M. Levy, *the question of whether theory is not simply a waste of time or a*



*diversion is the question with which the practical man or the man of action derides the philosopher. Lev-Y says, that, we all possess theories and they form the basis, on which we act. Every one has, he adds further, ideas about how things are and how the world works. He sees the difference between the 'practical man' and the 'theorist' simply that, the former takes these ideas for granted and the latter thinks about them consciously and makes them explicit. But when one acts regardless of how much contempt one might have for theory or theorists, one, inevitably, acts on the basis of some theory, about how things work. "On what other basis can one act ?" Levy asks.*

2.1.2.1            LEVY, JOHN M. ; 'CONTEMPORARY URBAN PLANNING'  
PRENTICE HALL, ENGLEWOOD CLIFFS, NEW JERSEY  
07632:

John M. Levy, describes *three approaches to the act of planning. These are:*

- i.        Rational Model*
- ii.      Incrementalism, and*
- iii.     Mixed Scanning*

(i)            RATIONAL MODEL:

*The rational model prescribes a comprehensive approach,*

which begins with problem definition and proceeds through value clarification, to selection of goals, formulation of alternative possible actions, forecasting the consequences of those actions, selection of a course of action, detail plan formulation, and finally, evaluation and modification. The model is comprehensive and systematic. It is designed to begin at square one and proceed to an optimum choice of actions. The model can be regarded as the orthodox view. It has been subjected to a variety of criticism. Some have asserted that it is unrealistic and that planning is actually not done that way. Critics have also argued that it may ignore valid interest and considerations which would have been taken into account in planning process, which, placed less emphasis on system and optimization and more emphasis on reaching agreement among disparate and contending parties.

(ii) *THE DISJOINTED INCREMENTALISM :*

*The incremental approach, of whom Charles Lindblom is the best known protagonist, stresses the reaching of agreement; the making of incremental adjustments; and a fair amount of reliance on precedent.*

Lindblom suggests, that value clarification at the outset, though it sounds attractive in principle, is usually not practical. Rather, what counts is simply achieving agreements on goals. He suggests that the range of possible course of action, not be the very comprehensive one, suggested by the rational model. Rather, he argues, the planners should quickly come down to a short list of serious possibilities and focus their efforts, on these. He argues that planners and policy makers should be strongly influenced by precedent and by experience and that they should recognize the advantages, in many cases, of policy plans, which represent marginal or incremental changes from previous policies. The argument for an emphasis on marginal change is two fold. First, a policy which is simply an adjustment or fine tuning of a previous policy, is much more likely to gain acceptance than is a policy, which is a radial departure. Secondly, marginal or incremental adjustments require less knowledge and theory.

But criticism of disjointed incremental approach to planning is on following points. Firstly, there is one situation when incremental approach is not good, and that situation is in which a decision to move, in a

*new direction, must be made. Secondly, excessive reliance on the incremental approach can make one excessively dependent upon precedent and past experience and , thus, blind to worthwhile new ideas, and thus, leading to missed opportunities.*

(iii) *MIXED SCANNING:*

*The mixed scanning model, introduced by Amitai Etzioni, is, essentially, a synthesis of the above two approaches. It involves a less than complete scan of the situation followed by the application of a comprehensive approach to only parts of total problem. It has been generally well received by planners, in part, because it appears to describe a process which many planners actually follow.*

2.1.3 *DEFINING EVALUATION IN PRESENT CONTEXT:*

Now, following discussion is about what is meant by 'evaluation' ? Also what are the various stages in evaluation of a master plan. Finally, various indicators used in evaluation are discussed.

2.1.3.1

PERRATON, JEAN; "THE PROCESS OF EVALUATION" IN MODELS, EVALUATION AND INFORMATION SYSTEMS FOR PLANNERS, ed. by Jean Perraton and Richard Baxter MTP Construction 1974:

A) Defining Evaluation:

Jean Perraton, in above paper, *defines evaluation as 'a formal procedure for examining the pros and cons of alternative plans or courses of actions, and placing a value on them'.*

*He further adds that the goal directed view of planning, the first characteristic of planning process, requires that the values and the reasoning, upon which, plans are based should be made explicit. Evaluation must relate, directly, to the stated goals and objectives.*

*The second characteristics of planning is that it should be a comprehensive process. Essentially, comprehensiveness implies the need to take into account, interactions with the rest of the system, or related systems and decision areas. Evaluation, likewise, according to perraton, must be a wide ranging procedures.*

*The third characteristic of the planning process is that policies and plans should be based on the goals and objectives of the community, the users, rather than producers (whether developer or planners). Hence, evaluation should also relate to these values of community, rather, that of procedures.*

*The fourth characteristics of the planning process, in new view of planning, says Perraton, is the recognition, that it involves inherent conflicts, and the need for political choice.*

*These conflicts arise from several sources:*

- i. Firstly, the achievement of different goals and objectives, all of which may be considered desirable, may pose direct conflicts.*
- ii. Secondly, even where there is no such incompatibility, the implementation of many objectives involves competition for scarce financial resources.*
- iii. Thirdly, the implementation of any policy will affect, differentially, particular individuals or sections of the population. Some will "benefit", some will "lose".*

*No longer, planner regard himself as a neutral*

arbitrator between competing uses of land, in the interest of the community, as a whole. No longer can be assumed, that the right solution to the problem, will simply, emerge from the survey and analysis of the area; the right solution is a matter of judgment and choice. Perraton says, Evaluation is the procedure to aid in the choice.

The fifth characteristic of the planning process, is that, it needs to be a continuing, cyclical process. According to Perraton, we are faced with many uncertainties: uncertainty about the present and future values of the community, upon which the choice of plan or policy should be based, uncertainty about the effects of planning policies, uncertainty about the effects of future technological changes upon the environment. These uncertainties point to the need for a planning system, which is capable of adopting to change: this means periodic evaluation and continuous monitoring of plans, according to changes; follow up studies, to assess the effects of plans, to assess users satisfactions, to produce the feed back, needed to adjust assumptions and forecasts, to redefine goals and to rethink policies.

(B) THE PROCESS OF EVALUATION:

Perraton, further, discusses the implications of this new view of planning, for the process of evaluation:

1. *Firstly, the goal directed view requires that the goals and objectives and their relative importance, be stated explicitly and the criteria for evaluation must relate, directly, to the goals and objectives of the plan. The aim of evaluation must be to elucidate those impact relevant to the chosen objectives.*
2. *Secondly, the requirement of objectives, to be expressed, in terms of sections of the community, indicates the need for the use of evaluation procedures during the plan making process.*
3. *Thirdly, the conflicting nature of plan objectives, requires that evaluation procedures, be based upon the recognition of conflict. (Boyce and Day, 1969).*
4. *Finally, the recognition that plan making process must be continuing, cyclical procedure, implies the need for "post-evaluation" of the consequences of planning decisions.*

*To sum up, therefore, evaluation should be:*

- \* Goal Directed - evaluation measures and their ranking must relate, directly, to the goals and objectives.*



- ' *Comprehensive* - not only must those criteria, be based on the full range of objectives, but the procedure must be wide ranging in it's exploration of impacts.
- ' *Explicit* - In setting out, clearly, the essential assumptions and value judgments.
- ' *Clarifying* - to enable diverse considerations to be compared and thus to facilitate rational choice between them, but also.
- ' *Disaggregative and informative.*

(c) *EVALUATION CRITERIA:*

Finally, Perration takes a quick look at some of the evaluation criteria. According to him, the choice of appropriate performance measures or indices, to represent those criteria, is crucial, for the validity of the evaluation process.

Where alternatives are put forward for evaluation, the criteria should relate, directly, back to objectives. One must remember, of course, that there can be no one to one relationship between objectives and evaluation criteria, or between evaluation criteria and performance measures. In this

case, says Perraton, there can not be, any really objective evaluation measures. There seems to be a tendency to assume, that if a measure is expressed quantitatively, and especially, if it rests upon some observed regularity in existing behaviour, it thereby becomes an objective measure; which measure is most suitable, rests upon a judgment; a judgment, according to Perraton, that should attempt to interpret public preferences. The tendency to regard, measures based on observed behaviour, as 'objective', often appears to rest on two other mistakes:

\* One, is to assume that observed behaviours, necessarily, reflect preferences.

\* The second is the failure to distinguish between what is, and what ought to be; evaluation is about 'What ought to be'.

Perraton concludes with the remark, that, "evaluation is a difficult, complicated and, ultimately, subjective process. Our choice of evaluation criteria must be related to, what matters, rather than, what can be measured, easily".

2.1.3.2

HOUGHTON, TONY, "SOME THE PRACTICAL ASPECTS OF EVALUTION AND THEIR APPLICATION TO PLAN MAKING", IN 'MODELS, EVALUATIONS AND INFORMATION SYSTEMS FOR PLANNERS', ed. by, Jean Perraton and Richard Baxter, MTP Construction, 1974:

(A) Defining Evaluation:

Tony Houghton, in his above paper, defines evaluation. He starts with the point, that 'evaluation' is not a model; if one defines a model, as a representation of reality, in mathematical terms. Therefore, the criterion of the usefulness of an evaluation technique, is not the goodness to fit, as it is, in the case of a model. In an evaluation technique, one has not, got the same sort of calibration problem and the criterion of evaluation is not, how well it fits the situation, but whether, it is useful in the decision making process. This is not to say, that a given evaluation technique may not incorporate behavioural models, where the calibration criteria still apply; but the overall criterion for a successful evaluation technique, must be its usefulness, rather than, it's goodness of it.

Further, Houghton also, firstly, sets the scene of a view of the planning process in its technical aspects, in order to define the evaluation, more comprehensively. He looks at a plan, as a set of values, assigned to a set of decision variables. The decision variable, might be how much land to allocate for housing in a particular zone, and a given plan will have a value assigned to that plan variable, say, ten acres. The process of evaluation is, basically, trying to establish whether that plan is a good plan. Uptil now, the discussion was focused on the evaluation as a means of choosing between alternative plans; several alternative plans are generated, then one evaluates each of them, and then chooses one of them, on the basis of this evaluation. If there is not, really, very much to choose between these alternative plans, and there is another plan some where, which one have not formulated, which is far better than any of these alternate plans, then it is a waster if time. The way to get over this, according to Houghton, is to introduce a cyclical procedure. The key to this cyclical procedure is, the process of marginal evaluation. This means

looking at a plan and saying, not how good it is in relation to other plans, but how it can be improved on the basis of the evaluation criteria.

Houghton, further asks "is there any need for alternatives?". He answers himself as, there probably is need for alternatives for two quite separate reasons. The first reason is, purely, technical one. If the evaluation process were simply a case of finding a set of linear indicators, then there would be a unique solution, that is, a global optimum that would be fairly easy to find. But the real world (is not like this; urban systems are not linear. A process of optimisation from a given point, would, inevitably, lead to a local optimum. Second reason being that, there is also a need for alternatives which arise from political objectives, the political intervention in the planning process.

(B) *Evaluation Techniques:*

Houghton also, defines various techniques used for evaluation. He elucidates following:

*looking at a plan and saying, not how good it is in relation to other plans, but how it can be improved on the basis of the evaluation criteria.*

*Houghton, further asks "is there any need for alternatives ?". He answers himself as, there probably is need for alternatives for two quite separate reasons. The first reason is, purely, technical one. If the evaluation process were simply a case of finding a set of linear indicators, then there would be a unique solution, that is, a global optimum that would be fairly easy to find. But the real world ( is not like this; urban systems are not linear. A process of optimisation from a given point, would, inevitably, lead to a local optimum. Second reason being that, there is also a need for alternatives which arise from political objectives, the political intervention in the planning process.*

*(B) Evaluation Techniques:*

*Houghton also, defines various techniques used for evaluation. He elucidates following:*

"The weighting sets can be decided in several ways. This could be a way of introducing the way, the plan affects different sections of the community. We can say, that one weighting set represents the interests of a particular section of the community, and another represents the way another section would weight them. So, what we have done, is to look at each of these the policies, apply the weighting sets, and get a summary measure for each policy against each weighting set."

"The criticism of this sort of technique are fairly obvious:

- It is far too simplistic an approach.
- It assumes certain linear relationships.
- It assumes that, no matter how much development one puts in a particular area, the return will still be the same, per unit of development.
- The problem with the weighting sets; These are, usually, highly subjective.
- If this is the only technique used for evaluating a plan, then the best plan could be found, analytically, from these criteria. Despite all the work that was put into these objectives, and still, be a not very satisfactory plan".

"The goal achievement technique is a useful technique

*in its places. It is very useful at sub regional study level, for sorting out, coarse objectives at a fairly high level. It is, probably, a useful technique for clarifying ideas, but it is a technique with a lot of limitations."*

\* *COST MODELLING:*

*To explain this, Houghton presents following discussion:*

*"The cost modelling is, basically, to work out the capital cost implication of a plan".*

*According to him, in this technique, fiscal implications of each plan proposal are calculated on the basis of various inputs required, to accomplish each of that task. Then deciding whether the proposals are feasible or not.*

*This is also very easy and explicit technique but some big problems are generally encountered while using this technique:*

- \* *Many proposals which are not detailed out at that stage, problem of finding actual course of action and choice of one, form them.*



- *Problem of input data base, which, in case of several plan proposals, is very acute.*
- *Not every objective can be transformed, directly, into economic terms.*
- *No consideration of social welfare objectives and more emphasis on economic forces.*

• *BEHAVIOURAL MODELS IN EVALUATION:*

*Houghton explains, this behavioural model, as the model, not fit for practical purposes in each and every case, because it attaches a great amount of emphasis on people's preferences, in a given set of conditions, which he says, is the behavioural pattern of the people. According to him, in this model, various plan proposals are evaluated, with respect to the behavioural patterns of the people, that is, according to the preferences of the people, to choose one proposal and reject others. this model, as Houghton says, is a very good example to show the crucial link between economic approach and physical approach, which as Houghton says, many experts consider does not exist. According to him, in fact, there is a very close tie-up between behaviour in the market, the values that people put on alternatives, and this behavioural model, which can be shown, to be a model of behaviour in aggregate.*

Finally, Houghton says that evaluation, really, boils down to looking at the sort of constraints, that the planning process applies on the market.

2.1.3.3 BRACKEN, IAN; "URBAN PLANNING METHODS : RESEARCH AND POLICY ANALYSIS", METHUEN, LONDON & N.Y.:

Ian Bracken, defines various methods of evaluation, as below:

- *Check-list approach*
- *Cost-Benefit analysis*
- *Planning Balance Sheet*

• *CHECK-LIST APPROACH:*

According to Bracken, "Landuse planners have traditionally, used a check-list approach to evaluation, comparing the emerging plans and policies with lists of criteria, that they hoped, the plan would satisfy. This process was rarely practiced, systematically, and the 'trade-off' between options, and the opportunity costs associated with the one option, as against another, were barely recognised. The check-list approach placed great emphasis upon the planners ability to, in-tuitively, generate suitable 'objective criteria' and the decision makers to judge

the overall worth, of a particular selected strategy. The essential difference between contemporary planning practice and this technique is that, the inter-relationship between their respective achievements, the resource costs, more general welfare costs, and the tangible and intangible benefits are more generally recongnized."

#### COST - BENEFIT ANALYSIS:

Ian Bracken says, that cost benefit analysis is one of the two general approaches, which have dominated the search for improved ways to evaluate urban plans. The planning balance sheet being the other one. He further adds, that the cost benefit analysis seeks to measure and evaluate, systematically, the incidence of benefit and disbenefit (costs) from a given plan or policy, as it affects a given set of groups in society. The method requires two fundamental conditions to be met, not easy to achieve in practice. First, it is necessary to ensure that a sufficiently wide range of alternatives are analysed in order to assume that, the policy which maximizes net benefits, is in fact among those considered. Secondly, in theory, it is necessary to assume that, items of cost and benefit,

which are included in the analysis, do effectively represent all the gains and losses of every member of society, whose well being might be affected by the implementation of the programme (chadwick, 1976). The difficulties in attaining these objectives are:

- \* The need to deal fully, with the opportunity costs of a particular plan.
- \* It is necessary to assume a 'lifetime' for the plan or policy, over which, it will yield benefits to society and also, over which, it's. Costs have to be borne; this is referred to as the 'discounting period'.
- \* The benefits and costs, ideally, need to be measured on the basis of the preferences of individuals or groups, who may be affected; objective measures of which, to be derived from evidence of peoples behaviour, rather than from their stated preferences, per se (Lichfield et al., 1975).
- \* The measurement of costs and benefits is a difficult process, because cost benefit analysis

is, essentially, a process of economic optimization, and therefore, needs to reduce all items to a common 'metric'; in effect this means a 'money value'.

- ' Problem of weighting the cost and benefits, among individuals, to represent the importance, that they attach to the effects, that the plan or policy have upto them.
- ' Problem of overlapping and conflicting objectives.
- ' It denies the value of any kind of political choice as to the preference of a particular policy.

' THE PLANNING BALANCE SHEET:

The Bracken says, the concept of the planning balance sheet was developed by Lichfield (1962, 1969, 1970). This, according to Bracken, seeks an objective approach to the effective evaluation of alternative policies and plans, but in a way, that avoids the need for monetary qualification of all elements, in the accounting frame work, yet, can consider the incidence of costs and benefits, upon different groups in the community.

Further, Bracken explains, that the planning balance sheet is constructed in following way (Lichfield, 1962, Lichfield et. al., 1975):

- The first task is to identify the various groups, who play a role in establishing and implementing the various plans and policies. These are termed 'producers / operators', and each is, as far as, possible paired with the appropriate groups of individuals, who will be consuming the goods and services, which are generated by the plans and policies.
- Each linked or associated pair of producers and consumers, is considered to be engaged in either a notional, or a real transaction. These 'transactions' are not, necessarily, confined to goods and services, in the traditional marketable situation, and can extend, for example, to amenity consideration, physical disturbance effects, indices of accessibility and so on.
- The balance sheet, then, aims to produce a comprehensive set of social accounts, in a descriptive, rather than, an analytical, framework. As well as the transactions, which

cover all the 'outputs' of the planning process, estimates can be made of the resource costs which are necessarily incurred in the plan and their distribution among the groups involved. though, there are transactions, which can not be quantified, the requirement, that each potential interaction is considered, ensures that no such interaction is overlooked.

The planning balance sheet, then, contains both 'hard' and 'soft' data, that is, both numerical values and statements about the plan; it has identified the various sectors within a community, who are, potentially affected, by the proposals, both beneficially and adversely. It has identified the various consequences of the proposals and how these relate, the objectives and preferences of the sectors of the society; it requires that units of measurement are made explicit, where it is possible.

The balance sheet, then, recognizes the political nature of planning decision making, by accepting that, choice must be made in consideration of a very diverse set of elements in the account.

*Bracken, then, defines the criticism levelled against the planning balance sheet technique. This being, the absence of efforts to 'weight' the various impacts and effects of the policies upon the sectors of the community (Hill, 1972).*



*Chapter - 3:*  
**LEGAL FRAMEWORK**  
**IN INDIA**

## CHAPTER 3

### 3.0 INTRODUCTION :

In west, particularly in Britain, the legal backing to if prepare a Master Plan is in the form of a statutory act passed by the govt. which makes provision for the planning authorities to make a general plan for the future development of an urban centre.

Here in India, this legal background is provided by various acts passed by different state government which enable the local planning authority to make a 'master plan' in order to achieve certain social welfare goals. Like "..... healthy and pleasing urban environment, efficient transport network better economic development, to meet the housing needs and to care the urban facilities and amenities requirements.....". Since the Indian town planning legislation, is heavily transpired by British town planning legislation, we found almost simultaneous emergences and acceptance of the concept of a master plan in both of these countries. In other words, one can say that as soon as the concept of master plan had emerged and accepted in Britain, almost immediately. In India the concept of master plan was directly borrowed from British Town Planning. As soon as in Britain, the Town and Country Planning Act, 1947 was introduced - the concept of master plan as the

major tool for preparing future development programme for a city, in India, the DELHI DEVELOPMENT ACT, 1957, provided the legal ground to prepare the master plan for Delhi. This is the first instance, in the history of town planning of India that the term 'Master Plan' is being used in an act. In following text, a brief review of some of the important Indian acts, has been done in order to establish a legal perspective for the preparation of a master plan, in Indian conditions :

### 3.1 REVIEW OF VARIOUS INDIAN ACTS PROVIDING FOR THE PREPARATION OF A MASTER PLAN :

#### 3.1.1 THE DELHI DEVELOPMENT ACT, 1957 :

This is the earliest act, which, for the first time, which made provision for the preparation of a master plan in India. Due to this reason, this act directly borrowed its contents from the provisions of town and country planning act 1947 of Britain.

The Delhi Development Act 1957 is also a land mark in the contemporary town planning of India, because it, for the first time, makes provision of constituting an authority called "DELHI DEVELOPMENT AUTHORITY (D.D.A.)" for the purpose of overall development of the capital city of India.

Section 3 of the Delhi Development Act, 1957, contains the legal frame work of Delhi Development Authority and its objectives. Sub section (2) of this section, defines D.D.A. as the Authority shall be a body corporate by the name aforesaid having perpetual succession and a common seal with power to acquire, hold and dispose off property, both movable and immovable and to contract and shall by the said name sue and be sued.

Further, section 5 sub section (1) of the Delhi Development Act 1957 categorically makes provisions for the preparation of a master plan "The Authority shall, as soon as may be, constitute an advisory council for the purpose of advising the authority on the preparation of the master plan and .....".

This act also speaks very clearly about the contents of the master plan. Section 7(1) of the act, says, "The Authority shall, as soon as may be, carry out a civic survey of and prepare a master plan for, Delhi Section 7(2) says, further, The master plan shall :

- (a) define the various zones into which Delhi may be divided for the purpose of development and indicate the manner in which the land in each zone is proposed or to be used (whether by the carrying

out there on of development or otherwise ) and the stages by which any such development shall be carried out, and

(b) serve as a basic pattern of frame work within which the zonal development plans of various zones may be prepared.

Section 7 (3) says, "The master plan may provide for any matter which is necessary for the proper development of Delhi.

Section 9, 10 and 11 of the Act, give details of the procedure to be followed for the preparation, approval and make operational, the master plan. This whole process of preparation and modification of a master plan has been shown in Fig. ( ) diagrammatically.

### 3.1.2 MAHARASHTRA ACT NO.XXX VII OF 1966: THE MAHARASHTRA REGIONAL AND TOWN PLANNING ACT, 1966 :

This is another land mark act of Indian Town Planning, because for the first time the term, Regional Planning, was first time added in an act of town planning. This act provides for preparation of a Regional Plan along with Development Plan.

Section 13 of the Maharashtra Regional and Town Planning Act 1966 says.

"Subject to the provisions of this act and the rules and regulations made thereunder, a Regional Board shall, with a view to securing planned development and use of land in a Region, carry out a survey thereof, prepare an existing, Land use map thereof, and other maps as are necessary for the purpose of preparing the Regional Plan.

Regarding contents of the Regional Plan, Section 14 of the Act says.

".....Regional Plan shall indicate the manner in which the Regional Board purpose that land in the Region should be used, whether by carrying out there on development or otherwise, the stages by which any such development is to be carried out, the net work of communications and transport. The proposals for conservation and development of natural resources, and such other matters as are likely to have an important influence on the development of the Region; and any such plan in particular, may provide for all or any of the following matters, or for such matters thereof as the State Government may direct, that is to say -

- a. allocation of land for different uses, general distribution and general location of land, and the extent to which the land maybe used as residential industrial, agricultural or as forest,f or for mineral exploitation;

- b. reservation of areas for open spaces, gardens, recreation, zoological gardens, nature reserves, animal structures, dairies and health resorts.
- c. transport and communications, such as roads, highways, railways, water ways, canals and airports including their development;
- d. Water supply, drainage, sewerage, sewage disposal and other public utilities, amenities and services including electricity and gas;
- e. reservation of sites for new towns, industrial estates and any other large scale development or project which is required to be undertaken for proper development of the region or new town.
- f. preservation, conservation and development of areas of natural scenery forest, wild life natural resources and land scaping.
- g. preservation of objects, features, structures, or places of historical, natural, architectural or scientific interest and educational value;

- h. areas required for military and defense purposes,
- i. prevention of erosion, provision for afforestation, or reforestation, improvement and redevelopment of water front areas, rivers and lakes.
- j. Proposals for irrigations, water supply and hydro electric works, flood control and prevention of river pollution;
- k. providing for the relocation of population or industry from over populated and industrially congested areas, and indicating the density of population or the concentration of industry to be allowed in any areas."

Further Section 16 says,

"..... the publication of a draft Regional Plan may, in particular, include :

- a. a report on the existing land use map and the regional survey carried out as aforesaid,
- b. maps, charts, and a report illustrating and explaining the provision of the draft regional plan and indicating the priorities of works to be executed there under.
- c. a report of the stages of the development programme by which it is proposed to execute the Regional Plan, and



- (f) reservation of land for community facilities and services.
- (g) proposals for designation of sites for service industries, industrial estate and any other development on an extensive scale.
- (h) preservation, conservation and development of areas of natural scenery and landscape. preservation of features, structures or places of historical natural, architectural and scientific, interest and educational value;
- (i) proposals for flood control and preservation of river pollution;
- (j) Proposals for the Central Government, a State Government planning Authority or public utility undertaking or any other authority established by law for designation of land as subject of acquisition for public purpose or as specified in Development Plan having regard to the provisions of section 14 or for development or for securing use of land in the manner provided by or under this act.

- h. areas required for military and defense purposes,
- i. prevention of erosion, provision for afforestation, or reforestation, improvement and redevelopment of water front areas, rivers and lakes.
- j. Proposals for irrigations, water supply and hydro electric works, flood control and prevention of river pollution;
- k. providing for the relocation of population or industry from over populated and industrially congested areas, and indicating the density of population or the concentration of industry to be allowed in any areas."

Further Section 16 says,

"..... the publication of a draft Regional Plan may, in particular, include :

- a. a report on the existing land use map and the regional survey carried out as aforesaid,
- b. maps, charts, and a report illustrating and explaining the provision of the draft regional plan and indicating the priorities of works to be executed there under.
- c. a report of the stages of the development programme by which it is proposed to execute the Regional Plan, and

d. recommendations to the State Government regarding the directions to be issued to the local authorities in the Region and the different departments of the State Government, if any, in respect of enforcement and implementation of the proposals contained in the draft plan".

Regarding<sup>n</sup> preparation of the Development Plans, section 21(1) of the Maharashtra Regional and Town Planning Act 1966, says,

".....every Planning Authority shall carry out a survey, prepare an existing land use map and prepare and publishers a draft development plan for the area within its jurisdiction, in accordance with the provisions of a Regional Plan, where there is such plan ....."

This act also speaks about the contents of this Development Plan, in very clear terms, Section 22, says,

"....A Development plan shall generally indicate the number in which the use of land in the area of a planning authority shall be regulated, and also indicate the manner fin which the development of land therein shall be carried out. In particular,f it shall provide so far as may be necessary for



all or any of the following matters, that is to say, :

- (a) proposal for allocating the use of land for purposes, such as residential, industrial, commercial, agricultural, recreational.
- (b) proposals for designation of land for public purposes, such as schools, colleges and other education institutions, medical and public health institutions, markets, social welfare and cultural institutions, theater and places for public entertainment, or public assembly, museum, art galleries, religious buildings and Government and other public buildings as many from from time to time be approved by the State Govt.
- (c) proposals for designation of areas for open spaces, play grounds, stadia zoological gardens, green belts, nature reserves, sanction and dairies.
- (d) transport and communications, such as roads, high ways park ways, railways, water ways, canals and air ports, including their extension and development ;
- (e) Water supply, drainage, sewerage, sewage disposal, other public utilities, amenities, and services including electricity and gas.

- (f) reservation of land for community facilities and services.
- (g) proposals for designation of sites for service industries, industrial estate and any other development on an extensive scale.
- (h) preservation, conservation and development of areas of natural scenery and landscape. preservation of features, structures or places of historical natural, architectural and scientific, interest and educational value;
- (i) proposals for flood control and preservation of river pollution;
- (j) Proposals for the Central Government, a State Government planning Authority or public utility undertaking or any other authority established by law for designation of land as subject of acquisition for public purpose or as specified in Development Plan having regard to the provisions of section 14 or for development or for securing use of land in the manner provided by or under this act.

- (k) The filling up or reclamation of low lying, swampy or unhealthy areas or leveling up of land;
- (l) provisions for permission to be granted for controlling and regulating the use and development of land within the jurisdiction of a local authority including imposition of conditions and restrictions in regard to the open space to be maintained about buildings, the percentage of building area for a plot, the location, number, size, height, number of stories and character of building and density and population allowed in a specified areas of land may or may not be appropriated, the sub division of plots, the discontinuance of objectionable users of land, if any area in reasonable periods, parking spaces and loading and unfolding space for any building and projections and advertisement signs and boarding and other matters "as may" be considered necessary for carrying out the objects of this Act....".

Further, Section 26z92) says,

"The following "particulars shall be published alongwith the draft Development plan, namely :

- (a) a report on the existing land use map and the surveys

carried out for the purpose of preparation of the draft plan;

- (b) maps, charts, and a report explaining the provisions of the draft development plan;
- (c) regulations for enforcing the provisions of the draft development plan and explaining the manner in which the permission for developing any land may be obtained from the Planning Authority or the Said Officer, as the case may be;
- (d) a report, of the stages of development by which it is proposed to meet any obligations imposed on the planning authority by the draft development plan;
- (e) an appropriate estimate of the cost involved in acquisition of lands required by the Planning Authority for public purposes, and also cost of works, as may be necessary.

### 3.2 FINDINGS :

Foregoing text puts forward some important issues related to the legal frame work in Indian regarding preparation of the master plan : Following is the summing up of these issues : (FIG.3)





### 3.2.1 CONSTITUTIONAL BACKING TO THE PREPARATION OF THE MASTER PLAN :

It is evident from the review of above acts that there is a solid backing provided by the constitution to the process of preparing a master plan. These acts make it mandatory on the local planning authorities to prepare a master plan for the concerned city, within a stipulated time after the enactment of the town planning act of that state. It is also provided in the acts that if a focal planning authority fails to prepare a master plan or could not prepare a master plan then state government directs the State town planning department to prepare that master plan and recover the cost from that local authority.

### 3.2.2 CONTINUOUS REFINEMENT IN THE CONTENTS OF THE ACTS :

There is a marked refinement in the contents of various acts, as the time passes ; later acts more clearly mention the terms master plan or development plan and the content of these master plans are more explicitly defined in these. Earlier acts, like Delhi Development Act 1957, do mention the term 'Master Plan' but these acts do not clearly tell, what a master plan should contain. But in later acts, like the Maharashtra Regional and Town Planning Act, 1966, mention in very detail, that apart from various related matter should be contained in a

master plan. In fact, in this particular, act, first time regional aspect is also included and is required to be taken into consideration for the purpose of making a development plan, for the first time in India.

### 3.2.3 SHORT COMINGS :

There are some glaring short comings in these acts. First, because these act actually enumerate the contents of the master plan, hence the master plan produced according to these acts becomes quite rigid. Because the urban system is so complex and contain so many inter acting sub systems that, now-a-days , the demand is to make plan making process a multi disciplinary exercise. But these acts do not provide for this multi disciplinary approach to be adopted by the planning agencies.

Secondly, contents of a master plan under these acts, generally comprise of matter relating to physical disposition of various resources, but these acts overlook various other related issues like social values, environmental considerations and flexibility of plan to be adjusted according to need.

Thirdly, these acts speak little about the problem of implementation of the master plans. Due to non involvement of other related departments, which are responsible for providing

various services and facilities to the cities, in the preparation of master plan, difficulties are experienced regarding implementation of various proposals of services and facilities for the city.

Fourth point is, these acts do not provide for any kind of technical evaluation of a master plan after it has been prepared. Also lack of alternate master plans prevents option to utilize various resources more efficiently.

Finally, financial aspect of implication of these plans do not find any mention in any of the acts of town planning in India, which is the greatest cause of various proposals getting stuck due to non availability of finances.

*Chapter-4:*  
**REVIEW OF THE  
MASTER PLANS**

## CHAPTER - 4:

### 4.0 OVERVIEW: LUKCNOW MASTER PLAN - 1995 (FIRST MASTER PLAN)

This Master plan of Lukcnaw was prepared by Town and Country Planning Department, Government of Utter Pradesh and published jointly by the Controlling Authority, Regulated Area under the Utter Pradesh Regulation of Building Operations Act 1958 and Nagar Mahapalika Adhiniyam 1959. The Master Plan was approved by the Government in 1966, - and came in force with effect form 27.01.1970.

The plan had envisaged a population of 18.3 lacs by the year 1995 distributed over five planning districts. The planning district a functionally was conceived as City Centre and Administrative centre, Planning District B as Educational District, C as Recreational District, D as Industrial - cum - Transportation District and E for undefined use.

### 4.1 EVALUATION OF LUCKNOW MASTER PLAN - 1995: BY U.P.T.C.P.D.:

4.1.1 *Since the enforcement of the plan, it has been amended 31 times which has directly affected more than 6,000 acres of land falling outside the urbanisable limits of the present master plan.*

4.1.2 *During the last 18 years, it has been observed that certain basic assumptions of the master plan have not come true, e.g., the implemented schemes have given new direction to the growth of the agglomeration:*

a) *To elaborate, the Rae Bacilli, Hairdo and Faizabad road residential schemes initiated by L.D.A. and U.P.H.B. have proved that the big areas, which were, once considered as water logged and unsuitable for habitation, is now available in the immediate vicinity of the settled areas of the city, for development.*

b) *Consequently, the direction of the growth of the city, which was envisaged, only, along two access viz., Kanpur and Sitar road, are two of the five directions of the growth. Now the directions of the growth resulting into opening on every major outgoing roads viz., Kanpur, Rae Bareilli, Sitapur, Hardoi and Falzabad road.*

4.1.3 *Similarly, the transportation networks which have been implemented, during the last few years, or are going to be implemented during the next five years, being a result of concerted efforts made by the L.D.A. as the nodal agency, have resulted in changing the entire*

concept of accessibility to the residential and work centres. To briefly elaborate it:

4.1.3.1 Existing Ring Road:

- a) from Kanpur road to Hardoi road linking Kanpur road Scheme and Rajaji Puram.
- b) from Sitapur road to Faizabad road linking Indira Nagar, Vikas Nagar and Aliganj.
- c) link road from Kalidas Marg to Gomti barrage to Faizabad road, providing direct link from Hazratganj to Faizabad road.

4.1.3.2 Proposed links:

- a) Vikramaditya Marg to Faizabad road linking Hazratganj, with the highest order facility areas of Lucknow, located in Vipin Khand, Gomti Nagar.
- b) from Sitapur road to Hardoi road and Rae Bareilly road to Faizabad road.
- c) the proposed elevated express highway along the Ghazi-ud-din Haider Canal, linking the residential localities of Rajaji Puram, Aishbagh, Indira Nagar, Mahanagar with the work centers in the core of the city, namely, the secretariat and other Government and Semi-Government offices.

4.1.4 In addition to the transport network the accessibility by rail, is tremendously altered, namely, the proposed construction/development of Charbagh Railway Station, towards Kanpur road side and the development of Daliganj Railway Station, as the Central Terminal for N.E. Railway.

4.1.5 While reviewing the objectives and recommendations of the master plan, the following points need to be highlighted:

4.1.5.1 *Population Projections:*

The master plan had envisaged a population of 18.3 lac for the year 1995. The estimated population for the year 1981 was 11.9 lac according to the plan while the city could reach only 10.07 lac as per 1981 census. The decadal growth rate assumed for the plan period. (35.2 percent) turned out to be too high. The city has in fact been registering a decreasing trend in growth rate which was 24.31 percent and 23.79 percent for the decades 1961-71 and 1971-81 respectively. The natural growth of population,



registered by the city, during the last decade (1971-81) was only 16.7 percent, which was 20.28 percent during 1951-61 decade.

The economic base of Lucknow was envisaged with appreciable working force employed in industrial sector. During the last 18 years, the industrial sector could not find suitable environment and it continued to grow as administrative, service, educational and cultural centre. Consequently, it adversely affected the growth of population. As a result the decadal growth recorded is only 23.79 percent, as against 35.2 percent as envisaged by the master plan. The immigration in the agglomeration during the last decade was 2.85 percent.

The master plan envisaged a participation rate (work force) of 31.15 percent during the plan period. On the other hand, the participation rate has been declining over the year and came down to 27.7 percent in

1981. The reasons for the declining participation rate are:

- a) Slow pace of industrialization leading to reduced levels of in-migration, and
- b) Decrease in infant mortality rate.

#### 4.1.5.2 Commercial Areas and Commercial Activities:

The master plan envisaged that a greater percentage of working force will get gainful employment in trade commerce and professional services. The master plan had proposed seven District Centres, to cater for the demand of the envisaged total population of city, while only two (Gole Market and Nishatganj) have come up. In the same way of the proposed six Sub-Central District Centres, only one at Sitpur road has been developed. This has resulted into disbalanced distribution of commercial facilities on one hand and conversion of residential uses into commercial on major streets of the city, on the other. Undesirable development along the already narrow and congested streets, in the form of bazaar streets and lanes, is now a common feature in major part of the city. While the proposed Central Business Districts have not been fully developed,

*commercial activity has tended to spread to along unidentified corridors.*

#### **4.1.5.3 Industrial Area:**

*Industrial use proposed in the master plan was mainly along Kanpur road, Faizabad road and Aishbagh area. Of the proposed industrial areas, less than 40 percent have been developed. Three industrial estates viz. Aishbagh, Amausi and Sarojini nagar have been developed for 325 units (excluding scooters India Ltd.). Of these only 189 units have been functioning. In Aishbagh area and along Faizabad road, the proposed industrial land use has partly been amended.*

#### **4.1.5.4 Offices:**

*The plan had proposed centralization of government offices as multi storeyed blocks (not less than 15 stories ), in the central core of the city, around the existing nodal office complexes. In the master plan, only 160.70 hectares of land had been proposed for office uses, which, keeping in view the administrative character of the city, proved to be insufficient, as at present, the area under office*

use is about 475.00 hectares. Multi-storeyed development for the office has taken place in various commercial complexes, such as, Kapoorthala Complex, Gole Market, Vidhan Sabha Marg and other residential areas.

#### 4.1.5.5 Transportation:

The following major proposals regarding the transport facilities have not been implemented so far:

- i. Freeway to link sitapur road with Hardoi road.
- ii. The depressed freeway along G.H. Canal.
- iii. Of the six proposed truck and bus terminals, only one, at Kanpur road, has come up.
- iv. kaiser bagh, Charbagh and Amausi bus terminals have not been improved.

#### 4.1.5.6 Institutional Uses:

In the master plan, area along Kursi road had been proposed for specialized type of social and Cultural Institutions of provincial and national importance. Such institutes have come up in the city viz., Engineering college, Sports college and Sanjay Gandhi Post Graduate Institute of Medical Sciences, but not at the proposed site, leading to changes in the

*directions of growth of the city and to major landuse changes.*

**4.1.5.7 Unauthorized Uses:**

*Area which had been proposed for recreational uses have not been developed fully leading to unauthorised developments, such as, areas between Kukrail nala and Indira Nagar, areas along Cambwell road, Chand Jhil, La Martiniers, Chinhhat.*

**4.1.5.8 Recreational Uses:**

*Parks etc. developed by L.D.A. like Buddha Park, Hathi Park, Neebu Park are concentrated in one park of Lucknow only.*

*Areas proposed for parks and play ground between the bund line and River Gomti, has not, so far, been fully developed.*

**4.2 REVIEW OF THE NEW REVISED MASTER PLAN - 2001:**

**4.2.1 OBJECTIVES:**

The new revised Master Plan - 2001 for Lucknow was prepared in 1990 and become operational form February 1992.

Following is the review of this new master plan:

Keeping in view the proposals of the previous master plan, levels of implementation and the problems, the revised plan has been prepared with the following objectives:

- *To evaluate the implementation and achievements of previous master plan with reference to the proposals and their validity in the present context.*
- *To formulate appropriate policies and strategies for the promotion of an organised and orderly growth of the city.*
- *To ensure an effective transport net work system for a smooth movement pattern.*
- *Adequate provision and a balanced distribution of facilities/ services for the population.*
- *To achieve a functionally viable relationship among various landuses.*
- *To formulate policies for the conservation/*

*preservation of the buildings/areas of historical/architectural importance.*

*To maintain a healthy physical environment in the city.*

#### 4.2.2 APPROACH TO PLAN:

To achieve the above mentioned objectives the following approach has been adopted:

##### 4.2.2.1 Review of the Previous Master Plan:

Various proposals of the previous master plan and their stages of implementation have been evaluated. It has been assumed by the master plan that Industrial Sector of the city's economy would play a predominant role in providing an impetus to the growth of the city which did not occur and hence the rate of growth of population remained low. Keeping in view the past trend of population growth and economic growth the population projections have been revised.

The character of the city has been administrative-cum, commercial-cum-highest order

facility centre and it will continue to be the same in future too. This character of the city has had a bearing on the resultant landuse pattern. Landuse proposals, namely, the industrial area in Gomti nagar, RajajiPuram, the institutional area along Kursi Road, which have not been implemented or a different use has come up, have been modified keeping in view the feasibility of the areas.

Certain new corridors, namely along Rae-Bareilly road, Kursi road and Sitapur road have been opened up with the location of specialised facility centre like Sanjay Gandhi Post Graduate Institute of Medical Sciences, Sports College and the Engineering College.

The area lying to the west of the densely populated old city have been opened up with the construction of the vital bye-pass link between Hardoi road and Kanpur road.

These developments have enhanced the growth of the city in all directions (except on Sultanpur road). The proposals in the master plan, therefore, have been made keeping in view these recent trends.



#### 4.2.2.2 Promotion of an organised and Orderly Growth:

At present the city has been experiencing physical expansion, in north, north - east, north - west and south. The development are mainly of residential character while the work centres have not tended to shift from the congested central areas of the city. These newly developed areas also do not have sufficient public facilities and services. Therefore, in the revised plan, decentralization of activity centres, has been proposed giving the city, a multi nodal character.

The existing spatial distribution of population in the city is uneven. The densities of population vary from more than 1000 persons per hectare in the central areas to less than 50 persons per hectare in the newly developing areas. In the Master plan it has been proposed that the densely populated areas should be thinned out. The maximum density for these areas have been proposed as 600 persons per hectare. The bungalow zone of the city, viz., Butler Palace area, clay square area, Gautam Palli area, Gulistan Colony area, Mall Avenue and La Place Colony area is a low density area. To retain its character low

residential density, i.e., 200 persons per hectare has been proposed. The remaining areas have been proposed for a uniform residential density, i.e., 400 persons per hectare.

The 'negative area' which are low lying areas along river Gomti, areas near Camb well road, Kanpur road, Rae Bareilly road and areas, lying west of proposed Gomti Nagar, have not been proposed for residential/ commercial/ industrial uses. These areas have been proposed, mainly, for recreational uses. Compact development of the city has been proposed to avoid the diseconomies of ribbon development and / or frog leap type of development.

#### 4.2.2.3 Effective Transport network System:

The transport network system in the plan has been proposed on the basis of the potentials of the existing network system and the future requirements of the city. Since the previous master plan came into effect new roads have been constructed affecting directly/ indirectly various proposals. Keeping in view these new developments, certain new linkages have been proposed.

#### 4.2.2.4 Adequate Provision and Balanced Distribution of Public

Facilities/ services:

Keeping in view the present, unbalanced spatial distribution of public facilities and services in the city, adequate provision for additional requirements have been made in the plan. The proposed city centres, sub city centres and sectoral shopping centres are proposed to have provision for the facilities of various orders, as per the norms, laid out in the plan.

Certain apex level facilities, viz., extension of university campus and a sports complex, and a cultural centre have been proposed at appropriate locations.

#### 4.2.2.5 Functionally Viable Relationship Among Various Landuses:

The city has been divided into five planning districts (excluding use undefined). Each of the district is proposed to be self contained in terms of various public facilities/ services, recreational

In the previous master plan the proposed road width in the densely built up areas of the city, were, at places, found to be more than feasible. Therefore, taking into account the existing widths of various roads, possibilities of their widening, the likely traffic volume and alternate routes, if any, the road widths have been proposed so that implementation becomes more viable. Also bus and truck terminals have been proposed at appropriate locations, keeping in view the inter as well intra city traffic movements.

For a better interaction between trans Gomti areas and other parts of the city, augmentation of the capacity of the existing bridges, and also, three new bridges over Gomti river have been proposed. Certain strategic rail road crossings have been identified for construction of flyovers overhead bridges. For a smoother movement of traffic, improvement has been proposed on various problematic road junctions/crossings.

for higher order public facilities and services, office areas and space for cultural and institutional areas.

The commercial activity along the roads is a common feature in Indian Urban Centres. To regulate the haphazard growth of commercial activities about 30 bazaar streets/ areas have been identified. For a smoother spatial interaction, the road network has been structured appropriately (by proposing net links and /or the widening of the roads), Truck and bus terminal have been proposed along the major/arteries.

#### 4.2.2.6 Conservation/Preservation of the Buildings/ Areas of Historical/ Architectural Importance:

Lucknow has got a number of historical monuments/buildings. These areas have been earmarked in the plan. To retain the aesthetic quality, and a rich architectural environment of these buildings, and monuments, the plan proposed the formulation of the tighter regulation and their strict enforcement.

areas, and work centres like commercial / office complexes.

Within the districts the locations demarcated for the various proposed landuses in the plan are on the basis of:

- i. The existing landuse of the specific site.
- ii. Existing and proposed landuse of the surrounding areas.
- iii. Requirement of the specific use at micro as well as macro level.
- iv. Accessibility of the site.

Along with the above mentioned criteria, hierarchical orders of various uses have been proposed, such as, Central Commercial Areas, City Centres, Sub-City Centres and Sectoral Shopping Centres. The Central Commercial Areas are the existing apex level commercial centres of the city. Parallel to these areas, city centres have been proposed for each of the planning districts, except planning district A-East, where Central Commercial Areas are located. These city centres will function not only as commercial areas of the district but also provided

#### 4.2.2.7 Healthy Physical Environment:

For creating a healthy physical environment the plan proposed the following measures:

- i. Thinning out of the densely populated inner areas of the city.
- ii. decentralization of the activity centres, to reduce the congestion on the roads.
- iii. Shifting of certain non-conforming uses/activities from the built up areas of the city.

#### 4.3 APPRAISAL OF INDIAN PLAN GENERATION PROCESS:

After referring the legal frame work in Indian conditions and having done a review of Lucknow master plan: -2001, the overall plan generation process, in India, starts becoming clearer. Also, a close observation of western plan generation process quite obviously differentiates the various stages in overall planning process.

While in the case of western cities, the first stage is to clearly identify the goals which the proposed plan should aim for. These goals are decided on two bases, there. One is the social values of the target

community and the other being the legal frame work. Though the later one is slightly dominant, the former one occupies very crucial place in deciding the goals of the plan. The reason being this may be that people there are comparatively more and are of their rights, their obligations and there priorities towards the overall social life. May be better economic status and better educational levels are also responsible for that. Hence, there in west, social values are bound to play the deciding role while choosing the goals for a plan. After deciding the goals the next stage is to enumerate objectives which should be derived to fulfill the goals. These objectives become the major parameters for the whole planning process.

But in India, the first stage in plan generation process is, outrightly, stating the objectives. These objectives are directly deduced from the legal framework, strictly, under which the plan has to be made. A review of legal framework in fore going text shows that it so strongly demands and literally dictates the objectives to be adopeted by the planning authority, which is responsible to make that plan. Though some amount of flexibility do exist in the legal framework as far as contents of the plan are



concerned, but almost every plan of an Indian city made so far, has more or less same objectives. This attracts the interest on one more point that, as a master plan of a city is to be made under a town planning act of the state, in which that particular city is situated; and because most of the state town planning acts are having direct bearing on the DELHI DEVELOPMENT ACT, 1957 ( The first one in The country) , which in turn is heavily influenced by the Town and Country Planning Act, 1974 of Britain; the similarity of objectives between different plan in Indian condition is obvious and inevitable. More so, the social value aspect of these objectives is indirectly taken care off by the legal frame work it self which is in the form of constitutional guarantees river to the citizens of the county. In this way, Indian mater plans rigidly follow the legal framework and this seems to be the only deciding factor choosing the objective at the very outset of the planning process. Therefore, while evolving a methodology for the evaluation of an Indian master plan, legal framework is to be kept in mind.

The rigidity of legal frame work is one of the many causes of the rigid master plan. An other important

cause of rigidity of master plans is the lack of required technical mass power and in sufficient infrastructure which is necessary to produce more flexible and comprehensive plans. The direct impact of these two factors is evident from the sizable amount of time taken by the planning authorities to come up with fairly comprehensive draft, master plan, Then next to it is the low priority given to these plans by the government against more pressing issues to be dealt with. this causes further delay in approving the draft master plan, which is the next stage in the planning process. All these amounts to so much of delay that in most of the cases almost 25-30% of the plan period is gone in just getting the draft master plan prepared and taking the approval of the government. This delay also causes the omission of preparing alternatedraftmaster plans, apart from financial constraints in doing so. This is another difference in Indian planning process and master planning process, where, in almost all cases, alternate plans are prepared to achieve the same set of goals and objectives.

The next differences between western and Indian planning processes is the absence of any evaluation by

the technical experts, of the prepared master plan. While in west, this evaluation is either done at the very beginning of the plan generation process or at the end of preparing a master plan. But in India, whatever evaluation is done for the appropriateness of the master plan, is done by the government which is more or less to check whether that plan fits into the socio-political frame of the government or not. But technical evaluation of the plan is totally lacking. these results in accepting one plan as to be the most optimum in the given set of circumstances. This leaves space for only financial evaluation of the various plan proposals, to be done.

Finally, after approval of the government the plan is finalised and published by the planning authority. On the date of publishing, the master plan becomes operational.

#### 4.4 FINDINGS:

Above discussion puts forward the following general outline of Indian Master Plan preparation process:

- STAGE - I: First of all, the government notify it's incentives to prepare the Master Plan of a city. In most of the cases, local planning authority is responsible to make the master plan, but if local planning authority can't make the plan, the government can get it prepared form the state town planning department; the cost incurred is to be recovered form the budgets of the local planning authority.
  
- STAGE - II: After it is decided that a master plan is to be made, the next task is to decide objectives of the master plan. These objectives are directly taken from the town planning act of the state, under which the master plan is to be prepared.
  
- STAGE - III: Then, surveys of existing conditions of that city is done and data base is prepared for this both primary as well as secondary sources are tapped.
  
- STAGE - IV: Once a data base is prepared, the next stage is to analyse the data and based on the

same, future projections are made for the plan period.

- STAGE - V: This stage consists of preparation of the draft master plan which consists the existing and proposed - landuse maps, transportation network, facilities and amenities, density pattern, phases of development etc. Apart from these the draft master plan also contain report containing information regulation and zonal regulation are also included in it.
  
- STAGE - VI: After preparing the draft master plan, the concerned agency publishes it widely and objections and suggestions are invited from the public and other authorities, upto a certain date.
  
- STAGE - VII: After expiry of the date, these objections and suggestion are considered and accordingly modification are made in the draft master plan.
  
- STAGE - VIII: Then this finalized draft master plan is submitted to the government for approval. The

government can approve the master plan as it is or it can propose further modifications, which the concerned agency has to incorporate and re-submit to the government for approval. The government has the reject the master plan and to ask the concerned agency to prepare the draft master plan afresh.

- STAGE - IX: In case of the draft master plan being approved by the government, it is considered to be the final master plan and then concerned agency publishes it for the open reference and sale. On the very date of publication of the final master plan it becomes operational.

The above process can be depicted diagrammatically as shown in Fig. . There can be minor variations in the above mentioned skeleton, for individual case, but overall process remains the same.

**PART-C:  
ANALYSIS, DESIGN  
AND TEST**

*Chapter-5:*  
**ANALYSIS OF THE  
FINDINGS**



## CHAPTER-5

### 5.0 INTRODUCTION:

The foregoing text has culminated in certain findings which have been incorporated in the end of individual chapters. Now, following is the analysis of these findings to arrive at certain facts, and to reach on certain broader criteria, which the master plan evaluation methodology has to be based upon. In order to analyse the above mentioned findings, following divisions has been made in order to maintain certain amount of clarity in the process of analysis :

- i. The basic difference between western planning process and Indian planning process.
- ii. The characteristics of Indian plan generation method.
- iii. Possible evaluation criteria.

### 5.1 THE BASIC DEFERENCE BETWEEN WESTERN PLANNING PROCESS AND INDIAN PLANNING PROCESS :

In Chapter 4, the literature survey findings provide a clearcut vision of the western planning process. The reference of western of planning process, for the Indian master plan generation process is important for two reasons :

- a. Firstly, as earlier mentioned, the Indian concept of master plan is heavily borrowed from the west, particularly from Britain. Hence Indian master plan generation process is also very much influenced by western practices. But at the same time certain indigenous improvisations have been made, in order to meet the requirements of Indian conditions.
  
- b. Secondly, in west, various new techniques have been evolved for the plan making to ensure desired development of a city. The references of these are lacking in Indian context. Hence, it would be interesting to, at least, explore a possibility to preview the Indian scene in new light.

#### 5.1.1 WESTERN PLANNING PROCESS :

Chapter 4 explores the various views of western planning processes. Here is an analysis of general planning process followed in the west.

One can say that western planning process is much more value based. There the first thing is to decide goals of the master plan, which are directly derived from the socio cultural values of the target community. These

goals are desired to be achieved by the proposed master plan. These goals also represent the aspirations and expectations of the community for the better way of life. Thus, these goals are not only related to physical development of the city. Now-a-days, a lot more thought has been given to the sustainable development of a community. Hence, the nature of goals is also rapidly changing towards achieving self sustainability in terms of inflow and outflow of various resources.

Once the goals are decided then the next thing is to make objectives which would be needed to achieve the above mentioned goals. These are like means to attain certain ends. These objectives directly relate to the predetermined goals of the community.

The next state is to formulate alternate plans, keeping in view the set objectives and available resource potentials of the city. These alternate plans are designed just like several different paths to reach a predetermined destination. These alternate plans serve two purposes :

- \* First, they provide an opportunity to compare the obvious advantages and disadvantages of these alternates individually, because each alternate plan advocates

different priorities to different issues. Hence, it is easier to choose from more than one plans, once the priorities are decided.

Second, a number of alternative plans for the same set of objectives shows the various options to the concerned agencies, particularly the government, who can very well decide which one to choose to suit their desires also, fulfilling the community welfare obligations, at the same time.

The next stage is to evaluate the alternate plans according to the already set objectives and goals are the initial stages. This is very important stage in whole planning process, because these alternate plans are evaluated to find there viability and efficiency to achieve the goals of the community. Also financial evaluation show the economic feasibility of these alternates. After evaluating all the alternates, the most satisfactory plan is chosen and is sent for public debate and government's approval.

The other important characteristics of western planning process are the public participation and a great amount of flexibility in plans. The public participation is very active in plan generation as almost on all the stages of plan making public opinion is constantly sought and given due value while

deciding various policies for future development. Regarding the flexibility in plans, it can be said that the plan proposals are generally flexible; to be modified as per the demand of the society from time to time. This means in a complete plan period the proposals can be modified several times as the circumstances demand, like the priorities are shifted from one sector to another or the political changes occur in between a plan period etc.

Now, in the west, the concept of "Structure Plan" has emerged, which allows much more flexibility in terms of policies and proposals, because in these structure plans, a broader policy structure is being proposed for the future development of the city. The details of proposals are made by the concerned planning agencies at the local needs, keeping the overall development well within the proposed policy structure. These structure plans are also very popular because planners have more liberty to exercise different techniques to overcome different problems for different sections of the community. These structure plans do not believe on any kind of set standards for anything. They advocate that all standards should be made suitable to the target community or the section of the community, to be precise.

The last thing pertaining to the western planning is the

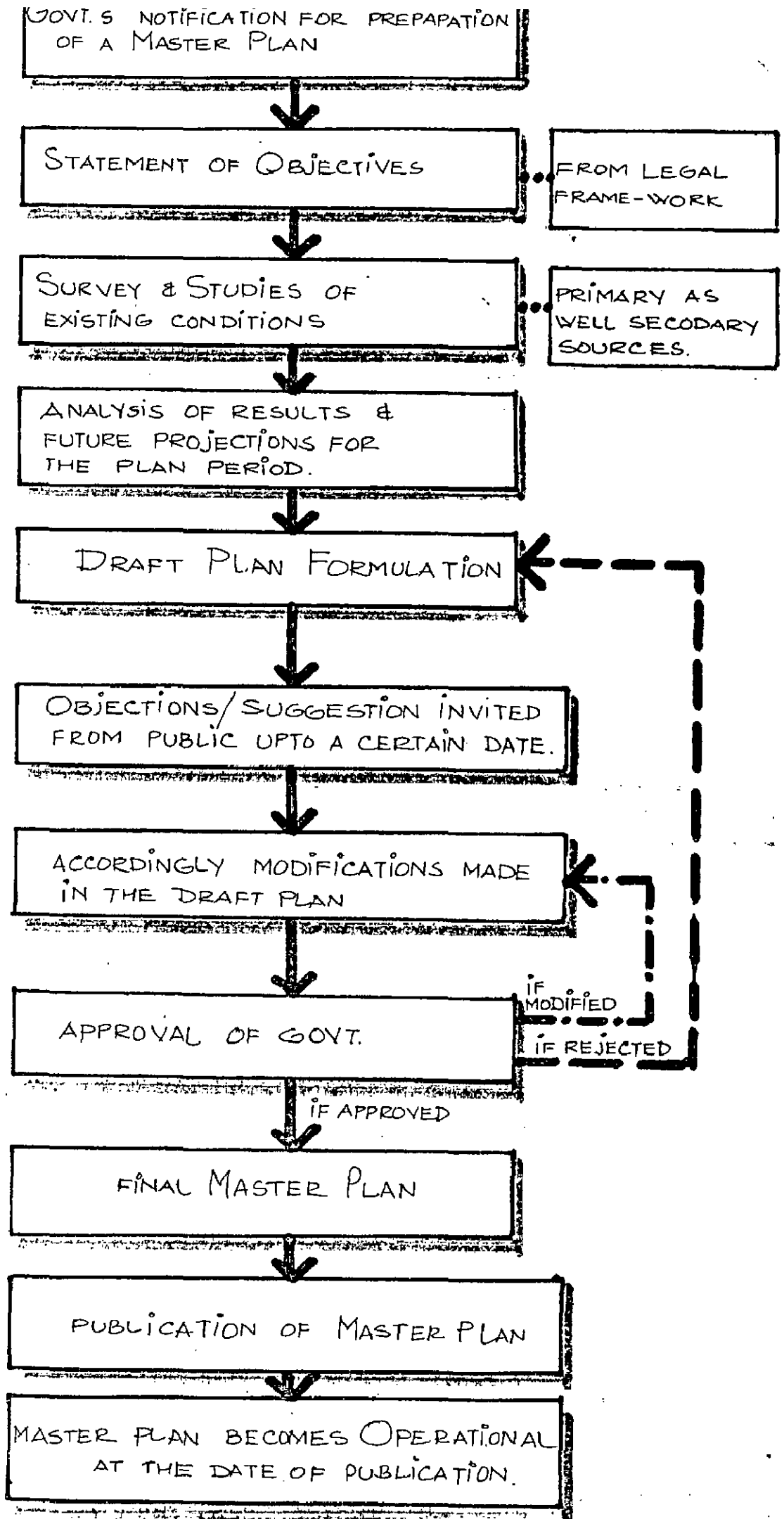
provision of constant periodic reviewing of the performance of the plan, once the plan has become operational. This helps the planners to trace, constantly, whether the plan is encouraging the development of the city on the desired trajectory or does it need to be modified, seeing the performance of the plan. This constant monitoring of the plan is possible because firstly there, in west, they attach higher priority to a well executed plan for over all development of the community and secondly, they have got much more better infrastructure to do so having a strong political will and number of trained and skilled professionals needed for the task. Thus western planning is generally goal directed.

#### 5.1.2 INDIAN PLANNING PROCESS : (FIG. 5-1.2)

Though heavily influenced by western planning process in concept there are certain inherent variations at the very concept. Here, in India the whole process of plan making is strictly regulated by the legal frame work. More so, planning agencies also do not exert more than what is required for the satisfaction of the legal frame. This may be due to the lack of motivation from the decision makers and in sufficient infrastructure to produce more comprehensive plans.

The very beginning is done by making a set of objectives,

FIG 5.1.2 : INDIAN MASTER PLAN GENERATION PROCESS



which are directly taken from the contents of the act, under which that plan is to be made . This may be taking care of the basic obligation of the constitutional frame work, which is the social welfare, rather than the economic gain, but deliberately nothing is included in the set of objectives which might otherwise be necessary for the overall development of the city. Here, this is not meant that one should be appreciating the western concept only and making critical remarks about the Indian practices, but the intention is that to point out the gaps in the very inception of a master plan, for a city, which would basically be aiming for the overall development of the community. Moreover, the Indian cities are entirely different from western cities, hence western concepts are not at all viable for the Indian context. But there are glaring gaps in the very conception of objectives of the master plan.

The next is the preparation of one and only one draft master plan, to achieve the set of objectives, which is considered to be the optimum plan for given set of parameters. This is one of the major deviation from the western planning process. The various alternatives are considered at the draft master plan preparation stage but, these alternates are thought of at the individual proposal level and not the full alternate master plans are made, as is done in west. This means, at each individual proposal level several alternates are thought of and



the most appropriate is finalized to be included in the draft master plan. This in a way, can produce an optimum plan, but it omits the opportunity of having alternate plans and then deciding which one to choose. Both are two absolutely unique ways to prepare a master plan and both have their plans and minus points. which method is most appropriate, is very difficult to tell. But obviously for Indian conditions, former one sounds the best, as it requires less input in terms of time and resources.

The next stage is the public opinion on the proposed draft master plan. This serves the need of public participation in Indian context. This kind of public participation is also quite different from the one which is adopted in west. There the public participation is used at the very preparation stage of the master plan, while in India, the public opinion is sought only after the completion of the draft master plan. Once the public objections and suggestions are collected, both at individual as well as collective level, then these are considered by the plan makers and then the modifications are made, in the draft master plan.

Then the draft master plan is sent for final approval of the government, after which the master plan is finalised and becomes operational.

1. J. L. COMPARING WESTERN & INDIAN PLAN GENERATION PROCESSES.

S.No.	BASIS OF COMPARISON	WESTERN PLANNING PROCESS	INDIAN PLANNING PROCESS
1.	CONCEPTUALIZATION OF THE GOALS	* BASED ON VALUES OF THE TARGET COMMUNITY; TAKING CARE OF THE ASPIRATIONS & EXPECTATIONS OF THE CITY INHABITANTS.	* NO SEPARATE MENTION OF GOALS, BUT INDIRECTLY RELATING TO THE CONSTITUTIONAL GUARENTEES PROVIDED TO THE CITIZENS.
2.	FRAMING THE OBJECTIVES	* DIRECTLY RELATING TO THE GOALS; 'MEANS' TO ACHIEVE THE GOALS.	* MAINLY, TAKEN FROM THE LEGAL FRAME WORK, INDIRECTLY FULFILLING THE CONSTITUTIONAL AS WELL AS SOCIAL OBLIGATIONS.
3.	PUBLIC PARTICIPATION.	* DIRECT; RIGHT AT THE BEGINING OF THE PROCESS AND CONTINUES UPTO THE END OF THE PROCESS.	* INDIRECT; AFTER THE PREPARATION OF THE PLAN, PUBLIC OPINION IS SOUGHT.
4.	PLAN FORMULATION	* SEVERAL ALTERNATES OF PLANS ARE PREPARED TO ACHIEVE THE SAME SET OF OBJECTIVES.	* ONLY ONE DRAFT MASTER PLAN IS PREPARED; THOUGH ALTERNATES ARE CONSIDERED AT INDIVIDUAL PROPOSAL OR POLICY LEVEL; THE PLAN IS CONSIDERED TO BE AN 'OPTIMUM' ONE.
5.	EVALUATION OF PLAN(S).	* ALL THE ALTERNATE PLANS ARE EVALUATED WITH RESPECT TO THEIR VIABILITY & PRIORITIES OF THE SOCIETY; AS A RESULT ONE PLAN IS CHOSEN.	* NO TECHNICAL EVALUATION OF THE PROPOSED DRAFT MASTER PLAN; AFTER MAKING THE DRAFT MASTER PLAN, IT IS MODIFIED AS PER THE OBJECTIONS/ SUGGESTIONS BY THE PUBLIC & THEN IT IS SENT FOR GOVT.'S APPROVAL
6.	REVIEW & MONITORING OF THE PLAN.	* AFTER THE PLAN BECOMES OPERATIONAL, IT IS REVIEWED & MONITORED PERIODICALLY.	NO PERIODICAL REVIEW OR MONITORING OF THE PLAN AFTER IT BDCOMES OPERATIONAL
7.	FLEXIBILITY.	* QUITE FLEXIBLE; SCOPE FOR MODIFICATION AS PER THE GROUND REALITIES, DURING THE PLAN PERIOD.	* VERY RIGID; CAN'T BE MODIFIED IN THE PERIOD IN MID OF PLAN PERIOD.
8.	COMPREHENSIVENESS.	* FAIRLY COMPREHENSIVE.	* RECENT MASTER PLANS ARE TRIED TO BE MORE COMPREHENSIVE, STILL SOME VITAL GAPS ARE PRESENT.
9.	NATURE OF PLAN MAKING PROCESS.	* GOAL DIRECTED.	* OPEN ENDED.
10.	REVISION OF THE PLAN	* GENERALLY, DONE SIMULTANEOUS TO PERIODIC REVIEW & MONITORING.	* DONE, ONCE THE EARLIER PLAN PERIOD EXPIRES.
11.	OTHER TECHNIQUES EMPLOYED.	* STRUCTURE PLAN CONCEPT IS NOW ADOPTED INSTEAD OF MASTER PLAN.	* STILL MASTER PLAN CONCEPT IS FOLLOWED BUT SOME ASPECT OF STRUCTURE PLANS ARE ALSO FOLLOWED.

Once, the master plan becomes operational, it is not at all reviewed or monitored before the plan period expires. This is one of the cause that most Indian master plans loose track after a while, and when these are reviewed at the brink of expiry of the plan period, gross distortions are detected between what was earlier proposed in the master plan and what the ground reality is at the time of review. This is another distinct difference from the western planning process where after the plan becomes operational, it is periodically reviewed.

#### 5.1.3 COMPARISON :

After doing comprehensive analysis of the western planning process and Indian planning process, a relative comparison can be made under separate heads, which is shown in the table No. T-5.1.

#### 5.2 CHARACTERISTICS OF INDIAN PLAN GENERATION METHODS :

There are certain characteristics in Indian master plan generation methods which are peculiar to India. Following is an analysis of these inherent characteristics :

### 5.2.1 INVOLVEMENT OF SEVERAL AGENCIES :

This is one of the most unique feature of Indian master plan generation process. Here the responsibility to make a master plan for a city, is of the local development authority of that city, as per the legal frame work. But generally, there are other agencies involved in the development of the city. Hence, interests of these come in conflict of each other, most of the time, local development authorities are not able to prepare a master plan thus according to the acts, the state town planning department is asked to make the master plan and provide it to the development authority. But this creates another problem in the implementation of the plan, as the plan is prepared by one agency and is to be implemented by another agency. This creates several disparities in practically all the plan proposals and policies. In some cases, even there are several development agencies involved in the city, for example in Delhi, there is DDA, NDMC, MCD, NCRPB, DUAC etc. These several agencies further complicate the implementation of the master plan.

Moreover, here in India, the master plan making is totally, a governmental exercise, that is, only government agencies are involved in the preparation of the master plan. Unlike west, non-governmental organisations (NGOs) are involved in master plan preparation.

### 5.2.2 CONCEPTUALIZATION OF OBJECTIVES :

The objectives of an Indian master plan are conceptualized in such a way, so as to cater the requirements of the Act, under which that particular master plan is to be prepared. Also, these objectives are very general. Because of this, almost every master plan has more or less some objectives, regardless to the target community. For example, one of the more common example is to provide neighbourhood type of residential development. Here, the provisional concept of residential sector is that, commonly a bazaar street running through and small commercial shops along it, with close knit central courtyard houses in the lanes openings on these bazaar streets. So, if neighbourhood concept is super imposed on this kind of a society, having centralized shopping cum community facilities, then it would be just not pragmatic. These centralize system would just not work here. Because here the tendency of people of a city is to use specialized markets for heavy purchasing and for local needs bazaar street shops are used.

Therefore, where ever neighbourhood have been proposed in a master plan, the unauthorized informal commercial shopping starts piling up there and centralized shopping cum community facilities are not at all developed. Till recently, this

informal commercial sector was ignored. But in second master plan of Delhi for 2001, first time in India the role of formal commercial sector has been recognised by the planners. Similarly, recently revised new master plan of Lucknow for 2001 has also given recognition to the bazaar street kind of development.

Similar is the case with community facilities and other services. Most of the cases show that proposed facilities are either not at all come up or are very under utilized due to the same reason that they were not suitable to the Indian way of life.

One of the more inherent draw back in poor conceptualization of objectives is that it is seldom thought that if, within a plan period there is some change in technology, what would be the response of the plan proposals to that. This also amounts to the constant failure for the technology intensive policies or proposals.

Another characteristic of the objectives of the master plan is that usually they are related to the physical development of the city only. But as already mentioned, the process of urbanization and urbanization are so complex that apart from physical and spatial considerations, several other

aspects are also to be dealt upon, which the objectives of the master plan generally overlook. These could be social, economical and environmental aspects.

### 5.2.3 RIGIDITY :

It is generally observed that Indian master plans are quite rigid in terms of proposals and policies. Most of the time the proposed policy measures and development proposals can not be modified to a reasonable extent in between a plan period, if the situations demand. This rigidity causes master plan to follow a strict path regardless of resulting trends of development. That is why it is usually observed that the trend of development of a city is never same as predicted by the master plan.

The main factor causing rigidity in the master plan may be the detailing of each proposal at the preparation of draft master plan, level itself. In other words, predicting the trajectory of a proposed policy at its inception level. Once the proposed policy is implemented as per the details worked out earlier, the resulting development starts showing trends unforeseen by the policy planners at initial stages. Then , here the need of modifying the proposed policy arises. But the concept of master plan in Indian conditions does not permit modification to a larger extent in that policy in the mid of a

plan period, and trajectories of plan and resulting trends of development become separate, and the gap between them goes on increasing. (Fig. 5.2.3)..

The requirement of detailing out the proposals at the inception of draft master plan is derived from the act, under which the master plan is made. Hence the need is to make provision in the Act is self, to keep the proposal of master plan more flexible.

#### 5.2.4 NATURE OF PRESENTATION :

The presentation of the contents of a master plan, is also very characteristic, in Indian context. Some of the state town planning Acts, clearly enumerate how the presentation of the contents of the master plan should be published, for reference. But where this is not clearly mentioned in the Act, the contents of the master plan are presented, in more or less the same manner. The general forms of presentation of a master plans is as follows :

1. Existing and proposed landuse plans
2. Report containing various studies and surveys related to the study of existing conditions.



3. Report on various objectives of the master plan, proposed policies and proposals.
4. Other maps showing, mainly, physical and spatial disposition of various facilities, amenities and services.
5. Existing and proposed transportation network.
6. Zoning regulations and building bye laws.
7. In some cases; sub division regulations and zonal plans.

As it is clear from above, most of the contents speak about the physical and spatial development of the city. Issues like, financing structure for various proposals, their management and review and/or monitoring are not included in the master plan, which is the biggest draw back and causes problems while implementation of the plan proposals is started. Because, to implement various proposals, several other departments are involved, the lack of consideration of financing and management, in terms of coordination , causes delay and difficulties. Sometimes it is found that though a particular proposal sounds good while made into master plan but not at all feasible, from practical point of view, when implementation was started. These all culminate ultimately to the failure of that plan proposal and, in turn, master plan as a whole becomes jinxed.

#### 5.2.5 LOW PRIORITY ATTACHED, AT DECISION MAKERS' LEVEL :

In India, the decision makers in the Government attach low priority to master plan compared to other pressing issues. They take it just as a constitutional obligation, to make it. The need of a comprehensive plan and its role in deciding the future of a city, is seldom recognized by these decision makers, without whose approval the master plan can not be finalised and can not become operational. The results in two fold impediment, in the process of master plan making firstly, the contents of the master plan are restricted to only those aspects which are required by the legal frame work and secondly, when the draft master plan is sent for the approval of government (decision makers) it takes a lot of time before being approved, which in turn causes irreversible delay in the preparation of the master plan and it's implementation. Usually this delay causes harm to the effectiveness of the proposals of the master plan to such an extent that, some proposals become almost obsolete, by the time the master plan reaches the stage of implementation, or the proposals become the measure taken very late, when the problem has already taken gigantic leaps, beyond control.

### 5.3 POSSIBLE EVALUATION CRITERIA :

The analysis in foregoing text, makes it quite clear that, in Indian context, the evaluation has to be of a unique nature. Further specifying various evaluation criteria is a very crucial stage. Keeping in view the characteristics of the Indian master plan generation method and also, the findings of the previous chapters, following are some of the possible evaluation criteria :

- a. Conceptualization
- b. Physical and Spatial disposition and linkages
- c. Economic affordability
- d. Social viability
- e. Technical feasibility
- f. Environmental sustainability

#### 5.3.1 Conceptualization :

One of the evaluation criterion would be conceptualizing of the contents and the main objectives of the master plan. The purpose of this criterion would be to evaluate the conceptualization of the contents of the master plan in terms of the indirect goals which the master plan aims for and the presentation of the contents. The aims of the master plan

should be to achieve goals of the society as well as legal frame work. So under this criterion it would be evaluated that the master plan conceptualization targets to the aims or there are some gaps, and also if gaps are there, to what extent these gaps are present. On the basis of this extent master plan can be either accepted as such, or accepted with some modification.

This could be very important evaluation criteria, as if the basic conceptualization of the master plan is not appropriate then the whole master plan will be affected.

#### 5.3.2 PHYSICAL AND SPATIAL DISPOSITION AND LINKAGES :

This physical and spatial dispositions and linkages, basically relate to the evaluations criteria for existing conditions studies and surveys and the proposed physical development proposal and policies of the master plans. The aim of this evaluation criterion would be to evaluate the proposed landuse distributions in terms of their physical and spatial disposition and their mutual linkages. The effectiveness of these dispositions and linkages shall be evaluated in order to decide whether the master plan is acceptable as such; acceptable with modifications or rejected.

### 5.3.3 ECONOMIC AFFORDABILITY :

This evaluations criterion would evaluate the economic affordability of the master plan proposals. For this financial implications of individual proposals shall be evaluated to decide whether the proposed policies and proposals are economically viable or not.

### 5.3.4 SOCIAL VIABILITY :

The aim of this evaluation criterion would be to evaluate the viability of the master plan proposals for the target society. This would fall whether proposal are suitable for the society for which these are aimed for, or do they create some adverse effects on the society or not.

### 5.3.5 TECHNICAL FEASIBILITY :

This evaluation criterion would help in deciding whether the implementation of the plan proposals is technically feasible or not. Some times, it happens that a proposal is very good in conception economically and socially viable but technically not feasible to implement. This aspect would be taken care off by this evaluation criterion.

### 5.3.6 ENVIRONMENTAL SUSTAINABILITY :

This criterion would evaluate the proposals and policies of the master plan, in terms of environmental sustainability. The purpose would be to make the management of the proposals implementation more conscious towards the sustainable development of the city.

*Chapter-6:*  
**DESIGN  
AND EVOLVING  
METHODOLOGY  
FOR EVALUATION**

## CHAPTER 6

### 6.0 INTRODUCTION :

The foregoing text prepares a base for the designing and evolving a methodology for evaluation of a master plan, in the Indian context. The main approach for evolving the methodology would be, to make it pragmatic and easily applicable for practical purposes.

From the nature of Indian master plan generation method, the overall structure of the methodology would be (Fig. 6.0) .:

1. Choosing appropriate evaluation criterion
2. Identifying parameters and performance indicators
3. Synthesis, and
4. Deductions

### 6.1 EXPLANATION OF METHODOLOGY :

Following is the explanation and detail of each stage of evaluation methodology. Each stage has been explained in order to clarify the procedures to be adopted in order to achieve that state. Though shown as separate stages, all the above stages are related to each other, in the same order.



### 6.1.1 CHOOSING APPROPRIATE CRITERION/CRITERIA FOR EVALUATION :

The first stage in evaluation methodology shall be to choose appropriate evaluation criteria. These criteria are already enumerated in previous chapter. For this stage one or more criteria can be chosen, as per the requirements of the extent of evaluation.

The choice of criteria is the basis of whole evaluation methodology because the subsequent stages would completely depend upon the nature of chosen evaluation criteria.

The extent of evaluation would depend on several factors. One factor can be the purpose for which evaluation is required. For example, if only economic aspects of the plan is to be evaluated, The ECONOMIC AFFORDABILITY would be the only evaluation criterion. but if social and technical feasibility is also to be evaluated then relevant evaluation criteria should also be taken into consideration. The other factors affecting the extent of evaluation can be decision makers requirements, finance available for evaluation and infrastructure available, which is required to execute a certain level of evaluation.

Thus, the beginning of every kind of evaluation,

depending upon the requirement the first thing would be to decide the appropriate evaluation criterion/criteria.

#### 6.1.2 IDENTIFYING PARAMETERS AND PERFORMANCE INDICATORS :

Once the evaluation criteria is decided then next thing would be to identify the various parameters, related to the individual criterion of evaluation. These parameters would be the factors, which would have direct bearing on the performance of the master plan proposals with respect to that evaluation criterion. In other words, there would be the performance variables for that evaluation criterion.

The next step would be to identify the performance indicators. That indicators would be the indication of the performance of the plan proposals with respect to a particular performance parameter. Thus, these performance indicators shall be related to individual performance parameters.

The nature of these performance indicators can be quantitative and non quantitative. The quantifiable indicator are those ones which can be given numerical values. The non-quantifiable indicators are those which can not be assigned any numerical value.

### 6.1.3 SYNTHESIS :

The third stage of the evaluation methodology would be the synthesis. This would involve the quantification of the quantifiable indicators and assign value scale to the non-quantifiable indicators, according to the behaviour of the plan proposal on test, with respect to the parameter.

At the end a summing up of all quantification or values, as the case may be, would be done to arrive at certain deductions about the performance of the plan proposal under consideration.

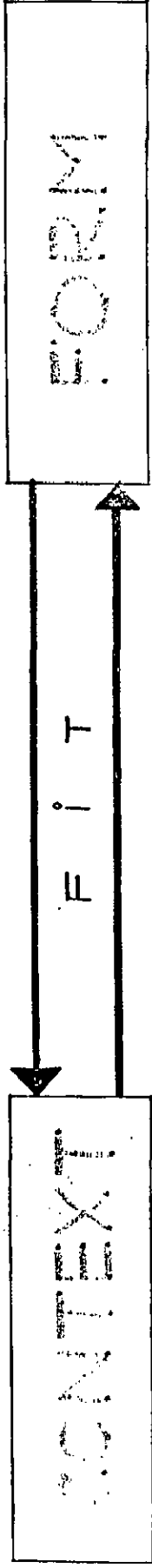
### 6.1.4 DEDUCTIONS :

Based on the summing up of the synthesis, the deductions are made about the performance of the proposed policy or proposals, by devising some sort of performance scale. This performance scale shall be three point scale- the first point would correspond to the acceptance of the policy or proposal as such; the second point would correspond to the acceptance with modification; and the third point would correspond to the outright rejection of the policy or plan proposals.

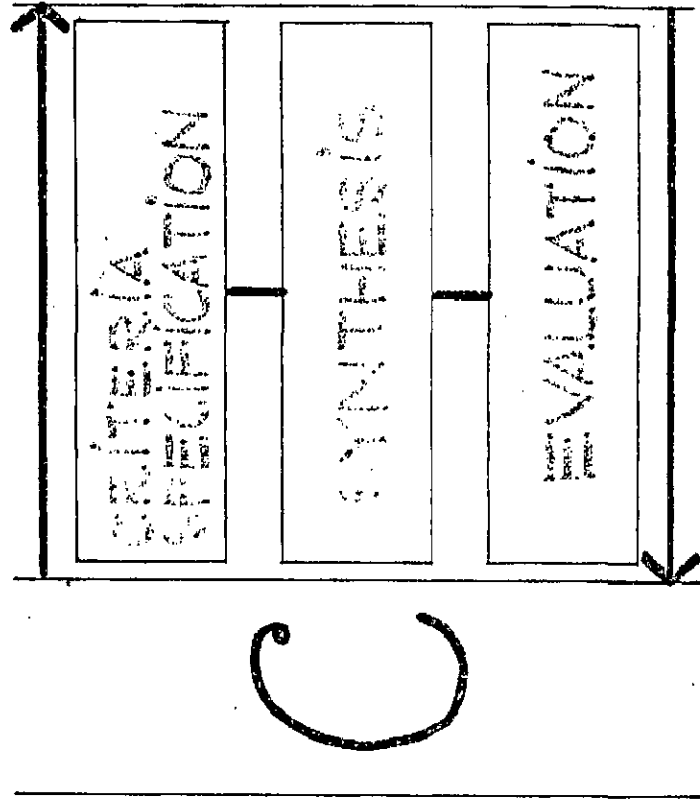
After deductions, from evaluation of all policies or

# G.4 CONCEPTUALIZATION OF EVALUATION METHODOLOGY

DESIGN PROBLEM:



DESIGN PROCESS:



COMPLETE DESIGN CYCLE:

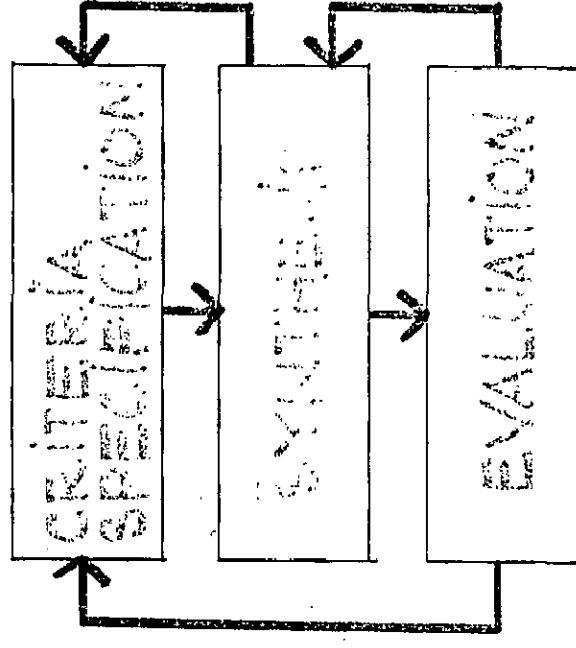
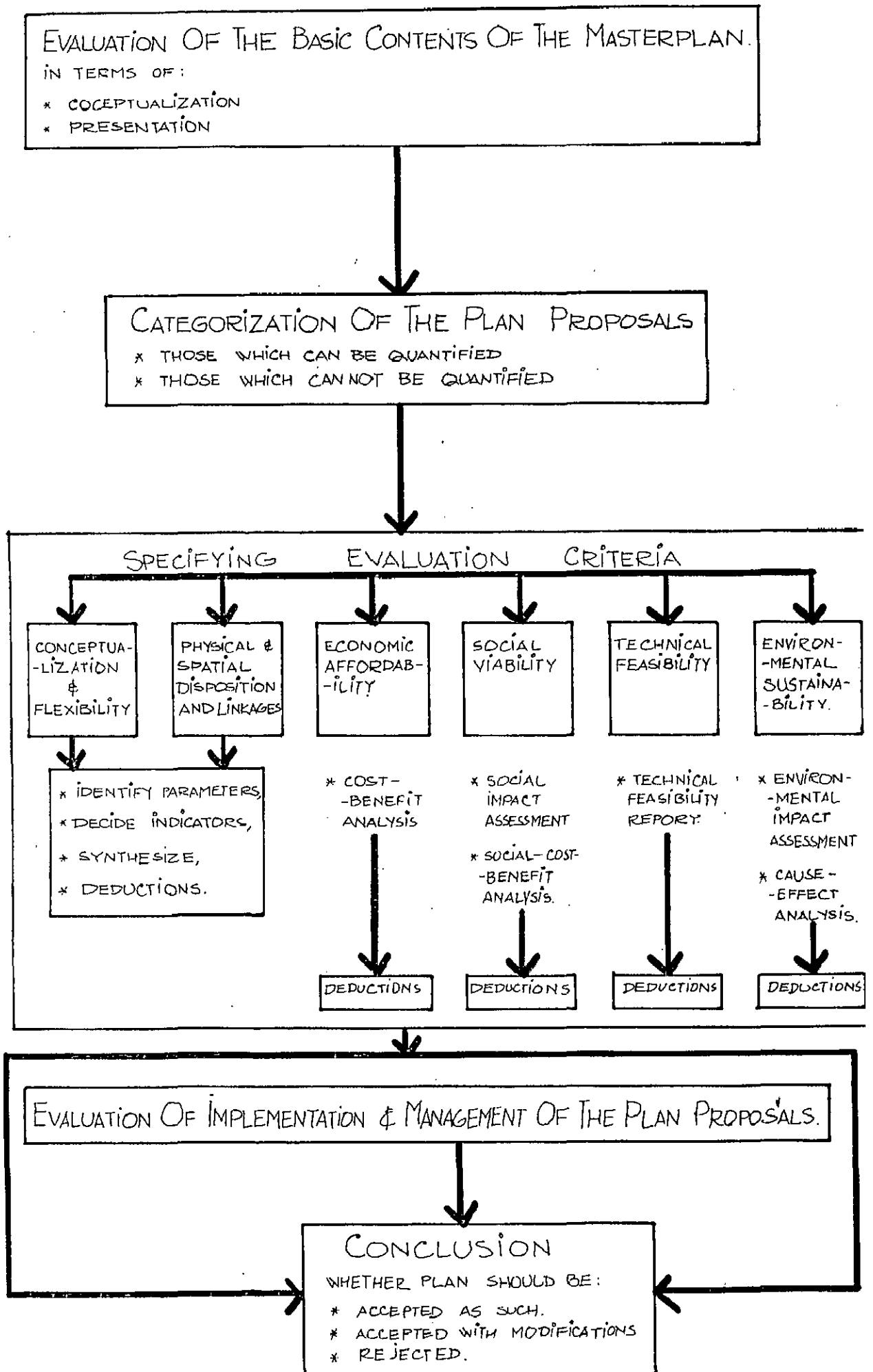


FIG D.2. EVOLVED METHODOLOGY.



plan proposals, are completed then ultimately, it can easily be decided whether the plan is to be accepted as such; accepted with modification or rejected. To give one of these conclusions to a master plan, it would be seen that 75% of the plan proposals for policies should be deducing that conclusion for example if 75% of plan proposals of a master plan deduce, acceptable with modification and the rest 25% deduce either accepted as such or rejected, then the master plan would be come under category, 'accepted with modification' similarly, other categories are to be assigned accordingly.

## 6.2 EVOLVED METHODOLOGY :

Following is the procedure to be adopted for the evolved methodology for evaluation of a master plan (Fig. 6.2). ~~\$(FIG.4)~~

### 6.2.1 STEP - I : EVALUATION OF BASIC CONTENTS

To evaluate the basic contents of the master plan in terms of :

- conceptualization of objective
- Presentation

The conceptualization of the objectives would be evaluated in order to find whether these objectives fulfill the requirements of an IDEAL MASTER PLAN. This model of ideal master plan would be decided before hand.

The presentation of the master plan would be evaluated to see what is the actual material is being presented in the master plan like various required maps and reports. Then it would be seen what should, ideally, be presented :

#### 6.2.2 STEP - II :CATEGORISING THE POLICIS/PROPOSALS

To divide the plan proposal or policies in two broad categories :

- Quantifiable
- Non-quantifiable

For each kind of proposal or policy the subsequent process would differ slightly.

#### 6.2.3 STEP - III :SPECIFYING EVALUATION CRITERIA (FIG. 6-2-3)

To decide on the evaluation criteria, as already enumerated and explained various possible evaluation criteria would be :

- a. Conceptualisation and flexibility
- b. Physical and spatial disposition and linkage
- c. Economic affordability
- d. Social viability
- e. Technical Feasibility



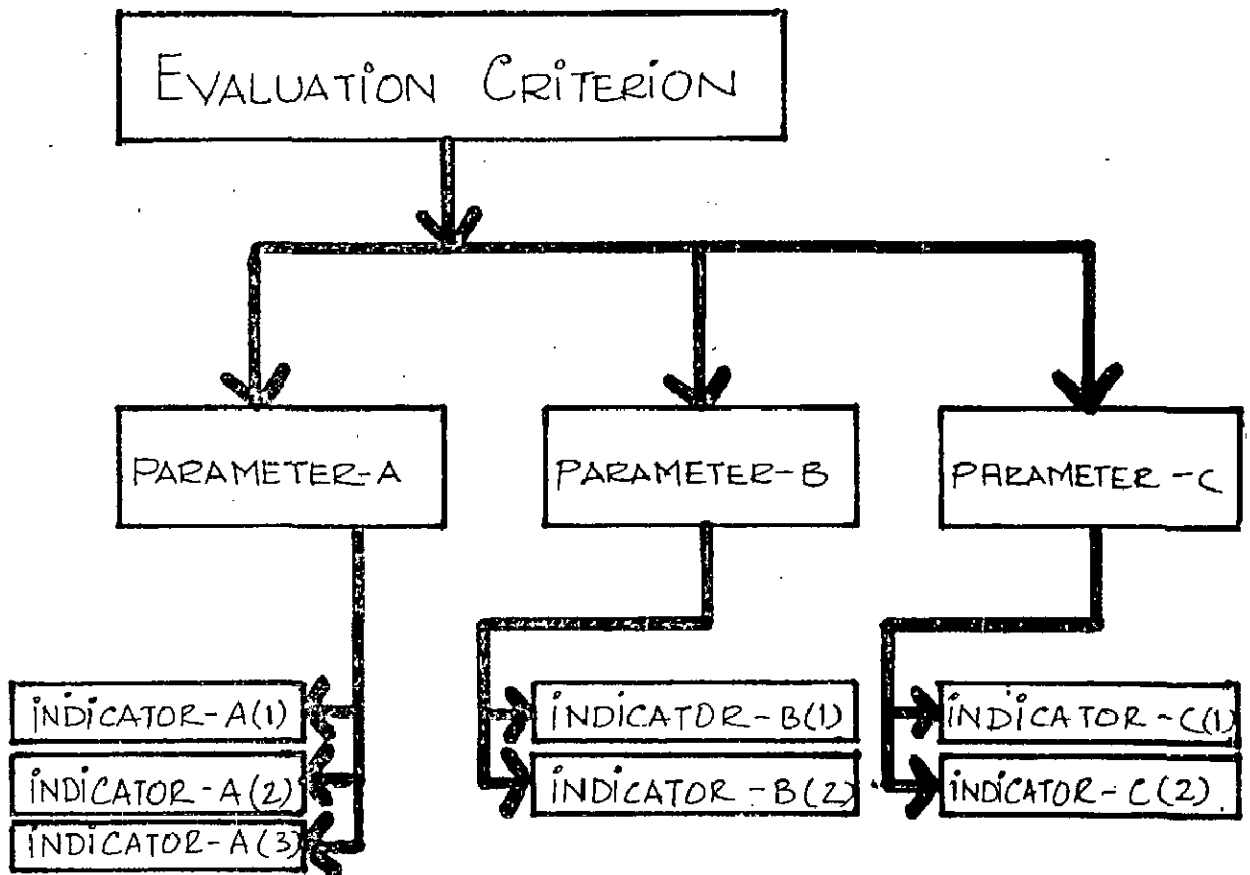


FIG 6.2.3: RELATION BETWEEN EVALUATION CRITERIA, PARAMETERS & PERFORMANCE INDICATORS.



f. Environmental sustainability

For these various evaluation criteria there are some common techniques of evaluation for example :

- Economic Affordability : Cost Benefit analysis
- Social Viability :
  - i. Social Impact Assessment
  - ii. Social cost benefit analysis
- Environmental Sustainability :
  - i. Environmental Impact Assessment
  - ii. Cause Effect Analysis
- Technical Feasibility :
  - i. Technical Feasibility Reports

For rest of the evaluation criteria, following procedure would be adopted :

- Identity parameters
- Decide performance Indicators
- Synthesize
- Deductions

These terms have already been explained in foregoing text.

#### 6.2.4 STEP -IV:EVALUATION OF IMPLEMENTATION & MANAGEMENT

To evaluate the implementation and management of the plan proposals :

Though various aspects of implementation and management would already be covered in proceeding steps, the remaining aspect would be evaluated, if any.

#### 6.2.5 STEP - V :CONCLUSION

To conclude whether plan is :

- Acceptable as such
- Acceptable with modifications
- Rejected

The three point performance scale would be decided, as above. The out come would be categorized as the basis of 75% of plan proposals and policies deducing that particular outcome, as explained earlier.

#### 6.3 COMMENTS ON THE METHODOLOGY EVOLVED :

The methodology explained and evolved above, shall be very pragmatic.

Above mentioned methodology is very broad in frame work

and though only five steps have been shown, each step would include several stages, when practically applied.

For the synthesis purposes, the needed data can be referred from the master plan studies or from other primary or secondary sources.

The main purpose of evaluation is to get an overall idea about the character of the master plan. The extent of the evaluation would be decided before hand and accordingly adjustment would be made in the methodology.

The procedure explained above text is for a comprehensive evaluation, and show only general considerations. Additions or alteration would be required when the methodology is applied for practical purposes.

*Chapter-7:*  
**APPLICATION  
OF THE EVOLVED  
METHODOLOGY**

## CHAPTER-7

### 7.0 INTRODUCTION :

At the initial stages of this work, it was proposed, that to apply the evolved methodology for evaluation of a master plan, on a few important policies/proposals of the NEW REVISED MASTER PLAN FOR LUCKNOW - 2001, in order to explain the procedure as well as, to test the evolved methodology.

But at this stage, at the end of the work, due to the time constraint, only ONE of the major proposals regarding THE PROPOSED SURFACE TRANSCRIPTION NETWORK, in the new revised master plan for Lucknow 2001, has been taken for the application of the evolved methodology. More so, due to the same reason and to contain the scope of the present work, the application of the evolved methodology has been attempted such as to broadly detail out various steps to be followed, and their sequence and contents, which would be required for the process of evaluation. But actual quantification of various parameters could not be attempted because, it was felt, that keeping in view the available secondary data base, for the proposal under consideration, the justice would not be done if quantification of only some of the parameter is done. It was also felt that the quantification of the remaining parameter

needed more data, mainly, from primary sources. Now at this final stage, the tapping of primary sources and preparing data base from them was a very time consuming process and also, this was extending the scope of the present work a bit too far.

Hence, in the view of available time frame and the scope of the present work, it was decided that quantification would not be attempted, and application of the evolved methodology shall be done in order to show just the selection of the evaluation procedure required for the evaluation of the proposal under consideration.

Further, again to meet the tight time schedule, only one evaluation criterion has been taken into consideration, to explain the skeleton. Other evaluation criteria can similarly, be considered, for the practical purposes.

## 7.2 SKELETON FOR EVALUATION : (FIG. 5)

For the purpose of showing the skeleton for evaluation following objective of the new revised master plan 2001 for Lucknow has been taken :

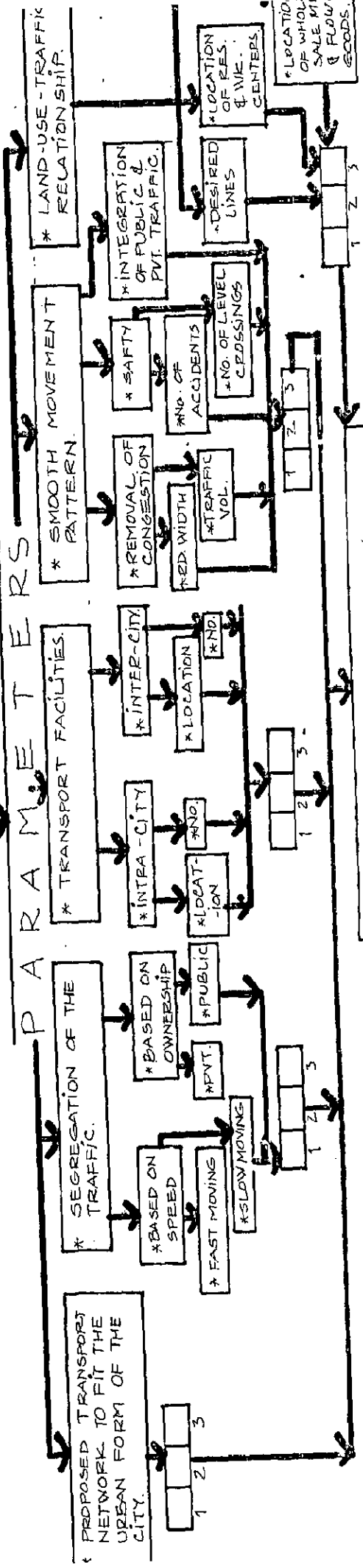
"To ensure an effective transport net work system for a smooth movement pattern".

FIG 5: APPLICATION OF THE EVOLVED METHODOLOGY

OBJECTIVE OF THE MASTER PLAN UNDER CONSIDERATION  
 \* TO ENSURE AN EFFECTIVE TRANSPORT NETWORK SYSTEM FOR A SMOOTH MOVEMENT.

EVALUATION CRITERION.  
 \* PHYSICAL & SPATIAL DISPOSITION

PROPOSALS OF THE PLAN  
 \* REGARDING THE OBJECTIVE UNDER CONSIDERATION  
 \* REFER APPENDIX - D.



**SYNTHESIS**  
 \* ADD THE SCORE AND DIVIDE BY NO. OF PARAMETERS. FIND NEW SCORE.  
 \* THIS SCORE MAY BE NON-INTEGER. IN THAT CASE IF DECIMAL VALUE MORE THAN .5, THEN HIGHER VALUE IS TO BE GIVEN.

1	2	3
---	---	---

**RESULT** : \* ADD THE SCORES FROM ALL THE EVALUATION CRITERIA AND DIVIDE BY NO. OF EVALUATION CRITERIA CONSIDERED.  
 \* MODIFY THE NON-INTEGER VALUE AS ABOVE. FIND NEW SCORE.

1	2	3
---	---	---

In order to evaluate this particular objective following procedure is to be adopted :

#### 7.1.1 DECIDING EVALUATION CRITERION :

The first step of the procedure is to decide the evaluation criterion. Now, for a transportation proposal, there can be several criteria for evaluation such as :

- Physical and Spatial disposition
- Economic affordability
- Technical Feasibility
- Environmental sustainability
- Flexibility etc.

For the present purpose, the first criterion is chosen to explain the application of evolved methodology for evaluation. There are two reasons to choose this evaluation criterion : Firstly, there is no set technique to carry out evaluation under this criterion, unlike other ones, for example, economic affordability has cost benefit analysis, or technical feasibility has feasibility report etc., and secondly, because all the information given in the master plan about the transportation is generally related to physical and spatial disposition of the transportation network. For evaluation



under other criteria, separate data base has to be made entirely.

#### 7.1.2 DECIDING PARAMETERS :

The next step of the procedure is to decide various parameter which would be directly relating to the evaluation criterion chosen, i.e. physical and spatial disposition.

In order to decide the parameters, the objective of the master plan is required to be broken into it's components as shown in Fig. (7.1.2). The method adopted to break the objective into various components is based on as to what is proposed in the master plan to achieve that particular objective. For example, to start with the objective to ('Effective Transport Net work System for smooth Movement Pattern'. Straightaway, the objective can be broken into two components, i.e., effective transport system and smooth movement pattern. Now for effective transport system, four things are proposed (Ref. Appendix D) - Transport system compatible with the city form; segregation of traffic; transport facilities and landuse traffic relationship. Similarly, smooth movement pattern is directly related to removal of congestion; safety and integration of public and private transport.

Accordingly, each component can, further, be divided into sub components. This process is continued until some measurable components/sub components are deduced.

Once this process is completed, the major components in the overall frame are identified which become 'parameter' for evaluation. Here, following four parameters are decided :

1. Segregation of traffic
2. Transport Facilities
3. Smooth movement
4. Landuse traffic relationship.

#### 7.1.3 IDENTIFICATION OF INDICATORS :

In the above frame work, the terminal components/sub components, are the indicators for the parameters. Under which they fall. By measuring these indicators, the performance of the proposals of the master plan regarding that objective can be judged.

Referring Fig. (7.1.2) , following indicators are identified :

a. Segregation of traffic :

- # No. of two wheelers and three wheelers
- # No. of heavy and light vehicles
- # No. of man driven vehicles
- # No. of Animal driven vehicles
- # No. of private transport vehicles
- # No. of private transport vehicles

b. Transport facilities :

- # Location of Inter city transport facilities
- # Location of Intra city transport facilities
- # Number of various Inter city transport facilities
- # Number of various intra city transport facilities

c. Smooth Movement :

- # Road widths
- # Traffic volumes at various locations
- # No. of accidents
- # No. of grade separations
- # Integration of Public and Private transport

d. Landuse Traffic Relationship :

- # Desired lines of traffic
- # Location of residential areas and major work centre
- # Location of whole sale markets and flow of goods

The extent of detail of indicators, or for that matter, extent of comprehensiveness of parameters, depends upon the desired extent of the evaluation.

7.1.4 Synthesis :

After deciding various parameters and their corresponding indicators, synthesis is the next step in the procedure. The aim of the synthesis is to measure the indicators - numerically, if the indicator is quantifiable; or through various value retrieval methods if the indicator is non quantifiable; and then back relate to the proposals of the master plan regarding the objective under consideration, to evaluate them.

7.1.5 DEDUCTIONS :

The last step of the procedure is to deduce the out come of the evaluation. For this various measures from the synthesis are taken and their behaviour is found out with

respect to the proposal provisions and through some value, scale, out come is deduced, whether proposals are acceptable or such; acceptable with modification or rejected.

The whole process for the evaluation of the transportation network system, proposed in new revised master plan-2001 for Lucknow, is shown in Fig. (7.1.2).

## 7.2 COMMENTS :

Though, the process explain above is shown in quite detail but there is still scope for further detailing out the components. Thus as already said the extent of detail depends upon the extent of the evaluation desired.

In measuring non quantifiable indicators through retrieval methods, induce the element of subjectivity in the evaluation which is undesirable. But it is almost impossible to make the evaluation totally objective. A compromise has to be struck in order to achieve the best result.

**PART-D:  
PROPOSALS AND  
RECOMMONDATIONS**

*Chapter-8:*  
**PROPOSALS AND  
RECOMMONDATIONS**

## CHAPTER-8

### PROPOSALS AND RECOMMENDATIONS :

In the following text, proposals are made for the evolved methodology for evaluation of a master plan, while the recommendations are made regarding the process of master plan preparation.

#### 8.1 PROPOSALS REGARDING THE EVOLVED METHODOLOGY :

- # The evolved methodology may be looking a crude one, hence further refinements are needed.
  
- # Since, only some evaluation criteria have been considered, while designing the methodology, adjustments could be made as per the need, in case of any other evaluation criterion.
  
- # As far as possible, popular techniques should be employed for the purpose of evaluation under different criteria, though, as per requirement separate methods can also be devised.
  
- # Because the methodology is based on the ground information, its reliability is sure.



# While designing the methodology Indian conditions have been kept in the mind, hence this is compatible to Indian master plan making process.

# Because there may be quite a sizable number of indicators which could not be quantified and thus, value scales from various retrieval methods have to be designed; the element of subjectivity can not be excluded from the methodology. But a compromise can be had in order to strike the best result.

## 8.2 RECOMMENDATIONS REGARDING THE MASTER PLAN GENERATION PROCESS :

# Indian master plans lack in the area of multi disciplinary approach for the plan generation. That is why most of the Indian master plans are just speaking of physical development of the city. Other issues could be better tackled if experts from various disciplines are involved in the preparation of the plan.

# The contents of the master plans in India, are highly inadequate as they never speak about the financing and management aspects of the proposals. Hence, inclusion of these aspects is necessary.

- # The process of urbanization and urbanism are quite complex and particularly in India, these have got some inherent features which affect the growth of cities. Hence, due respect is to be given to the natural factors of growth while making proposals of the master plan.
  
- # The objectives of the master plans should be more precise and should also contain the issues, outside legal frame, which are very relevant for the complete and overall development of the city.
  
- # Plan proposals should be much more flexible, in order to accommodate variations in various guiding factors of a plan. These should also respect the social life style of the people of the target city.
  
- # Periodic review and constant monitoring of the plan should be a must, in order to maneuver the trajectory of the master plan as per the changing ground realities.
  
- # Master plan of implementation and management should also be detailed out at the preparation stage.
  
- # The concept of master plan has become, obsolete now.

The modern trend is to make 'structure plan', which contain broader policy guideline for future development of the city and details of proposals are decided at local level , according to local needs. This is a very flexible system. Hence, in India, the concept of structure plan should be incorporated in to the legal frame work, instead of master plan concept.

- # Lastly, Government should attach higher priority to planning of a city community and should recognize its importance in over all development of the country.

*Chapter-9:*  
**SCOPE FOR  
FURTHER RESEARCH**

## CHAPTER-9

### 9.0 FUTURE POSSIBILITIES :

The process of evaluation of a master plan is very complex and very encompassing. Hence, to evaluate a master plan, a very comprehensive methodology is needed. The methodology evolved in present work is just a broad skeleton. There is much scope for further research on this topic :

- # More detailed expansion of this methodology can be done, in order to consider a lot more issues involved in master plan generation process.
  
- # Another area for further work can be designing of various retrieval methods to measure various non quantifiable indicators.
  
- # A software can be developed, using various evaluation criteria and parameters, so that at the instance of giving details inputs from a master plan, complex portions of evaluation can be accomplished within a considerably less time. This would help in reducing the time consumed and the cost incurred upon.

# Financial aspect of evaluation of a master plan can also be worked out, so that various planning agencies can work out the finance and infrastructure required to carry out an evaluation of a master plan. This would also help in justifying the benefit cost relationship, of evaluation of a master plan.

# Various gaps in the present work can also be used for the further research topics.

# REFERENCES AND BIBLIOGRAPHY

## REFERENCES

1. Lucknow Master Plan 2001 (Revised Draft Report), Town and Country Planning Department, U.P.
2. Provisional Population totals, (Series - 25), Paper I of 1991, Census of India, 1991, Uttar Pradesh".
3. RAM, SITA; "Master Plans and their efectivness, Case Study Lucknow, Master of Urban and Regional Planning, Dissertation, 1971, School of Planning and Architecture, New Delhi.
4. The Delhi Development Act, 1957; Government of India, Ministry of Law and Company Affairs.
5. Maharashtra Act No. XXXVII of 1966 : The Maharashtra Regional and Town Planning Act, 1966, Govt.of Maharashtra, Law and Judiciary Dept., Published by the Director General, Govt. Printing, Stationery and Publications, Maharashtra State, Bombay 400 004
6. Maharashtra Act No.IV of 1975 : The Bombay Metropolitan Region Development Authority Act, 1974, Govt. of Maharashtra, Law and Judiciary Dept., Published by the Director, Govt. Printing Stationery and Publications, Maharashtra State, Bombay 400 004
7. Uttar Pradesh Regulation of Building Operation Act, 1958; Govt. of Uttar Pradesh
8. Nagar Mahapalika, Adhiniyam, 1959, Govt. of Uttar Pradesh.



## B I B L I O G R A P H Y

1. Branch, Melville, C. 'Continuous city planning', John Wiley and Sons, New York, 1981.
2. Chandra, Prasanna; "Projects : Preparation, Appraisal, Budgeting and Implementation", Third Edition, Tata McGraw Hill Publication Co. Lts., New Delhi.
3. Chapin, F.Stuart and Edward, J.Kaiser; "Urban and Land use Planning", 3rd ed. University of Illinois Press, Urbana, 1979.
4. Faludi, Andreas; "A Reader in Planning Theory", Pergamon Press, New York, 1973.
5. Finsterbusch, Kurt and Wolf, C.P.; "Methodology of Social Impact Assessment", CDS/32m Diwden, Hytchinson and Ross Inc. Stroudburg, PENNSYLVANIA.
6. "Guide to Practical Project Appraisal- Social Benefit cost Analysis in Developing Countries", United Nations, N.Y., 1978, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi Bombay, Calcutta. (By UNIDO, Vienna).
7. Bracken Ian; "Urban Planning Methods : Research and Policy Analysis", Methuen, London, New York.
8. Kent Jr., T.J. and Jones, Holwayr; "Urban General Plan", Chandler Publishing Co., San Francisco.
9. Levy, John, M.; "Contemporary Urban Planning", Prentice Hall, Englewood Cliffs, New Jersey, 07632.

10. Meyerson, Martin and Banfield, Edward C; "Politics, Planning and the Public Interest", The Free Press, New York, 1955.
11. Pant, Madan Mohan, "Project Evaluation", Medhawi Publishers, Dehradun, India 1986
12. Ferraton, Jean and Baxter, Richard; "Models, Evaluations and Information Systems for Planners", M T P Construction, 1979.
13. SO, Frank S. et al. "The Practice of Local Govt. Planning", International city Management Association, Washington, D.C., 1979.

# APPENDICIES

APPENDIX 'A'

PROVISIONAL FIGURES REGARDING LUCKNOW CENSUS 1991

1.	Total Population of India	=	843,930,861	
2.	National Decadal Growth	=	23.5%	
3.	Total population of Uttar Pradesh	=	138,760,417	
	Male	=	73,745,994	
	Female	=	66,014,423	
4.	Decadal Growth of U.P.	=	25.16%	
5.	Total population of Lucknow District			
	in 1981	=	2,014,574 (21st ranking)	
	in 1991	=	2,744,578 (19th ranking)	
	Male	=	1,478,338	
	Female	=	1,266,240	
6.	Decadal growth of Lucknow District	=	36.24%	
7.	Density of Population in Lucknow Distt.	=	1086 person per sq.km.	
8.	Population of Lucknow compared to U.P.	=	1.98%	
9.	Sex Ratio of Lucknow district (1981)	=	845 Female per 1000 males	
		(1991) =	857 Female per 1000 males	
10.	Total population of Lucknow Urban Agglomeration			
		=	1,669,136	
	Male	=	900,402	
	Female	=	768,734	
	Sex Ratio =	=	854 Female per 1000 males	

## APPENDIX-B

IMPORTANT TABLES-DRAFT MASTER PLAN-2001 FOR LUCKNOW & RELATED  
GRAPHS

TABLE 1: DECADAL GROWTH OF POPULATION

Year	Population	Decadal Growth (Percent)
1	2	3
1901	2,56,239	-
1911	2,52,114	-
1921	2,40,560	-
1931	2,74,659	14.17
1941	3,87,177	40.97
1951	4,96,861	28.33
1961	6,55,673	31.96
1971	8,13,982	24.31
1981	10,07,604	23.79
1991	16,69,136*	36.24
2001	15,00,000**	-

\* Provisional Figures, Census - 1991.

\*\* Projected Population.

TABLE 2: RESIDENTIAL AREA & POPULATION IN PLANNING DISTRICTS  
BY 2001

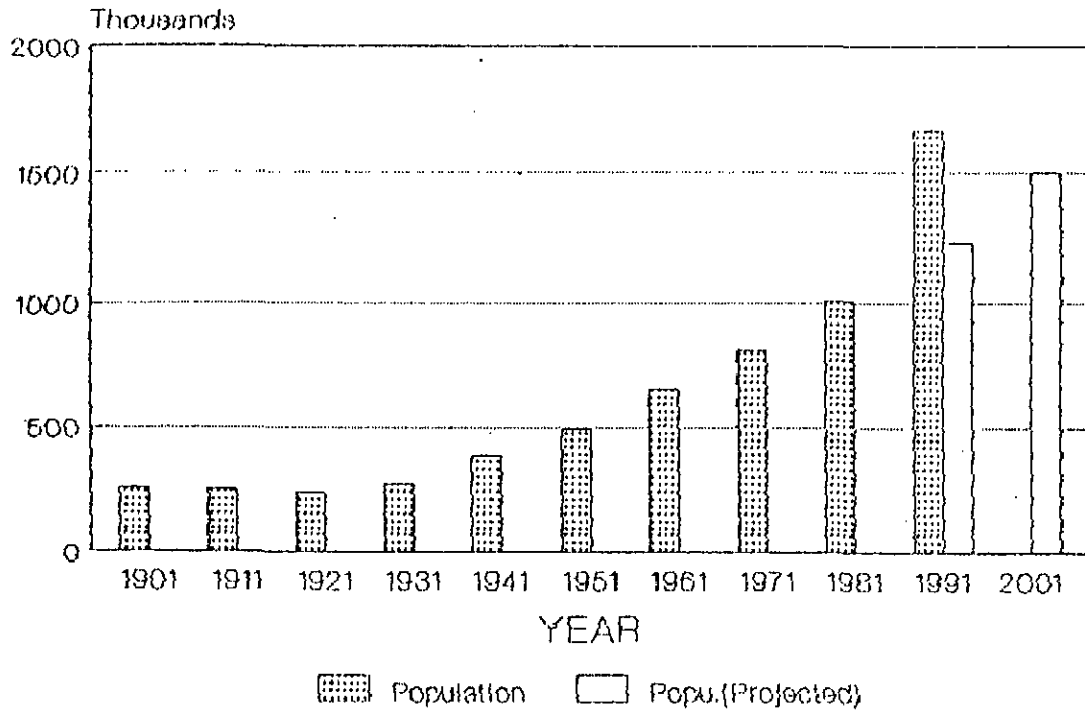
Sl	Planning District	Residential Area(Ha.)			Population (in lacs)
		Low	Medium	High	
1.	A-East	389.3	288.0	546.8	3.5
2.	A-West	-	2152.5	226.6	2.4
3.	B	-	2515.8	-	3.0
4.	C	-	3230.2	-	2.0
5.	D	2.4	4562.2	-	3.5
6.	E	-	-	-	0.6
Total		391.7	12748.7	773.4	15.0

TABLE 3: LUCKNOW URBAN AGGLOMERATION - OCCUPATIONAL STRUCTURE

Sl. No.	Category	Workers		
		1961	1981	2001
1.	Cultivators, Agr. Labour, Mining and Quarrying, livestock, Plantation etc.	17515 (7.85)	8706 (3.1)	8505 (2.1)
2.	Household Industry	50467 (22.63)	14699 (5.3)	24300 (5.9)
3.	Other Mfg.	-	30000 (10.7)	35850 (8.7)
4.	Construction	7838 (3.52)	9775 (3.5)	22275 (5.4)
5.	Trade and Commerce	35919 (16.11)	50273 (18.0)	74520 (18.1)
6.	Transport, Storage & Communication	24630 (11.04)	36300 (13.0)	54270 (13.1)
7.	Others Services	86616 (38.85)	129542 (46.4)	192780 (46.7)
Total		222985 (100)	279295 (100)	412500 (100)
Participation rate		31.14	27.7	27.5

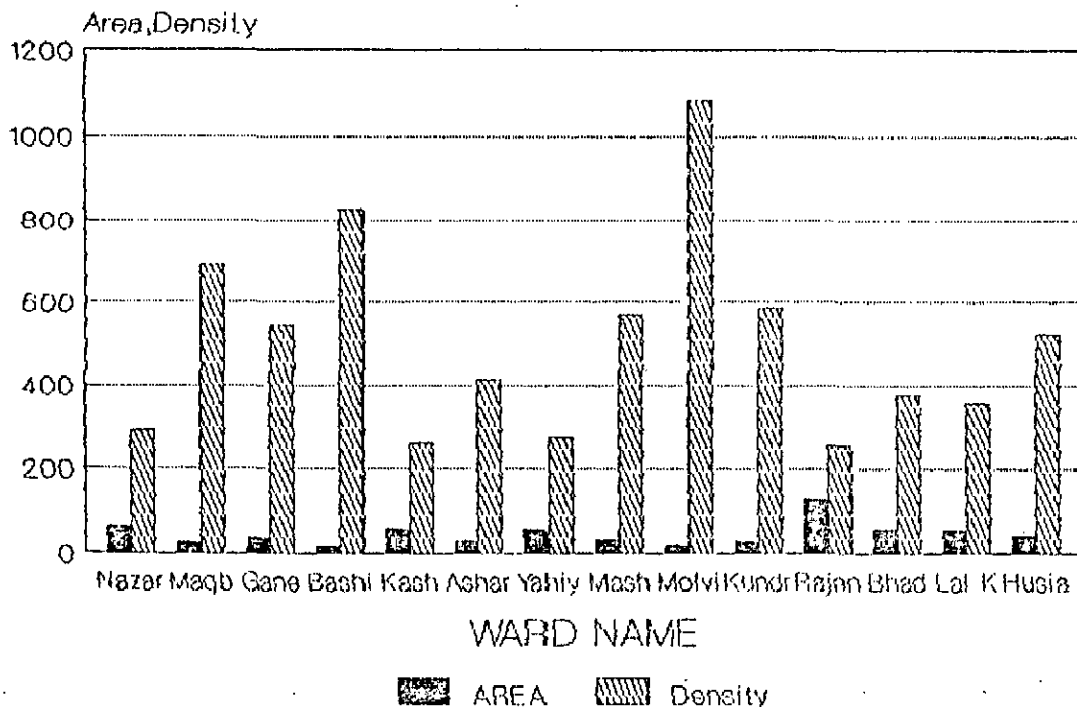
Note: Figures in Brackets denote %age.

## G-1: POPULATION OF LUCKNOW Growth of Population



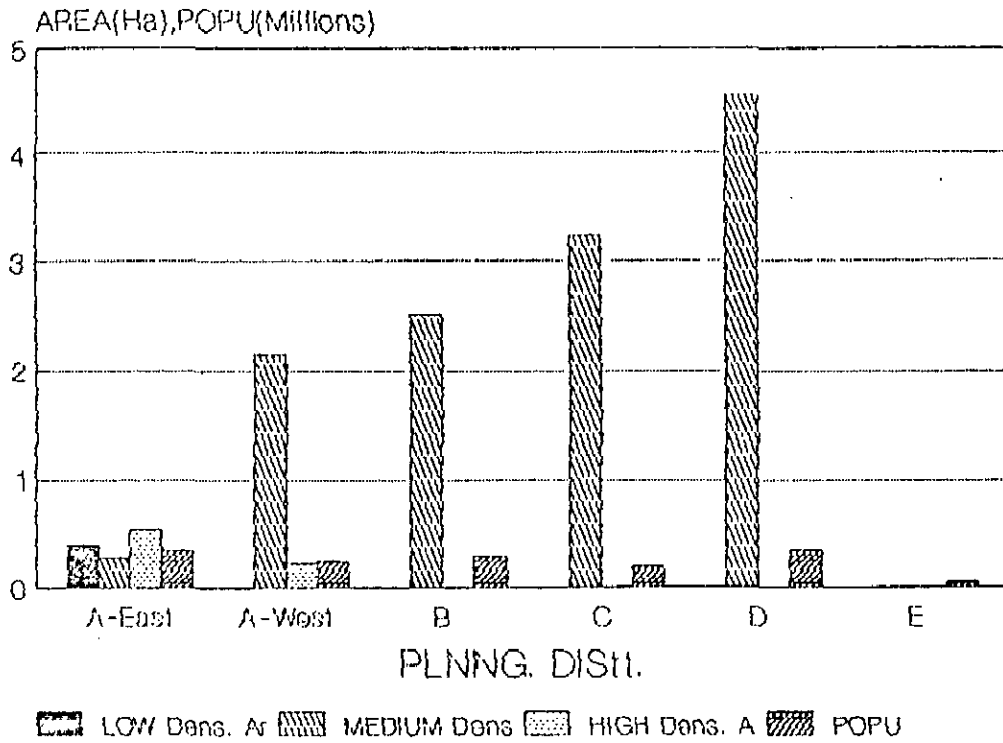
Source: Draft Report, Masterplan-2001

## G-2: LUCKNOW METROPOLIS: Wards Present Density Pattern



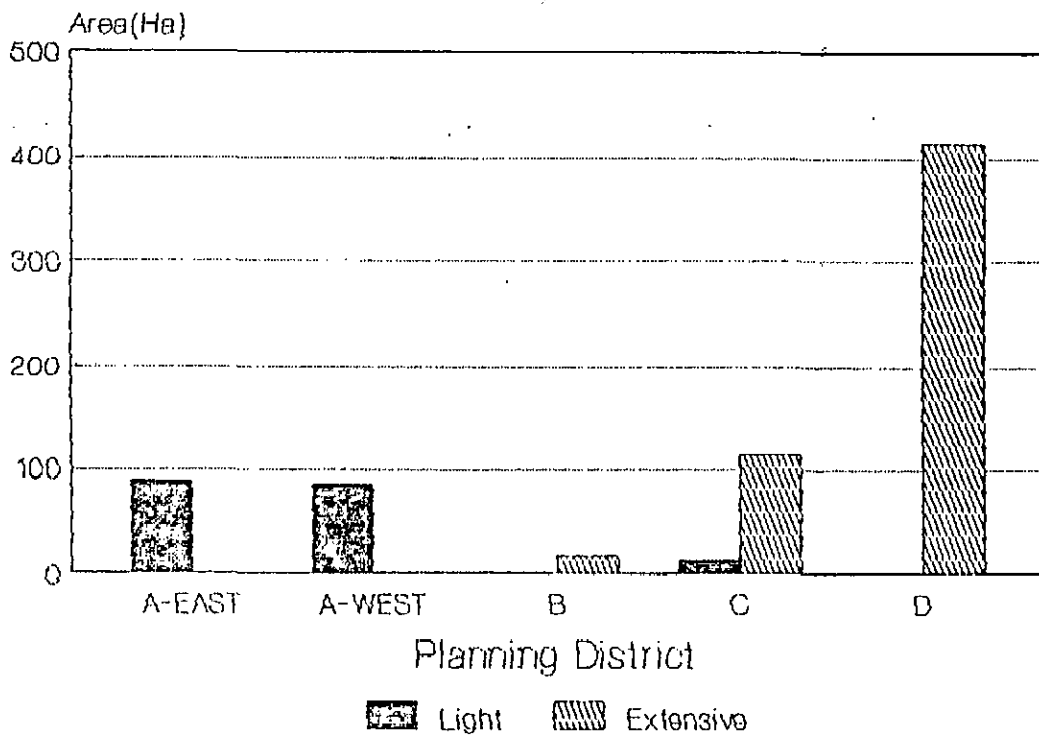


### G-3: RESIDENTIAL AREA IN PLNGG. DISTT. LUCKNOW MASTERPLAN-2001



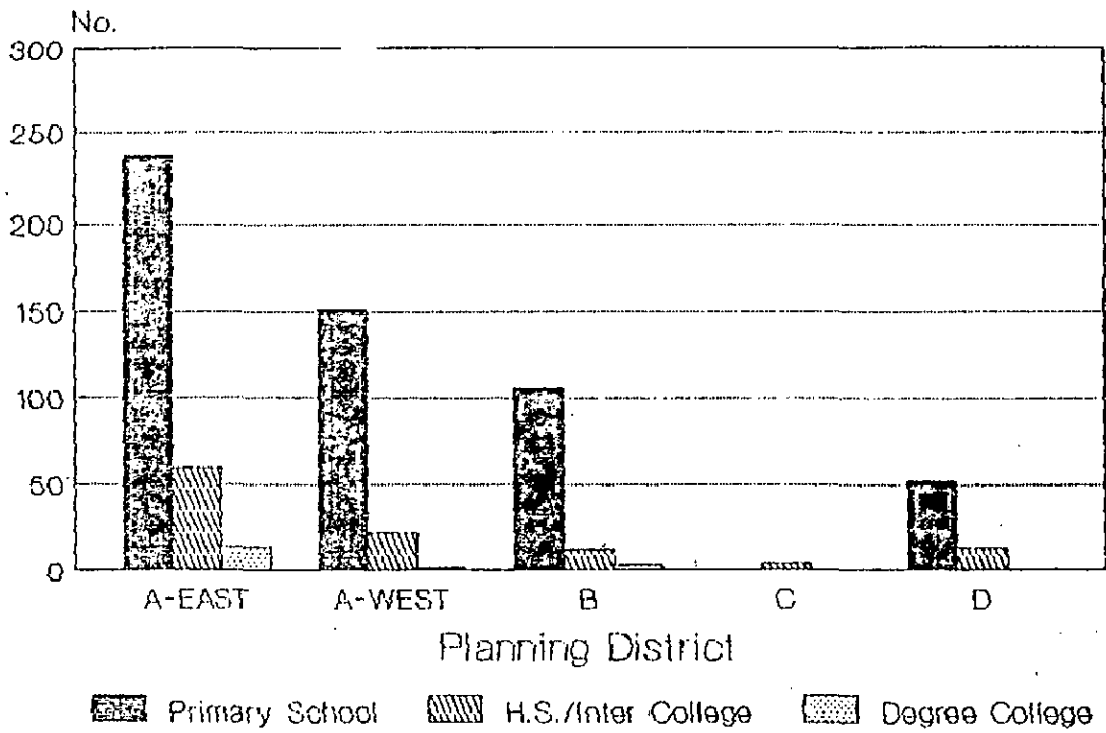
Source: Draft Report, Masterplan-2001

### G-4: DISTRIBUTION OF INDUSTRIAL AREA In Various Plngg. Distt.



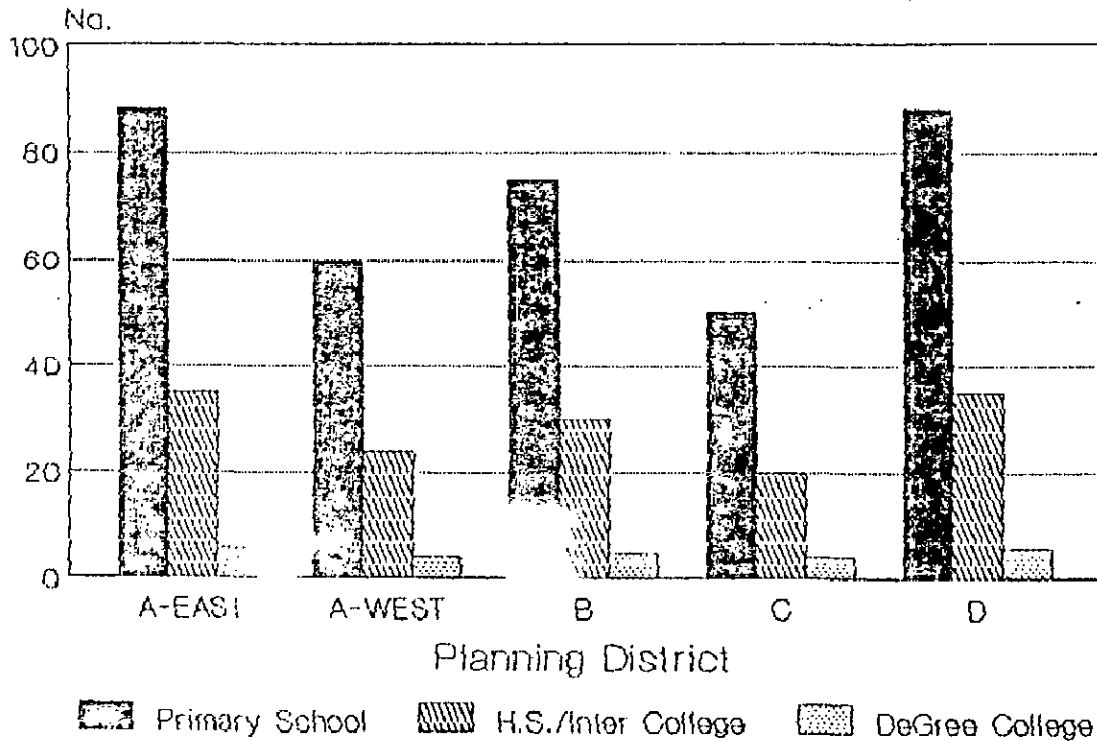
Source: Draft Masterplan-2001

## G-5: EXISTING EDUCATION FACILITIES In Various Plnng. Distt.



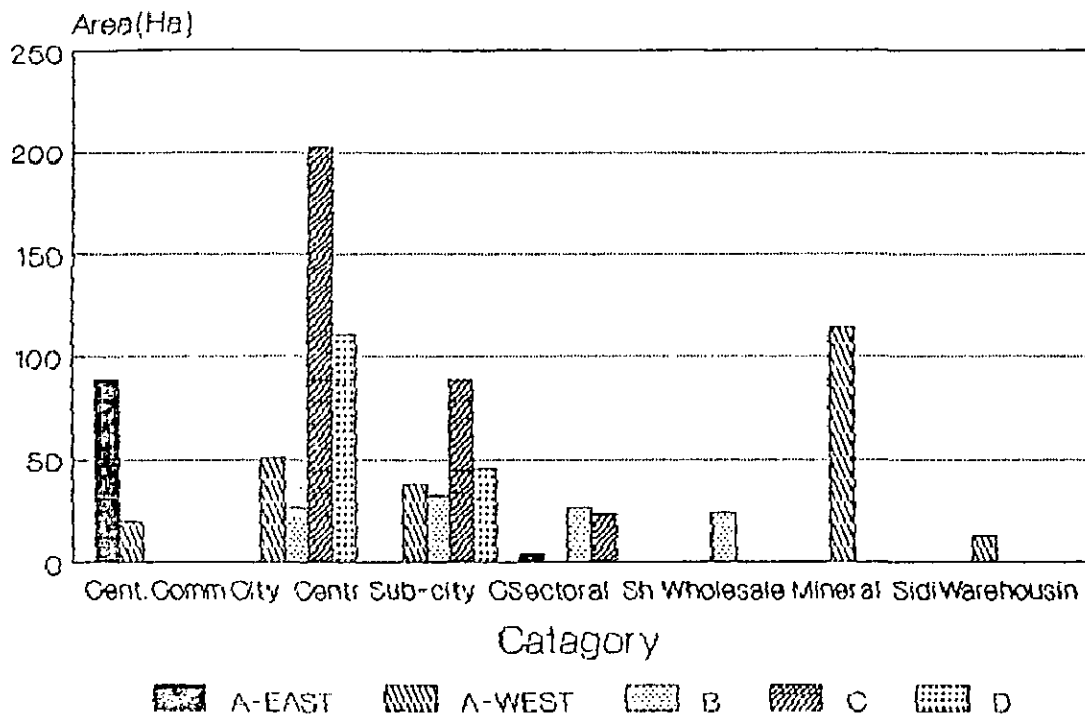
Source: Draft Report, Masterplan-2001

## G-6: PROPOSED EDUCATION FACILITIES In Various Plnng. Distt.(2001)



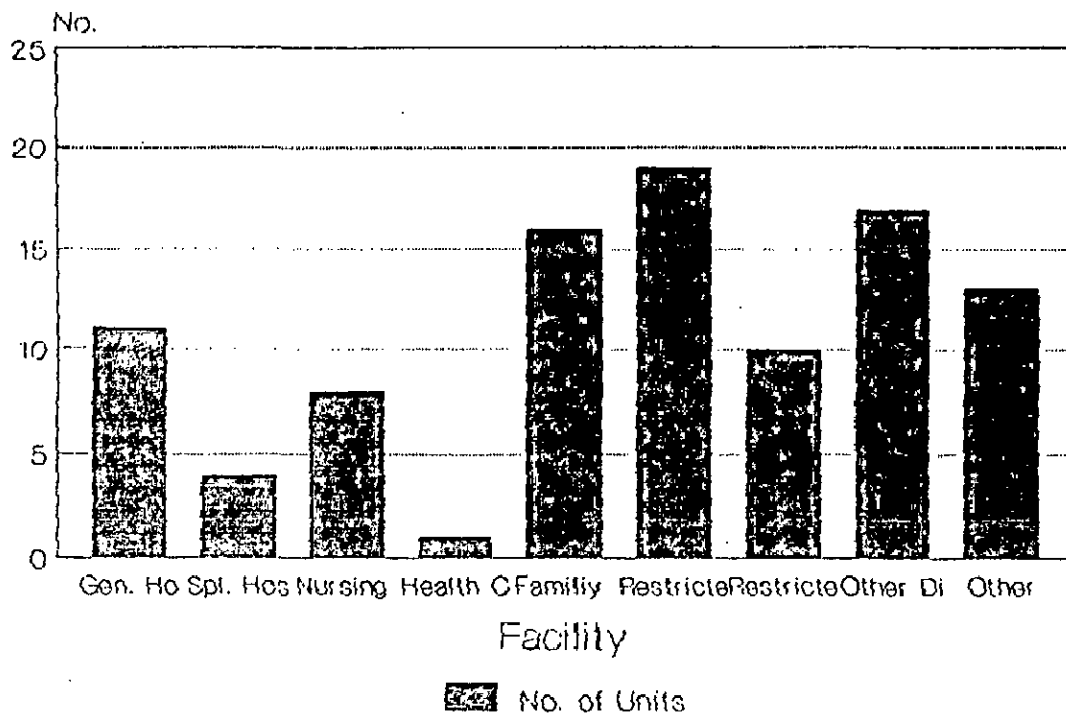
Source: Draft Report, Masterplan-2001

## G-7: PROPOSED COMMERCIAL AREAS In Various Plnng. Distt.



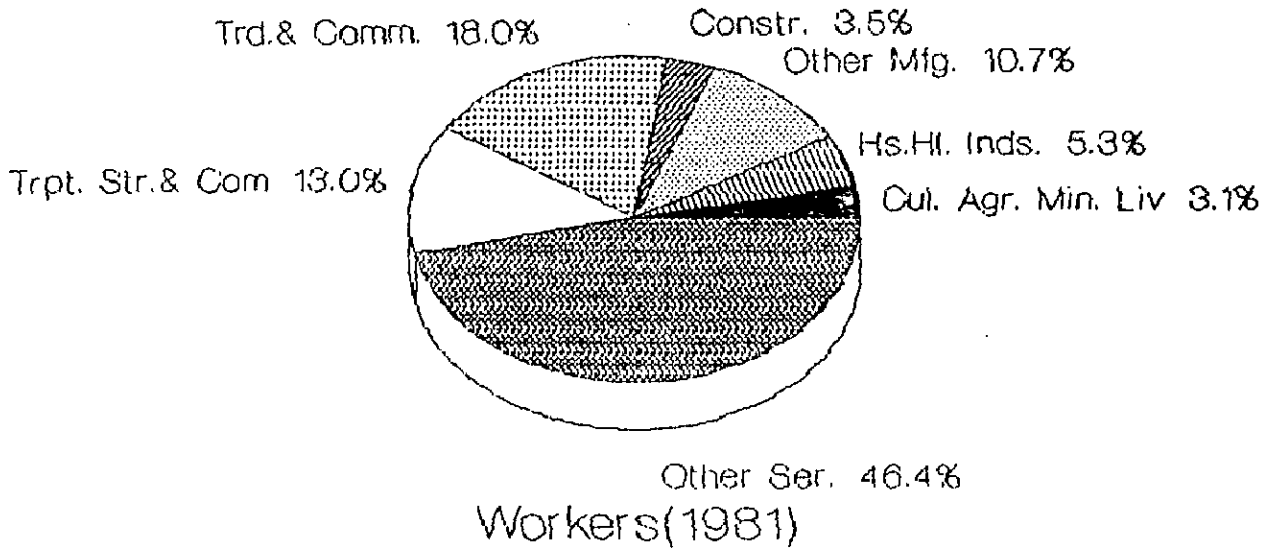
Source: Draft Masterplan-2001

## G-8: EXISTING MEDICAL FACILITIES Lucknow Metropolis



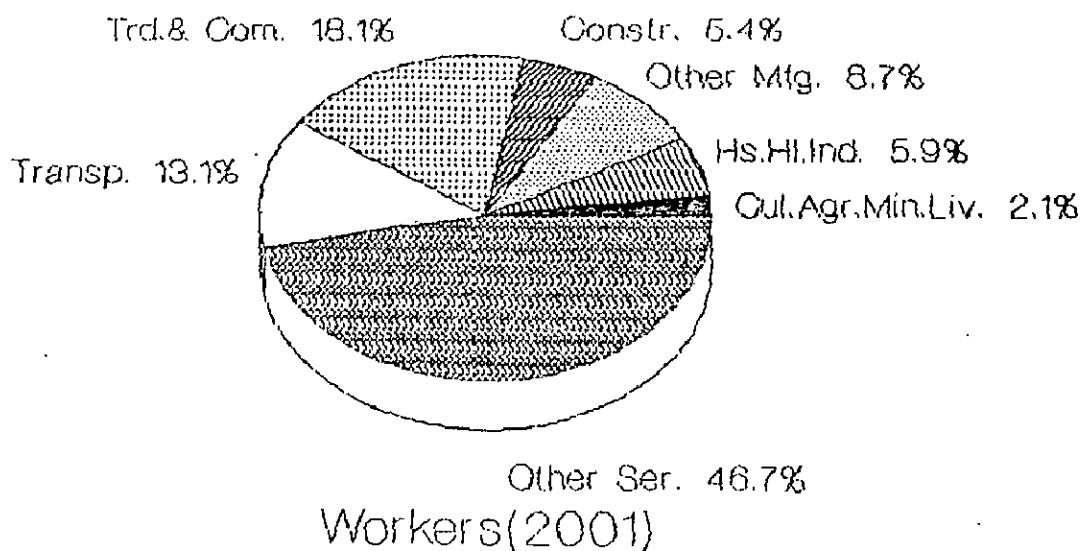
Source: Draft Report, Masterplan-2001

## G-9: OCCUPATIONAL STRUCTURE Lucknow Urban Agglomeration



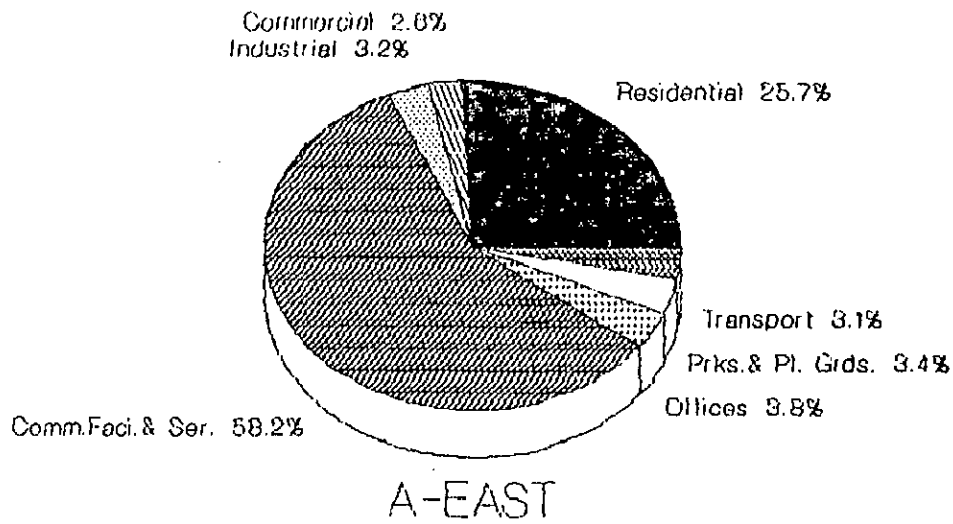
Source: Draft Report, Masterplan-2001

## G-10: OCCUPATIONAL STRUCTURE Lucknow Urban Agglomeration



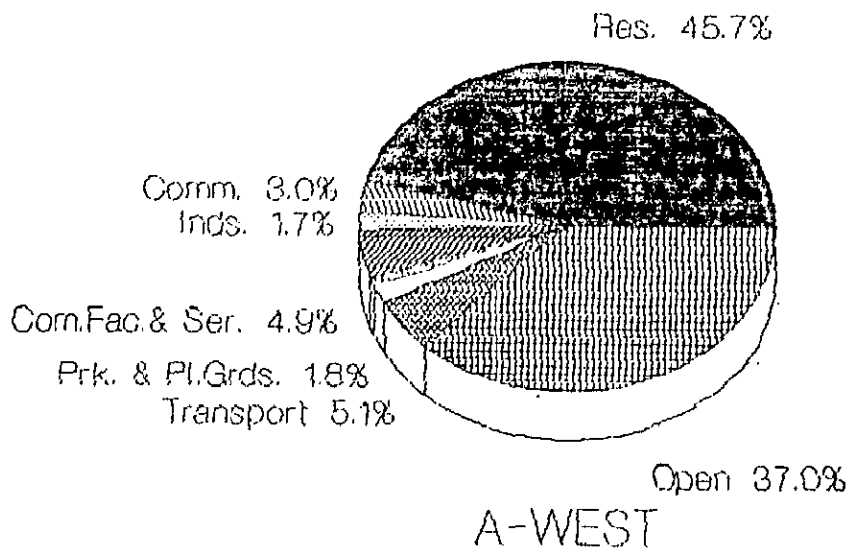
Source: Draft Report, Masterplan-2001

## G-11: EXISTING LANDUSE-1987 (Plnng. Distt.) LUCKNOW METROPOLIS



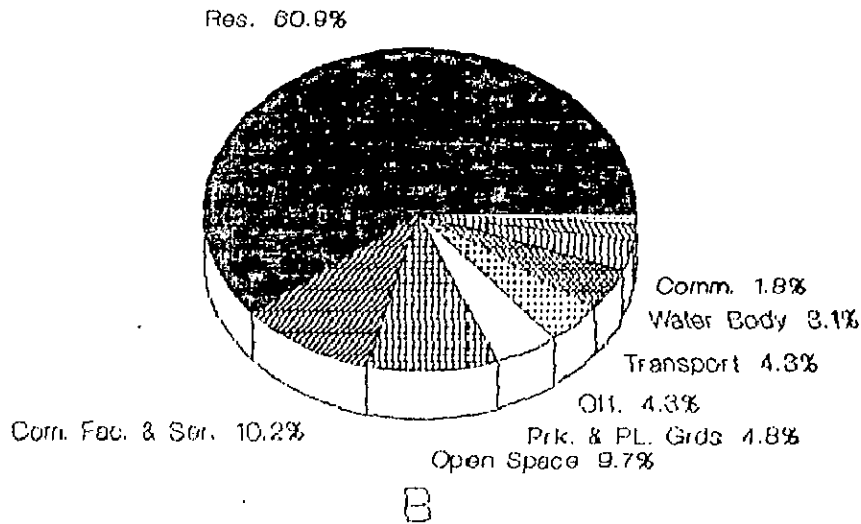
Source: Draft Report, Masterplan-2001

## G-12: EXISTING LANDUSE-1987 (Plnng. Distt.) LUCKNOW MASTERPLAN-2001



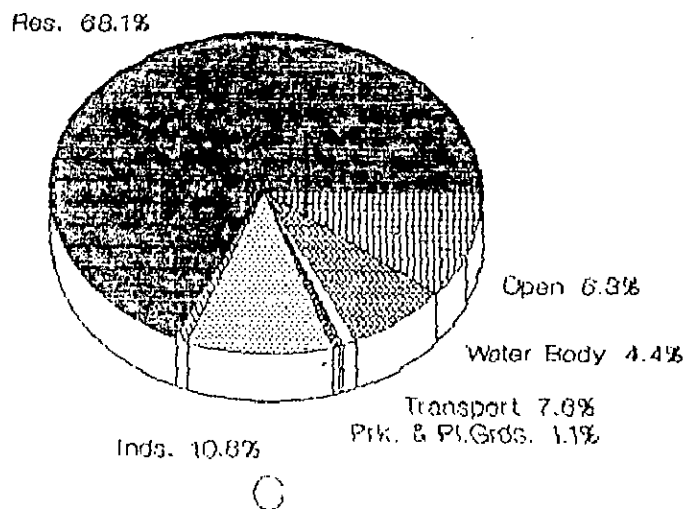
Source: Draft Masterplan-2001

# G-13:EXISTING LANDUSE-1987 (Plnng.Distt) LUCKNOW MASTERPLAN-2001

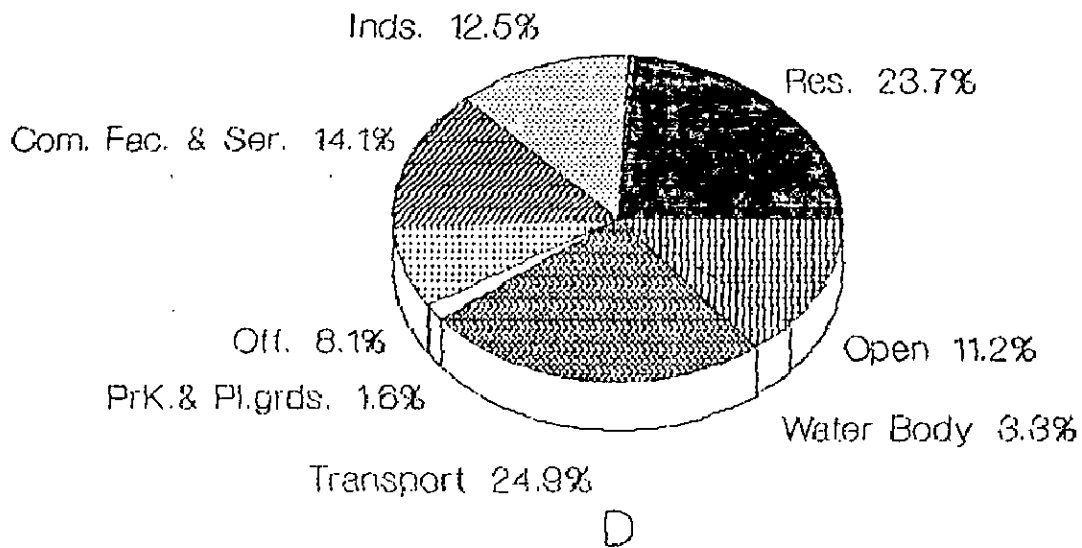


Source:Draft Report, Masterplan -2001

# G-14:EXISTING LANDUSE-1987 (Plnng.Distt.) LUCKNOW MASTERPLAN-2001

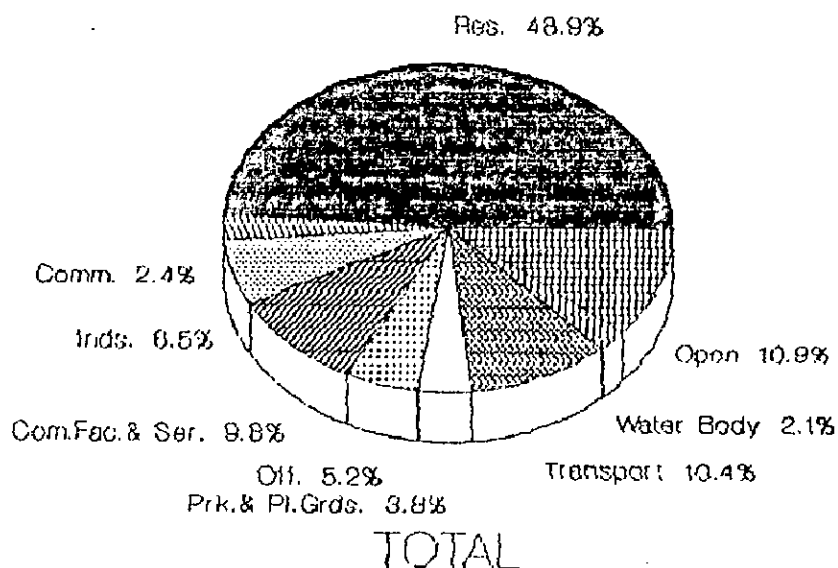


## G-15: EXISTING LAND USE-1987 (Plnng. Distt.) LUCKNOW MASTERPLAN-2001



Source: Draft Report, Masterplan-2001

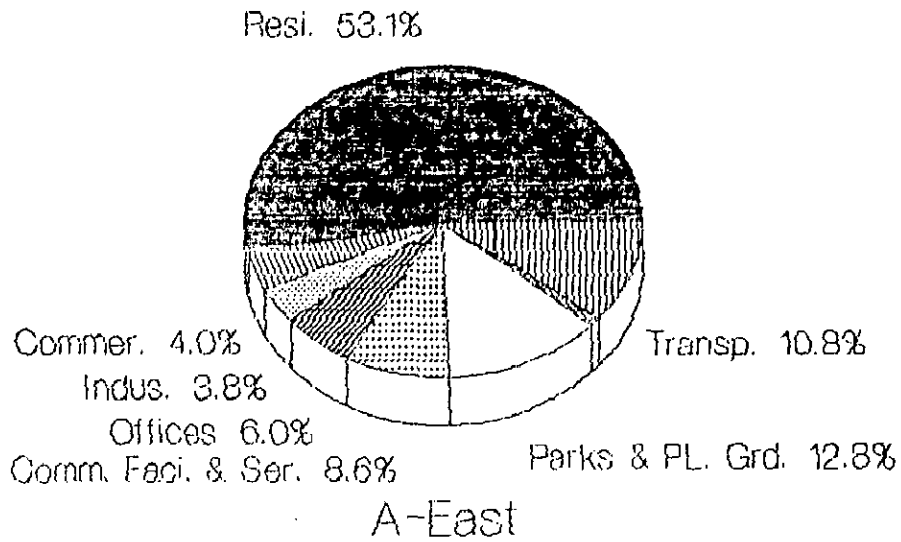
## G-16: EXISTING LAND USE-1987 (Plnng. Distt.) LUCKNOW MASTERPLAN-2001



Source: Draft Masterplan-2001

# G-17:PROPOSED LANDUSE-2001

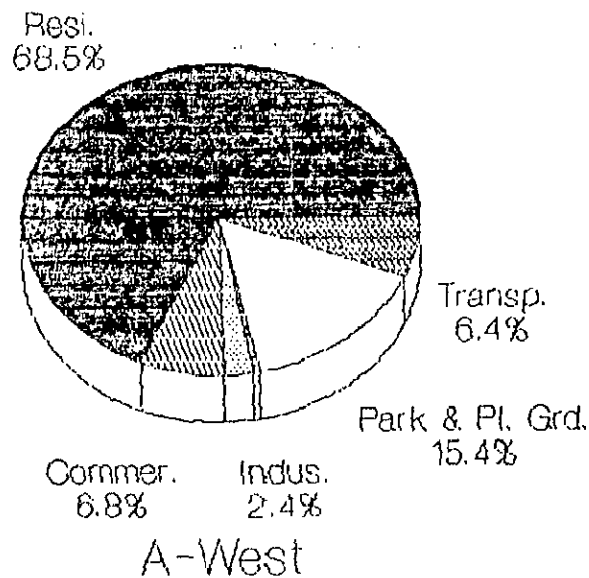
In Various Plnng. Distt.



Source: Draft Report ,Masterplan-2001

# G-18:PROPOSED LANDUSE-2001

In Various Plnng. Distt.



Source:Draft Report,Masterplan-2001



MAJOR FINDINGS FROM THE STUDIES DONE BY SCHOOL OF PLANNING  
AND ARCHITECTURE, NEW DELHI, ABOUT THE TRAFFIC AND  
TRANSPORTATION NET WORK FOR LUCKNOW IN 1986-87

Source Draft Report, Master Plan 2001, Page No.89

1. Nine Regional Roads coverage to the city :
  - From Kanpur, two roads
  - From Faizabad, One road
  - From Sitapur, One road
  - From Hardoi, One road
  - From Rae Bareilly, one road
  - From Sultanpur, One road
  - From Kursi, One road
  - From Mohan, One road
  
2. Major Railway Lines :
  - # Lucknow-Kanpur
  - # Lucknow-Gorakhpur
  - # Lucknow-Delhi
  - # Lucknow-Rae Bareilly - Allahabad - Varanasi
  
3. The city is on the air route map of the domestic air lines.
  
4. Intra city transport systems inadequate
  
5. Growth of number of vehicles is very high :
  - # No. of motorised vehicles, 1979-80 = 49755  
1984-85 = 90324
  - # No. of cycle rickshaws registered, 1984-85 = 23506

#	No. of motorised vehicles	1979-80	=	34860
		1984-85	=	66624

6. Average 1:2 accidents per day in the city :

Hazratganj Area	=	37.6% (of total accidents)
Kaiser bagh area	=	26.1%
Alambagh area	=	20.2%
Chowk Area	=	15.95%

7. NATURE OF TRAFFIC :

- Hetrogeneous traffic, at least 14 modes of traffic
- Predominance of slow moving vehicle, 70%  
total traffic, of which  
Cycl = 64.5% outer area  
54.2% core area (42316)
- Private modes, both slow and fast predominate over the public modes
- Share of public slow is greater than the public fast mode

8. TRAFFIC VOLUMES :

- High spatial variation of daily traffic volume alongwith major corridors.
- Inner city has more than 1089% over the volume at outer areas and 377% over the volume at the middle area
- Road registering high traffic volume :
  - Faizabad road = 39550 vehicle/day
  - University road= 76324 vehicle/day
  - Ashok Marg = 64968 vehicles/day

9. Peak Hour traffic :

- Concentration and peak hour traffic is too high as compared to other cities
  - \* Other Indian cities = 9-11
  - \* Lucknow = 12-15%
- Concentration on some major roads :
- Rae Bareilly road = 27.6% inbound  
= 24.1% outbound
- Ashok Marg = 15.6% in bound  
= 16.1% out bound
- K.K.College road = 15.4% in bound  
= 11/7% outbound
- Daliganj-Gomti river bridge = 12.8% in bound  
= 10.4% out bound

10. Through traffic :

- 16% of total fast traffic (1126 vehicles) entering the metropolitan area is through traffic.
- Through traffic on major road:
- Sitapur road = 28.6% in bound  
= 26.3% outbound
- Faizabad road = 21.0% in bound  
= 21.1% out bound
- Kanpur road = 18.6% in bound  
= 16.4% in out bound
- Intensity of through traffic between Kanpur road and Faizabad road in maximum
- Out of total 1126 fast through traffic 362 are accounted for these two roads
- Intensity of movement also considerable amongst Faizabad road, sitapur road, Kanpur road.

11. Over Bridge and Fly overs :
- Bridges existing over Gomti over loaded/inadequate
  - Many level railway crossing on important arterial roads. (Ref, Table 11 and Table 12.)
12. Whole sale market :
- On an average day, total flow of goods on different roads is 28342 tons; of this :
 

Kanpur road	=	7069 tons/day
Sitapur road	=	6820 tons/day
Faizabad road	=	5625 tons/day
  - The whole sale market of various commodities flowing to the city are located in the inner part of the city; this creates congestion in the inner city.
13. Rail Terminal :
- The goods traffic by rail to and from Lucknow is massive (15,59,300 ton/month)
  - Railway stations located in closely built up areas of the city cause acute congestion.
14. Bus Terminals :
- Inter city bus system has a high load factor(67%)  
About 6.5 lac passengers/month
  - Existing bus depots at Charbagh, Kaiserbagh and Amausi are inadequate
  - Intra city bus system is extremely inadequate :
    - 92 buses only for 6,75,000 passengers/day
    - load factor 48%
  - One depot at Tehri Kothi looks after the maintenance operation system

## APPENDIX 'D'

### PROPOSALS FOR TRAFFIC AND TRANSPORTATION IN LUCKNOW MASTER PLAN 2001

Source : Draft Report, Master Plan 2001, Page 96

Based on the studies shown in Appendix C following major proposals have been made for traffic and transportation in Lucknow Master Plan 2001 :

#### 1. Road Network :

- Proposed road network for agglomeration is, RADIAL CUM RING SYSTEM
  
- Existing nine radial roads are classified as ARTERIAL ROADS (r.o.w. 60 to 100 mts. from development area boundary upto their intersection with the proposed ring road; and R.O.W. 45 to 60 mt. wherever feasible, for their stretch between ring road and peripheral road round the core area).
  
- Proposed Ring road, R.O.W., 60 ,mts.
  
- Arterial roads, Ring road and Peripheral road will have six lane divided carriage ways with cycle/slow moving tracks and service road.
  
- Within Central core area, a ring system around Vidhan Sabha is proposed to integrate Vidhan Sabha and Darul Shafa Complex; The traffic in front of Vidhan Sabha is proposed to be closed.

#### 2. Ring Road :

- Ring road will join all the nine arterial roads.

3. Elevated Express Highway on Ghazi-ud-din Haider canal :
  - This would link residential areas, viz. Rajaji Puram, Aishbagh, Gomtinagar, Indira Nagar, with major work centres such as Charbagh, Hazratganj, Secretariate and related offices.
  - This express highway would be on Ghazi-ud-din Haider canal which passes through city (From Sharda Canal to Gomti River).
  - This would decongest station road, Vidhan Sabha Marg, Aishbagh road, Gurudwara Road and Mill road.
4. Improvement on Existing Roads :
  - Augumentation of road width based on existing availability and significance of the road in overall transport system
  - Encroachments to be removed from Subhash Nagar Marg, Tulsidas Marg and Gautam Buddha Marg.
5. Bridges Across River/Canal :
  - Presently five bridges including barrage, across Gomti River, of these two are four lane and others three are only two lane.
  - Most of the river/canal crossing are congested.
  - Following bridges are proposed :
    - Bridges across Gomti river :
      - i. New Construction
        - a. In the north west of Husainabad
        - b. At Dilkusha (New road from Gomti Nagar Complex)
      - i. On ring road between Sultanpur and Barabanki Rly. line.

- Improvement/Widening of Existing Bridges:
  - a. Hardinge bridge
  - b. Daliganj bridge
  - c. Hanuman setu
  - d. Barrage near Gomti Canal
  
- Bridges across Sharda Canal :
  - a. New Construction on :
    - i. Near Telibagh (Ring road)
    - ii. Near Central Jail (30m road meeting ring road)
    - iii. 24 mts. road (Near Central Jail)
    - iv. 45 mts. road (Near Singer Nagar)
  
- Improvement of existing bridges :
  - i. Bijnor road
  - ii. Kanpūr road
  - iii. Rae Bareilly road
  
- Bridges across Kukrail River :
  - a. Improvement of existing bridges
    - i. Faizabad road
    - ii. On Ring road
    - iii. 45 mtr. road (Near proposed sub city Centre)
  
- Railway over/Under bridges :
- of the 18 major crossings, 7 are presently grade separated.
- Existing rail bridges to be upgraded
- All new arterial/sub arterial roads should be constructed with grade separation, wherever they cross a railway line.

- Truck Terminals :
  - Up coming transport nagar at Kanpur road, Truck terminals at Hardoi road and Kursi road, and U.P.S.R.T.C Depot. at Faizabad road in developing city centre in Gomti Nagar would cater the need of truck terminals.
  
- Bus Terminals:
  - Bus terminal are proposed in Kanpur road, Rae Breilly road, Kursi road, Hardoi road and one in proposed city centre in Gomti Nagar.
  
  - Various Bus Terminals proposed :
    - Charbagh (Intra Urban)
    - Kanpur road (Alambagh) (Inter city)
    - Kaiser bagh (Intra city and depot)(Inter city depot to be shifted)
    - Kursi road (combined terminal and depot.)
    - Faizabad road (as a part of city centre of Gomti Nagar)
    - Rae Bareilly road (combined terminal and depot)
    - Hardoi Road (combined terminal and depot.)
  
- 9. Rail Terminals :
  - Existing rail terminal shall continue
  - proposal to open charbagh railway station
  - On South side also, to decongest station road/ Alambagh road
  - Daliganj railway station is proposed to be developed as terminal for NE Railways
  
- Light rail transit (LRT) system :
  - Two corridor of LRT are proposed :



- # North Central (Aliganj line)
- # East West (Gomti Nagar line)

- Aliganj line, main stations :

- Aliganj, Inter city bus terminal
- Aliganj sub city centre
- Kapurthala complex
- Raidas Mandir
- University
- Stadium
- Kaiser bagh
- Aminabad
- Gautam Buddha marg
- Charbagh

- Gomti Nagar line, Main stations :

- Gomti Nagar City Centre
- H.A.L.
- Nishat Ganj
- Nationa Botenical Gardens
- Jawahar Bhawan
- Vidhan Sabha
- Hussain ganj
- Charbagh
- Aishbagh (Rajendra Nagar)
- Moti Jheel (Talkator road)

- LTR should be running either in middle of the road or along one side, as per feasibility.

For a small stretch it may be underground also.

- Parking :

- It is proposed that provision for parking space would be a part of individual development for various

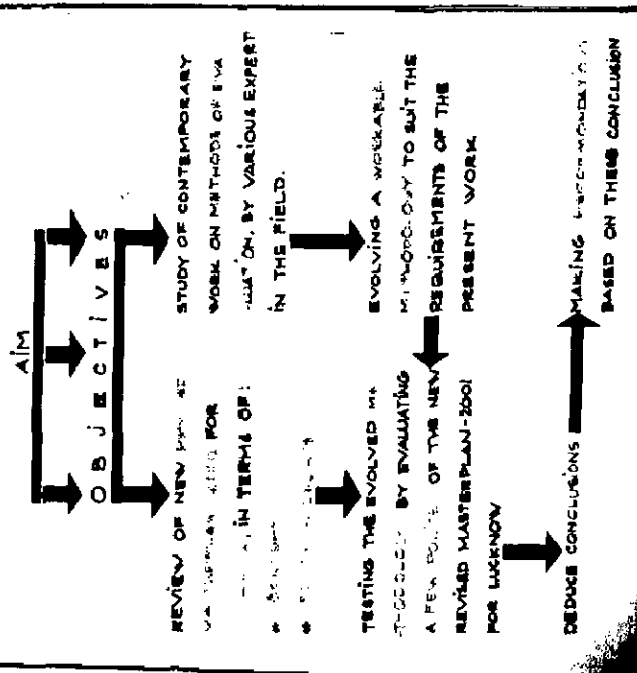
uses, as per the recommendations of Lucknow Area Transport Studies Report.

- In addition, it is proposed that off street parking lots to be developed along the proposed peripheral road and central /core area at its intersection with the radial arterial roads for which provision of 20 Ha. is made.

**AIM:** TO EVOLVE A METHODOLOGY FOR EVALUATION OF A MASTERPLAN KEEPING IN VIEW THE INDIAN CONDITIONS, AND THEN TO EVALUATE A FEW IMPORTANT POLICY GUIDELINES OF THE NEW REVISED MASTERPLAN-2001 FOR LUCKNOW, AS A CASE STUDY.

- TO REVIEW THE NEW REVISED MASTERPLAN-2001 FOR LUCKNOW, TO IDENTIFY THE CONCEPT AND POLICY GUIDELINES STATED IN IT.
- TO STUDY THE EXISTING LITERATURE ON THE EVALUATION OF A MASTERPLAN AND REVIEW OF VARIOUS METHODOLOGIES EMPLOYED BY THE EXPERTS IN THE FIELD.
- TO EVOLVE A METHODOLOGY TO EVALUATE A MASTERPLAN OF AN ORGANIZATION BASED ON THE EXPERIENCES OF ALREADY EXISTING ATTEMPTS.
- TO TEST THE PRACTICABILITY OF THIS EVOLVED METHODOLOGY BY APPLYING IT TO EVALUATE A FEW IMPORTANT POLICY GUIDELINES OF THE NEW REVISED MASTERPLAN-2001 FOR LUCKNOW, AS CASE STUDY.
- FINALLY, TO GIVE RECOMMENDATION ON THE DEDUCTIONS OF THE PRESENT WORK, AS CONCLUSION.

**STRUCTURE OF THE PRESENT WORK:** TO MEET THE OBJECTIVES STATED ABOVE, THE STRUCTURING OF THE PRESENT WORK HAS BEEN DONE IN FOLLOWING MANNER:



**SCOPE & LIMITATION:** THE WHOLE PROCESS OF EVALUATION IS VERY EXTENSIVE AND ITS SCOPE ENCOMPASSES VARIOUS COMPLEXITIES LIKE:

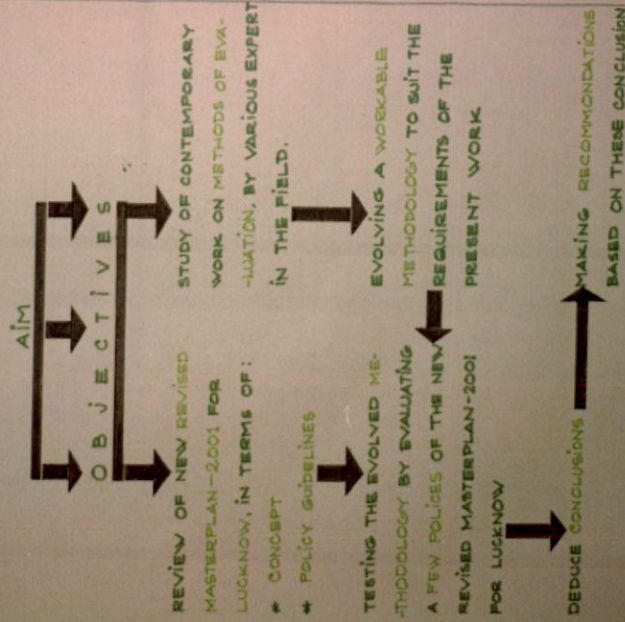
- VOLATILE AND FRAGILE RELATIONSHIP BETWEEN PLANNING AND DECISION MAKERS
- CONFLICTING NATURE OF TWO OR MORE POLICIES
- REGARDLESS OF EFFECTIVENESS AND EFFICIENCY OF A PLAN SOME SECTIONS OF THE COMMUNITY SHALL WIN AND SOME SHALL LOSE
- THIS SCOPE OF THE PRESENT WORK SHALL BE LIMITED TO EVALUATE ONLY A FEW POLICY GUIDELINES OF THE NEW REVISED MASTERPLAN-2001 FOR LUCKNOW
- HOWEVER, THIS EVALUATION SHALL BE VERY LIMITED TO FIT INTO THE LIMITED TIME SCHEDULE FURTHER RECOMMENDATIONS MADE AT THE END OF THE WORK SHALL BE MADE BASED ON THE EXTENT AND SCOPE OF THE WORK WHICH SHALL BE REFINING MORE IN-DEPTH DEGREE
- FINALLY, SECONDARY DATA-BASE SHALL BE EMPLOYED FOR ALL THE PURPOSES IN THIS WORK

**Aim:** TO EVOLVE A METHODOLOGY FOR EVALUATION OF A MASTERPLAN KEEPING IN VIEW THE INDIAN CONDITIONS, AND THEN TO EVALUATE A FEW IMPORTANT POLICY GUIDELINES OF THE NEW REVISED MASTERPLAN-2001 FOR LUCKNOW, AS A CASE STUDY.

**OBJECTIVES:**

- \* TO REVIEW THE NEW REVISED MASTERPLAN-2001 FOR LUCKNOW, TO IDENTIFY THE CONCEPT AND POLICY GUIDELINES STATED IN IT.
- \* TO STUDY THE EXISTING LITERATURE ON THE EVALUATION OF A MASTERPLAN AND REVIEW OF VARIOUS METHODOLOGIES EMPLOYED BY THE EXPERTS IN THE FIELD.
- \* TO EVOLVE A METHODOLOGY TO EVALUATE A MASTERPLAN OF AN INDIAN CITY, BASED ON THE EXPERIENCES OF ALREADY EXISTING ATTEMPTS.
- \* TO TEST THE EFFECTIVENESS OF THIS EVOLVED METHODOLOGY BY APPLYING IT TO EVALUATE A FEW IMPORTANT POLICY GUIDELINES OF THE NEW REVISED MASTERPLAN-2001 FOR LUCKNOW, AS CASE STUDY.
- \* FINALLY, TO GIVE RECOMMENDATIONS ON THE DEDUCTIONS OF THE PRESENT WORK, AS CONCLUSION.

**STRUCTURING OF THE PRESENT WORK:** TO MEET THE OBJECTIVES STATED ABOVE, THE STRUCTURING OF THE PRESENT WORK HAS BEEN DONE IN FOLLOWING MANNER:



**SCOPE & LIMITATIONS:** THE WHOLE PROCESS OF EVALUATION IS VERY EXTENSIVE AND ITS SCOPE ENCOMPASSES VARIOUS COMPLEXITIES LIKE:

- \* VOLATILE AND FRAGILE RELATIONSHIP BETWEEN PLANNERS AND DECISION MAKERS.

COMPLICATING NATURE OF TWO OR MORE POLICIES.

REGARDLESS OF EFFECTIVENESS AND EFFICIENCY OF A PLAN, SOME SECTIONS OF THE COMMUNITY SHALL GAIN AND SOME SHALL LOSE.

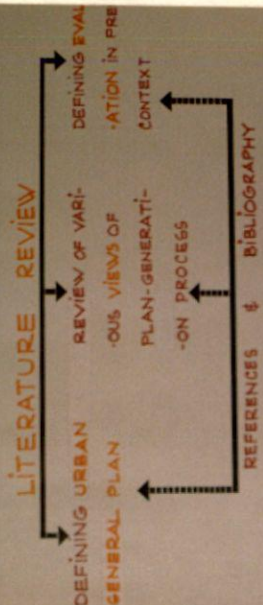
THIS SCOPE OF THE PRESENT WORK SHALL BE LIMITED TO EVALUATE ONLY A FEW POLICES OF THE NEW REVISED MASTERPLAN-2001 FOR LUCKNOW.

MOREOVER, THIS EVALUATION SHALL BE VERY BROAD, TO FIT INTO THE LIMITED TIME SCHEDULE. FURTHER, RECOMMENDATIONS MADE AT THE END OF THE WORK SHALL BE MADE, BASED ON THE EXTENT AND SCOPE OF THE WORK, WHICH SHALL BE REQUIRING MORE IN-DEPTH RESEARCH.

FINALLY, SECONDARY DATA-BASE SHALL BE EMPLOYED FOR ALL THE PURPOSES IN THIS WORK.



**LITERATURE SURVEY**: FOLLOWING IS THE STRUCTURE OF THE LITERATURE SURVEY DONE FOR THE PRESENT WORK



**DEFINING URBAN GENERAL PLAN (MASTERPLAN)**: IN PLANNING LITERATURE, ONE SEES THE TERMS 'COMPREHENSIVE PLAN', 'GENERAL PLAN', AND 'MASTER PLAN' USED SYNONYMOUSLY. IN INDIA, THE TERM 'MASTERPLAN' IS MOST COMMONLY USED. VARIOUS EXPERTS HAVE DEFINED THE TERM IN A NUMBER OF WAYS, YET EACH COVERING ALMOST THE SAME GROUND (FIG.).

MOREOVER, SINCE LOCAL PLANNING AUTHORITIES DIFFER IN DIFFERENT PLACES, EVERY DEFINITION WILL NOT NECESSARILY APPLY TO A PARTICULAR COMMUNITY.

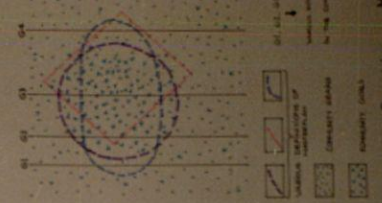
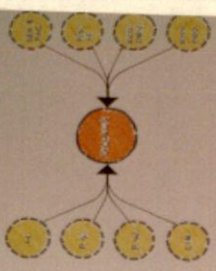


FIG. Various Definitions of Master Plan Covering the Same

**LEVY, JOHN M.**: IN JOHN M. LEVY'S TERMS, "THE COMPREHENSIVE PLAN GENERALLY COVERS THE ENTIRE MUNICIPALITY AND HAS A LONG TIME HORIZON, TYPICALLY 20 YEARS OR SO. THE GOALS OF A MUNICIPALITY'S COMPREHENSIVE PLANNING PROCESS MIGHT INCLUDE ISSUES LIKE:

- HEALTH
- PUBLIC SAFETY
- PUBLIC WELFARE
- CIRCULATION
- PROVISION OF SERVICES & FACILITIES
- FISCAL HEALTH
- ECONOMIC DEVELOPMENT
- ENVIRONMENTAL PROTECTION, ETC.



FURTHER, ACCORDING TO LEVY, THE COMPREHENSIVE PLANNING PROCESS CAN BE DIVIDED INTO FIVE MAJOR STAGES:

- RESEARCH
- CLARIFICATION OF GOALS AND OBJECTIVES
- PLAN FORMULATION
- PLAN IMPLEMENTATION
- REVIEW AND REVISION



FIG. OVERLAP BETWEEN THE STAGES OF PLANNING PROCESS. THOUGH SHOWN AS SEPARATE STEPS, THERE IS MUCH OVERLAP BETWEEN THEM (FIG.).

**KENT JR., T.J. & JONES, HOLWAYR.**: PROF. T.J. KENT DEFINES THE GENERAL PLAN, AS:

"THE GENERAL PLAN IS THE OFFICIAL STATEMENT OF MUNICIPAL LEGISLATIVE BODY WHICH SETS FORTH ITS MAJOR POLICIES CONCERNING DESIRABLE FUTURE PHYSICAL DEVELOPMENT; THE PUBLISHED GENERAL-PLAN DOCUMENT INCLUDES A SINGLE, UNIFIED GENERAL PHYSICAL PLAN AND FOR THE COMMUNITY, AND IT MUST ATTEMPT TO CLARIFY THE RELATIONSHIPS BETWEEN PHYSICAL DEVELOPMENT POLICIES, SOCIAL AND ECONOMIC GOALS."

FURTHER, PROF. KENT JR., OUTLINES TEN CHARACTERISTICS OF GENERAL PLAN:

- **SUBJECT-MATTER CHARACTERISTICS**: THE GENERAL PLAN - SHOULD FOCUS ON PHYSICAL DEVELOPMENT
- SHOULD BE LONG-RANGE
- SHOULD BE COMPREHENSIVE
- SHOULD BE GENERAL AND SHOULD REMAIN GENERAL
- SHOULD CLEARLY RELATE THE MAJOR PHYSICAL-DESIGN PROPOSALS TO THE BASIC POLICIES OF THE PLAN

**CHARACTERISTICS RELATED TO GOVERNMENTAL PROCEDURE**

- SHOULD BE IN A FORM SUITABLE FOR PUBLIC DEBATE
- SHOULD BE IDENTIFIED AS THE CITY COUNCIL'S PLAN
- SHOULD BE AVAILABLE AND UNDERSTANDABLE TO PUBLIC
- SHOULD BE DESIGNED TO CAPITALIZE ON ITS EDUCATIONAL POTENTIAL
- SHOULD BE AMENDABLE

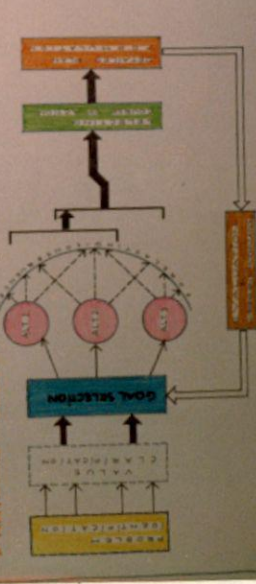


**\* VARIOUS PLANNING PROCESSES & PLAN - GENERATION**

**METHODS :** FOLLOWING, DISCUSSION IS ABOUT THE THEORETICAL ASPECT OF PLANNING PROCESS AND PLAN-GENERATION METHODS. BUT BEFORE THAT, A QUESTION ARISES, "IS THEORY NECESSARY?" VARIOUS EXPETS, LIKE JOHN M. LEVY, ARE OF THE OPINION THAT WHAT EVER ONE DOES, THERE IS SOME THEORETICAL BACKGROUND WITH IT, THE ONLY DIFFERENCE BEING THAT, A PRACTICAL MAN TAKES IT FOR GRANTED WHILE A THEORIST ACKNOWLEDGES IT. NOW, FOLLOWING IS A BRIEF DESCRIPTION OF VARIOUS VIEWS OF PLANNING PROCESS:

- \* LEVY, JOHN M. : LEVY DESCRIBES THREE APPROACHES TO THE PLANNING PROCESS:
  - RATIONAL MODEL
  - INCREMENTALISM, AND
  - MIXED SCANNING

**\* RATIONAL MODEL :**



**\* DEFINING EVALUATION IN PRESENT CONTEXT :**

\* PERRATON, JEAN : PERRATON, JEAN DEFINES EVALUATION AS BELOW:

"EVALUATION SHOULD BE -

- GOAL DIRECTED - EVALUATION MEASURES AND THEIR RANKING MUST RELATE, DIRECTLY, TO THE GOALS AND OBJECTIVES,
- COMPREHENSIVE - NOT ONLY MUST THOSE CRITERIA BE BASED ON THE FULL RANGE OF OBJECTIVES, BUT THE PROCEDURE MUST BE WIDE RANGING IN IT'S EXPLORATION OF IMPACTS,
- EXPLICIT - IN SETTING OUT CLEARLY THE ESSENTIAL ASSUMPTIONS AND VALUE JUDGEMENTS,
- CLARIFYING - TO ENABLE DIVERSE CONSIDERATIONS TO BE COMPARED AND THUS TO FACILITATE RATIONAL CHOICE BETWEEN THEM, BUT ALSO
- DISAGGREGATIVE AND INFORMATIVE."

FINALLY, PERRATON TAKES A QUICK LOOK AT SOME OF THE EVALUATION CRITERIA. ACCORDING TO HIM, THE CHOICE OF APPROPRIATE PERFORMANCE MEASURE CRINDICES TO REPRESENT THOSE CRITERIA, IS CRUCIAL FOR THE VALIDITY OF THE EVALUATION PROCESS.

**\* HOUGHTON, TONY : TONY HOUGHTON DEFINES EVALUATION AS:**

"EVALUATION IS NOT A MODEL IN TRUE SENSE ; BECAUSE OF THE ABSENCE OF NATURE OF THE PROBLEM, IN THE FORM OF CALIBRATION ; AS THE CASE IS, WITH A MODEL."

ACCORDING TO HIM, THE CRITERION OF EVALUATION IS NOT HOW WELL IT FITS THE SITUATION, BUT, WHETHER IT IS USEFUL IN THE DECISION MAKING PROCESS.

HOUGHTON, FURTHER, ASKS, " IS THERE ANY NEED FOR ALTERNATIVES HE GIVES TWO REASONS FOR THE NEED OF ALTERNATIVES:

- FIRST, A TECHNICAL REASON, IF THE EVALUATION PROCESS WAS SIMPLY A CASE OF FINDING A SET OF LINEAR INDICATORS, THEN THERE WOULD BE A UNIQUE SOLUTION, BUT THE URBAN SYSTEMS ARE NOT LINEAR, HENCE, A PROCESS OF OPTIMIZATION FROM A GIVEN POINT WOULD, INEVITABLY, LEAD TO A LOCAL OPTIMUM.

SECONDLY, THERE IS, ALSO, A NEED FOR ALTERNATIVES WHICH ARISE FROM POLITICAL OBJECTIVES.

HOUGHTON, EXPLAINS FOLLOWING TECHNIQUES USED FOR EVALUATION :

- \* THE GOAL-ACHIEVEMENT MATRIX TECHNIQUE
- \* COST MODELLING
- \* BEHAVIORAL MODELS IN EVALUATION



**THE DISJOINTED INCREMENTALISM:** THE INCREMENTALISM, OF WHICH RUSSELL LINDBLUM IS THE BEST KNOWN PROTAGONIST, STRESSES THE SEARCHING OF AGREEMENT, THE MAKING OF INCREMENTAL ADJUSTMENTS TO A FAIR AMOUNT OF RELIANCE ON PRECEDENT. HE ARGUES, THE CHANGES SHOULD COME QUICKLY DOWN TO A SHORT LIST OF SERIOUS POSSIBILITIES AND FOCUS THEIR EFFORTS ON THESE. THE ARGUMENT IS BASED ON PRECEDENCE IS TWO FOLD:

FIRST, A POLICY WHICH IS AN ADJUSTMENT OR FINE TUNING OF A PREVIOUS POLICY, IS MUCH MORE LIKELY TO GAIN ACCEPTANCE THAN A POLICY WHICH IS A RADICAL DEPARTURE.

SECOND, INCREMENTAL ADJUSTMENTS REQUIRE LESS KNOWLEDGE AND THEORY.

BUT, THE MAIN CRITICISM OF DISJOINTED INCREMENTALISM IS THAT IT DOES NOT HOLD GOOD IN A CASE, IN WHICH A DECISION TO MOVE IN A NEW DIRECTION, MUST BE MADE, ALSO EXCESSIVE DEPENDENCE ON PRECEDENCE PREVENTS INCORPORATION OF WORTHWHILE NEW IDEAS, LEADING TO MISSED OPPORTUNITIES.

**MIXED SCANNING:** THE MIXED SCANNING MODEL, INTRODUCED BY AMITAI ETZIONI, IS ESSENTIALLY, A SYNTHESIS OF ABOVE TWO APPROACHES.

\* BRACKEN, IAN: JAN BRACKEN, EXPLAINS FOLLOWING VARIOUS METHODS OF EVALUATION:

- CHECK-LIST APPROACH
- COST-BENEFIT ANALYSIS
- PLANNING BALANCE SHEET

\* FINDINGS/CONCLUSIONS FROM THE LITERATURE SURVEY: THE FINDINGS/CONCLUSIONS FROM THE ABOVE LITERATURE SURVEY, CAN, BROADLY, BE CATEGORISED IN FOLLOWING THREE HEADS:

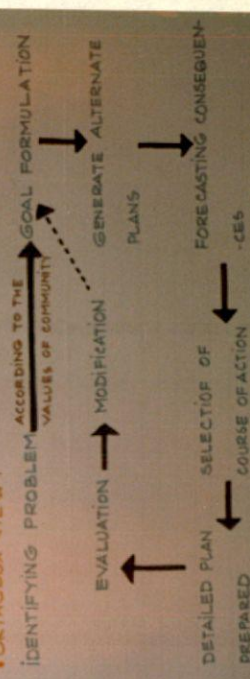
\* DEFINITION OF 'MASTER PLAN':

VARIOUS EXPERTS SEEM TO AGREE ON THE GENERAL CONCEPT AND CONTENTS OF A MASTERPLAN, BUT THE DEFINITION GIVEN BY PROF. T. J. KENT JR. IS THE MOST COMPREHENSIVE.

\* VARIOUS VIEWS OF PLAN-GENERATION METHODS:

IN WESTERN CONTEXT, A REVIEW OF VARIOUS PROCESSES APPLIED FOR PLANNING OR PLAN-GENERATION, SHOWS THAT FOLLOWING ARE THE MAIN APPROACHES:

\* ORTHODOX VIEW:



\* THE DISJOINTED INCREMENTALISM: GENERALLY USED TO REVISE A PLAN.

CONSENSUS ON REVISED GOALS → SHORT-LIST SERIOUS POSSIBILITIES

BASED ON  
• PRECEDENCE  
• FINE TUNING OF EARLIER POLICIES

PLAN FORMULATION → PLAN FORMULATION

BUT NOT USEFUL TO GENERATE A FRESH PLAN.

\* GOAL-DIRECTED PLANNING:

SPECIFICATION OF GOALS → PROPOSING POLICIES & PLAN-PROVISIONS

BASED ON  
• PRIORITY VALUES  
• INTERACTIONS BETWEEN VARIOUS SUB-SYSTEMS OF URBAN SYSTEM

EVALUATION → DETAILED PLAN FORMULATION

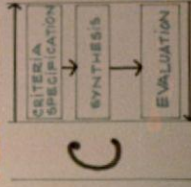
MONITORING (PERIODIC)

\* DEFINING EVALUATION IN PRESENT CONTEXT:

\* DESIGN PROBLEM:



\* DESIGN PROCESS:



\* COMPLETE DESIGN CYCLE:

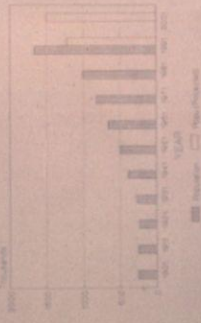




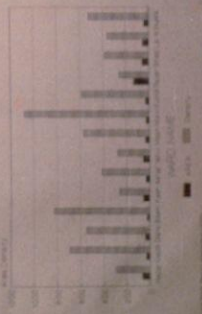
**REVIEW OF THE NEW REVISED MASTERPLAN-2001 FOR LUCKNOW;** THE FIRST MASTERPLAN FOR LUCKNOW WAS APPROVED BY THE GOVT. IN 1969; THE PLAN PERIOD WAS UPTO 1985, AND THIS PLAN CAME INTO FORCE W.E.F. 23<sup>RD</sup> OCT. 1970. THE REVISION OF THIS PLAN WAS APPROVED BY THE GOVT. IN 1991.

AND THE PLAN PERIOD WAS EXTENDED UPTO 2001 A.D. THIS NEW REVISED MASTERPLAN-2001 CAME INTO FORCE W.E.F. FEB. '92.

THE EARLIER MASTERPLAN ESTIMATED THE POPULATION IN 1981, AS 11.9 LACS, WHILE CITY COULD REACH ONLY 10.7 LACS. THE DECADAL GROWTH RATE ASSUMED IN THE FIRST PLAN WAS 34.4% WHICH ALSO TURNED OUT TO BE TOO HIGH. THE ACTUAL DECADAL GROWTH RATE REGISTERED IN 1981 WAS JUST 23.79%. BUT, PROVISIONAL FIGURES OF 1991 CENSUS SHOW POPULATION OF LUCKNOW AS 166.3136 AND A DECADAL GROWTH OF 36.24%.



LUCKNOW METROPOLIS: Wards Present Density Pattern



**OBJECTIVES: NEW REVISED MASTERPLAN-2001**

- ▶ TO EVALUATE THE IMPLEMENTATION AND ACHIEVEMENTS OF PREVIOUS MASTERPLAN, WITH REFERENCE TO THE PROPOSALS AND THEIR VALIDITY.
- ▶ TO FORMULATE APPROPRIATE POLICIES AND STRATEGIES FOR THE PROMOTION OF AN ORGANISED AND ORDERLY GROWTH OF THE CITY.
- ▶ TO ENSURE AN EFFECTIVE TRANSPORT NETWORK SYSTEM FOR A SMOOTH MOVEMENT PATTERN.
- ▶ ADEQUATE PROVISION AND A BALANCED DISTRIBUTION OF FACILITIES & SERVICES, FOR THE POPULATION.
- ▶ TO ACHIEVE A FUNCTIONALLY VIABLE RELATIONSHIP AMONG VARIOUS LANDUSES.
- ▶ TO FORMULATE POLICIES FOR THE CONSERVATION/PRESERVATION OF THE BUILDINGS/AREAS OF HISTORICAL/ARCHITECTURAL IMPORTANCE.
- ▶ TO MAINTAIN A HEALTHY PHYSICAL ENVIRONMENT OF THE CITY.

**EVALUATION OF THE FIRST MASTERPLAN: (DONE BY ICPDUP)**

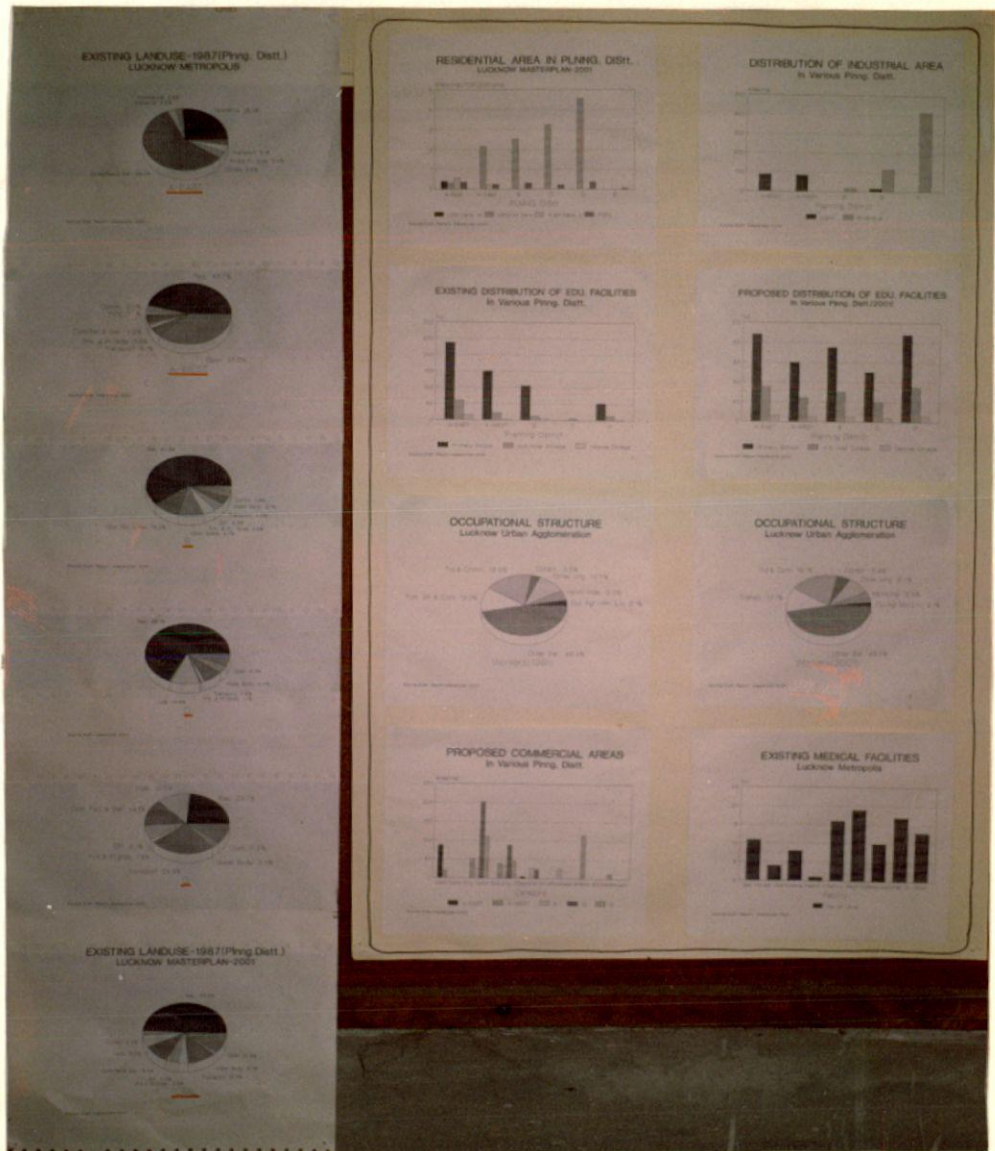
BEFORE MAKING THE NEW REVISED MASTERPLAN-2001, THE TOWN & COUNTRY PLANNING DEPARTMENT, U.P. (ICPDUP) EVALUATED THE FIRST MASTERPLAN. THE HIGHLIGHTS OF WHICH ARE AS BE-

INDUSTRIAL SECTOR, AS ASSUMED IN THE FIRST MASTERPLAN, DID NOT PLAY IMPORTANT ROLE IN THE CITY'S ECONOMY.

- THE OVERALL CHARACTER OF THE CITY REMAINED HIGH ORDER FACILITY CENTRE/ADMINISTRATIVE, THOUGH THE FIRST MASTERPLAN PREDICTED THAT CITY WOULD ASSUME INDUSTRIAL IN NATURE.
- FOR THE SAME REASON, THE PREDICTED LANDUSE PATTERN DID NOT COME INTO BEING, WHERE INDUSTRIAL AREA SHOULD HAVE BEEN, OTHER LANDUSES HAVE COME.
- CERTAIN NEW CORRIDORS OF DEVELOPED LAND, WHICH WERE NEVER THOUGHT OFF IN THE FIRST MASTERPLAN.
- CERTAIN AREAS, WHICH WERE CONSIDERED AS LOW LYING AND NOT FIT FOR DEVELOPMENT, WERE FOUND TO BE DEVELOPED.
- THUS, CITY GREW, PRACTICALLY, IN ALL DIRECTIONS, BUT THE FIRST MASTERPLAN PREDICTED THAT GROWTH SHALL BE IN TWO DIRECTIONS ONLY.
- TRANSPORTATION NETWORK, WAS FULLY TRANSFORMED BY L.P.A. CHANGING THE ENTIRE CONCEPT OF ACCESSIBILITY, WHICH WAS NOT THOUGHT OFF IN THE FIRST MASTERPLAN.
- POPULATION PROJECTIONS, AS MADE UNDER THE FIRST MASTERPLAN WERE PROVED TO BE NOT ACCURATE. THOUGH THE CITY WAS REGISTERING MUCH LOWER GROWTH-RATE, TILL 1981, IT SHOWED REMARKABLE GROWTH IN 1991.



- COMMERCIAL FACILITIES, AS PROPOSED IN THE FIRST MASTERPLAN COULD NOT BE MATERIALISED.
- LAND USE UNDER OFFICES, WAS FOUND INADEQUATE, AND MOST OF THE SURPLUS OFFICES ARE LOCATED IN RESIDENTIAL AREAS.
- SEVERAL NATIONAL / STATE LEVEL INSTITUTIONS, HAVE COME UP, WHICH WERE NOT PROPOSED IN THE FIRST MASTERPLAN.
- SEVERAL AREAS WHICH WERE PROPOSED AS RECREATIONAL AREAS WERE CONVERTED INTO RESIDENTIAL AREAS, DUE TO INADEQUATE ATTENTION TO THESE AREAS AND PRESSURES OF DEVELOPMENT.

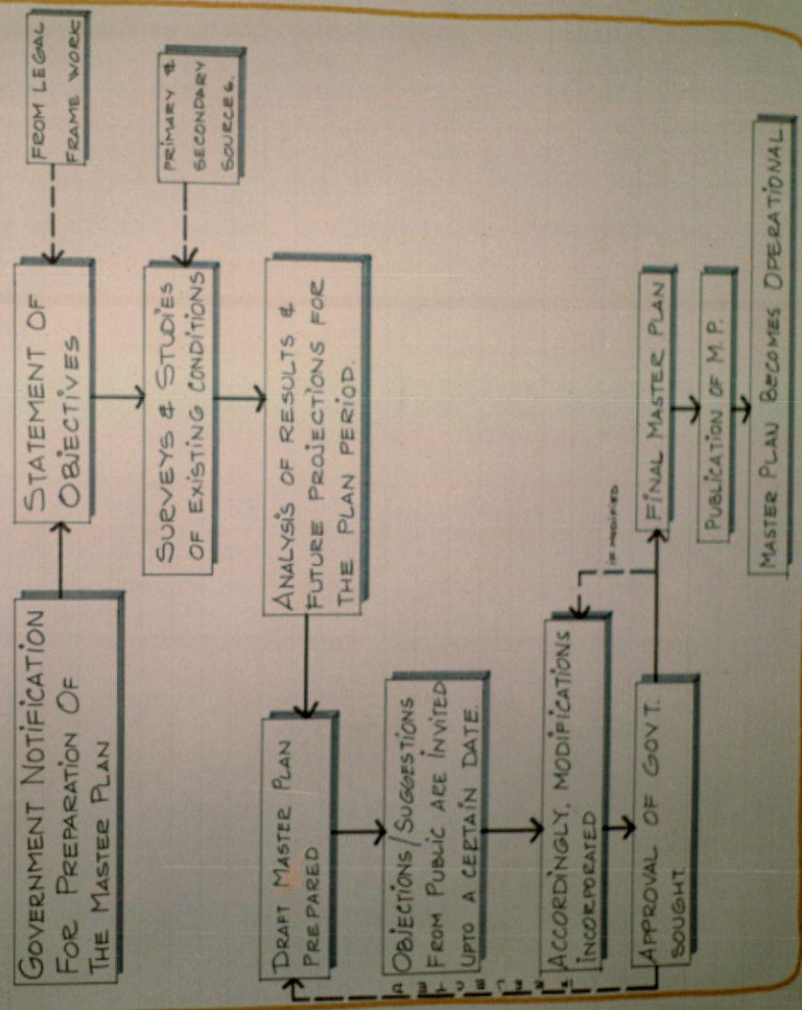




**CHARACTERISTICS OF INDIAN PLAN GENERATION PROCESS:**

1. INVOLVEMENT OF SEVERAL AGENCIES.
2. TYPICAL OBJECTIVES.
3. RIGIDITY.
4. CONSPICUOUS PRESENTATION OF CONTENTS.
5. LOW PRIORITY ATTACHED, AT DECISION MAKERS' LEVEL.

**INDIAN MASTER PLAN MAKING PROCESS: LEGAL FRAME-  
-WORK -**



**COMPARISON OF WESTERN & INDIAN PLAN GENERATION PROCESS.**

S.N.	BASES OF COMPARISON	WESTERN PLANNING PROCESS	INDIAN PLANNING PROCESS
1.	CONCEPTUALIZATION OF THE GOALS.	VALUE BASED, RESPECTING ASPIRATIONS OF THE TARGET COMMUNITY.	NO SEPARATE MENTION OF GOALS, INDIRECTLY, CONSTITUTIONAL GOALS ARE RELATED.
2.	FRAMING OF OBJECTIVES.	DIRECTLY RELATED TO GOALS.	MAINLY TAKEN FROM LEGAL FRAME WORK.
3.	PUBLIC PARTICIPATION.	DIRECT, THROUGHOUT THE PROCESS.	INDIRECT, THAT TOO POST - PREPARATION.
4.	PLAN FORMULATION.	SEVERAL ALTERNATE PLANS ARE MADE TO ACHIEVE SAME SET OF OBJECTIVES.	ONLY ONE DRAFT PLAN IS MADE, CONSIDERED TO BE THE OPTIMUM.
5.	EVALUATION OF PLANS.	ALL ALTERNATE PLANS EVALUATED & THEN ONE IS SELECTED.	NO TECHNICAL EVALUATION.
6.	REVIEW & MONITORING.	CONTINUOUS MONITORING & PERIODIC REVIEW.	NO MONITORING, REVIEW AT THE END OF THE PLAN PERIOD.
CONTD....			
7.	FLEXIBILITY.	QUITE FLEXIBLE.	VERY RIGID.
8.	COMPREHENSIVENESS.	FAIR.	SOME ONES EXIST.
9.	NATURE OF PLAN MAKING PROCESS.	GOAL DIRECTED.	OPEN ENDED, RELATING TO OBJECTIVES.
10.	REVISION OF PLAN.	SIMULTANEOUS WITH REVIEW AND MONITORING.	ON EXPIRY OF EARLIER PLAN PERIOD.
11.	OTHER TECHNIQUES.	STRUCTURE PLAN CONCEPT.	STILL MASTER PLAN CONCEPT IS FOLLOWED THOUGH SOME ASPECTS OF STRUCTURE PLAN CONCEPT ARE ALSO INCORPORATED.

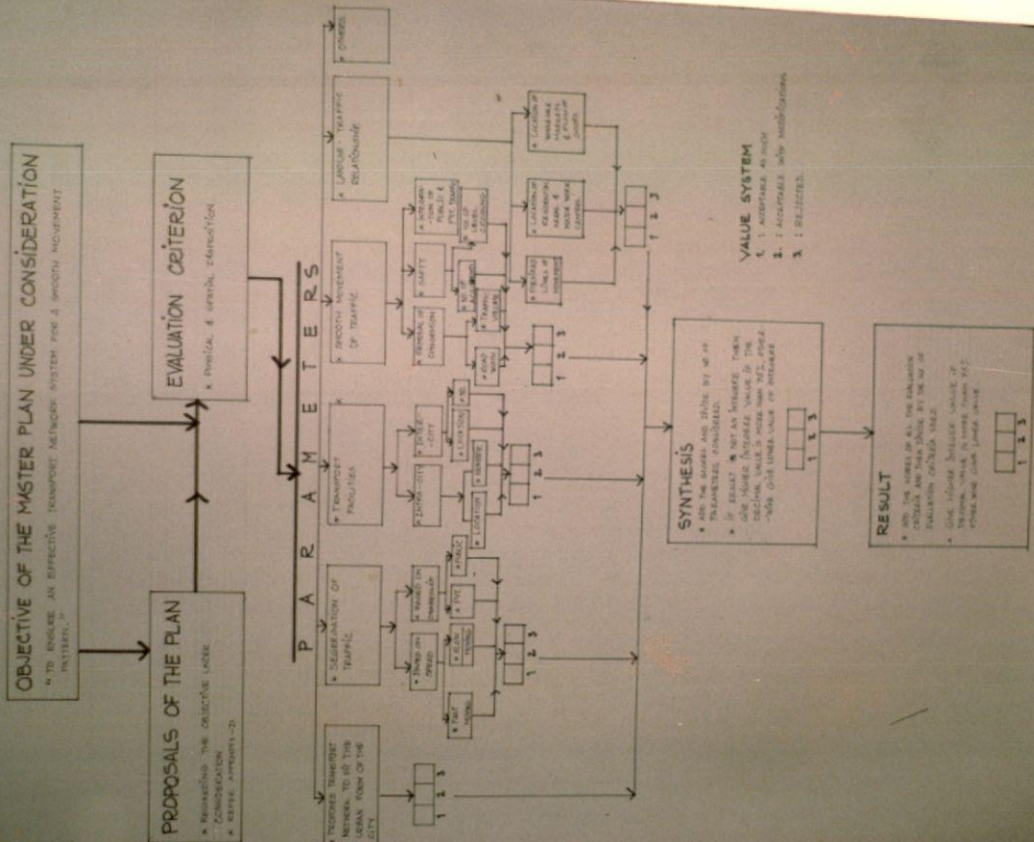
**SOME POSSIBLE EVALUATION CRITERIA IN INDIAN CONTEXT:**

- A. CONCEPTUALIZATION OF THE OBJECTIVES.
- B. PHYSICAL & SPATIAL DISPOSITION AND LINKAGES.
- C. ECONOMIC AFFORDABILITY.
- D. SOCIAL VIABILITY.
- E. TECHNICAL FEASIBILITY.
- F. ENVIRONMENTAL SUSTAINABILITY, ETC.

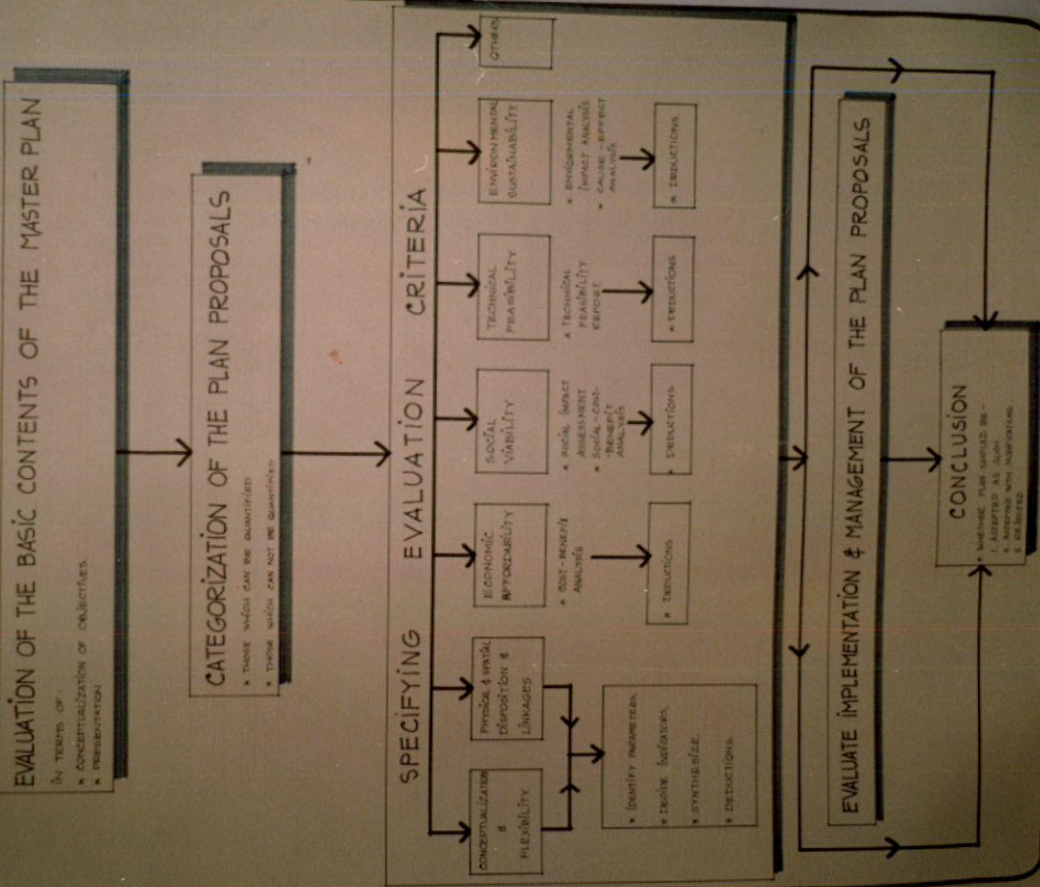
THESE EVALUATION CRITERIA ARE THE OUTCOME OF FOLLOWING CHARACTERISTICS OF INDIAN



# APPLICATION OF THE EVOLVED METHODOLOGY (LUCKNOW M.P.-2001)



# FIG. EVOLVED METHODOLOGY





## PROPOSALS & RECOMMENDATIONS:

### 1. PROPOSALS REGARDING THE EVOLVED METHODOLOGY:

- FURTHER REFINEMENTS REQUIRED.
- ADJUSTMENTS CAN BE MADE, AS PER THE REQUIREMENTS OF A PARTICULAR EVALUATION CRITERION.
- THOUGH, FOR MOST OF THE CRITERIA, CONVENTIONAL TECHNIQUES OF EVALUATION WILL BE USED; OTHER TECHNIQUES CAN ALSO BE DEvised, AS PER THE NEED.
- FOR NON-QUANTIFIABLE INDICATORS, VALUE RETRIEVAL METHODS SHOULD BE USED.
- THOUGH, ELEMENT OF SUBJECTIVITY CANNOT BE ELIMINATED COMPLETELY, A BALANCE SHOULD BE MAINTAINED BETWEEN SUBJECTIVITY & OBJECTIVITY OF THE EVALUATION, FOR THE BEST RESULTS.

### 2. RECOMMENDATIONS REGARDING THE CONCEPT OF MASTER PLAN:

- INDIAN MASTER PLANS LACK MULTI-DISCIPLINARY APPROACH, WHICH SHOULD BE INCORPORATED FOR BETTER TACKLING OF VARIOUS ISSUES.
- INCLUSION OF FINANCIAL ASPECT & MANAGEMENT ASPECT IS NECESSARY, IN INDIAN M.P.S.
- DUE RESPECT TO BE GIVEN TO NATURAL FACTORS OF URBAN GROWTH, WHILE PREPARING A MASTER PLAN.
- OBJECTIVES OF THE MASTER PLANS SHOULD BE MORE PRECISE TO MAKE THE PLAN PROPOSALS MORE DIRECT.
- FLEXIBILITY DESIRED.
- INCLUSION OF CONSTANT MONITORING & PERIODIC REVIEW OF THE PLAN, TO MAINTAIN THE TRAJECTORY OF THE MASTER PLAN.
- IMPLEMENTATION OF MASTER PLAN SHOULD ALSO BE GIVEN DUE CONSIDERATION WHILE FINALIZING.
- CONCEPT OF MASTER PLAN HAS BECOME OBSOLETE, NOW; HENCE MODERN CONCEPTS LIKE, STRUCTURE PLANS, SHOULD BE ADOPTED.





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 Third Semester (1992-93)  
 Master of Urban and Rural Planning

Guided By: Prof RATIAN KUMAR  
 Master of Urban and Rural Planning

DEPARTMENT  
 MASTER PLAN-2001

TRAFFIC VOLUME ON MAJOR RTY X-ING

LEGEND

- WINDING LIMIT
- MAIN ROAD
- SECONDARY ROAD
- PROPOSED MAIN ROAD
- PROPOSED SECONDARY ROAD
- RAILWAY LINE
- PIPE
- RTY (TOTAL TRAFFIC VOLUME/PER HOUR)
- PEAK HOUR (P.H.U)
- LOCATION OF CROSSING



LUCKNOW METROPOL